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A trial of the Effective Lifelong Learning Inventory (ELLI):

A case study

A thesis presented in partial fulfilment of the
requirements for the degree of
Doctor of Education (EdD)

At Massey University, Manawatū

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2018

Abstract

The purpose of education is to prepare learners for the world they are going to live in. Education should actively support learners to develop the capabilities they need to engage productively with the difficult and challenging problems that are part of today's world. The Effective Lifelong Learning Inventory (ELLI) is a programme designed to assist in the development and measurement of the learning dispositions of: strategic awareness, changing and learning, meaning making, creativity, critical curiosity, learning relationships and resilience. This thesis has taken a case study approach to explore the process of the trial of ELLI within one urban secondary school. The introduction of the tool actively supported the developing learning culture of the students and the learning culture of the staff. Drawing on the perspectives of both staff and students and unpacking the difficulties associated with the implementation, this thesis analyses the process involved in trialling the tool.

To document the trial process, data were collected from observations of all meetings and presentations, and interviews with both the teachers and students involved in the trial. The reasons the school undertook the trial were explored, through interviews with the principal and teachers, by examining the culture of learning and the professional learning history in the school. The GPILSEO model for sustainability of school change was used to examine the key factors of goals, pedagogy, institutions, leadership, spread, evidence and ownership of the trial process. The impact of the trial process on students was explored by examining their academic results, their ELLI profiles and listening to the students.

Acknowledgements

Mā te huruhuru ka rere te manu.

Without the support of many this journey would not have been possible. I would like to acknowledge the following people. Thank you for your invaluable help with this journey.

My family: My parents Natalie and Leslie instilled in me a love of learning and the value of education. My sisters Jeanette and Shirley-Anne encouraged, supported and inspired me to finish. My daughters Emma and Fern always believed I would get there. My granddaughters Lilla and Dylan provided the necessary distraction at times.

I thank the board of trustees and the principal of the school involved for allowing me to undertake this research. My grateful acknowledgment and appreciation to Debbie Shakesheave-Thomas, Deb King, Grant Jones, and Eileen Dorricot for their willingness to participate and their insightful contributions. My friends and colleagues who asked questions and engaged in challenging conversations. The students who willingly shared their time to contribute to this research, and their journey. And, to all young people who work hard every day trying to make sense of the world and their place in it, thank you.

My supervisors, who have guided and challenged me, throughout this process. Professor Margaret Walshaw has stuck with me through many challenges with unfailing confidence and support, Doctor Rowena Taylor who began the journey with me, and Doctor Tim Burgess who always found the right question to ask.

Kirsty Farrant, thank you for sharing much of this journey with me, I have appreciated your wisdom and pertinent questioning. Thank you to Peter Morrow for your eagle-eyed proof reading and to Francie Morrow for her formatting skills.

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Glossary

asTTle	The Assessment Tool for Teaching and Learning assesses students' performance against the New Zealand Curriculum levels in reading, writing and mathematics.
Board of Trustees	An elected board responsible for the governance of a school in New Zealand consisting of the principal, an elected staff member, an elected student representative (secondary school only), and elected parents or community members.
Effect size	An effect size is a standardised measure of the strength of relationship between two variables. The larger the effect size the stronger the influence of the intervention or practice on the desired outcome.
ELLI	The Effective Lifelong Learning Inventory is an online tool to measure learning dispositions.
ERO	The Education Review Office reviews and publicly reports on the quality of education and care of students' in New Zealand schools.
ETP	The Effective Teaching Profile was the basis of the Te Kotahitanga professional development innovation.
GPILSEO	A framework for the sustainability of school change with the essential facets of Goals, Pedagogy, Institutions, Leadership, Spread, Evidence and Ownership.

Intermediate School	A separate school for Years 7 and 8 in New Zealand between Primary school (Years 1-6) and Secondary school (Years 9-13).
NCEA	The National Certificate of Educational Achievement is the New Zealand qualification for secondary students.
PAT	The Progressive Achievement Tests are a series of standardised tests developed for use in New Zealand schools.
PB4L:SW	Positive Behaviour for Learning: School Wide is a framework involving staff and students in building consistent approaches to behaviour to enable academic and social success for students.
RTLB	Resource Teachers of Learning and Behaviour support school students with learning and behaviour difficulties by supporting teachers in an inclusive environment.
SOLO	The Structure of Observed Learning Outcomes provides a model of learning outcomes and learning language describing five levels of understanding from surface to deep to conceptual understanding.

1 Introduction

1.1 Introduction

Rapid changes in society have placed unprecedented pressures on education systems to respond to the renewed goals of active citizenship (UNESCO, 2015). The vision put forward in the New Zealand Curriculum (2007) for “young people who will be confident, connected, actively involved, lifelong learners” (p. 9) recognises that the skills and competencies required for today’s successful living are markedly different from those of earlier times. However, a significant proportion of secondary school students in New Zealand are unprepared for the future beyond school. Some are leaving school disengaged with learning, disaffected with school and without the skills needed to be successful, contributing members of society in the future (Lane, 2008). All students need to leave school adequately prepared for the future. They need skills and learning dispositions for success in the 21st century. This research explores an initiative at one school to prepare students for their futures.

1.2 Background

The world is changing rapidly, technology is increasing capabilities at an exponential rate, and information is available almost immediately. To prepare students for life we need to help them develop the skills to access, use and communicate information for a specific purpose. Learning to learn is the ultimate life skill for the 21st century (Carr & Claxton, 2002).

The fundamental purpose of education in the 21st century, it is argued, is not so much the transmission of particular bodies of knowledge, skill and understanding as facilitating the development of the capacity and the confidence to engage in lifelong learning (Carr & Claxton, 2002, p. 9).

Learners need more than academic success to be successful citizens. To be validated and to feel they have a contribution to make, they need a wide range of learning experiences. This is recognised in school curricula. Like the vision of the New Zealand Curriculum, the Melbourne Declaration states that: "All young Australians become successful learners, confident and creative individuals, and active and informed citizens" (cited in Anderson, 2009, p. 15).

The Ministry of Education's response to student preparation is a strategic direction with the overall purpose of lifting aspirations and raising educational achievement for every New Zealander (Ministry of Education, 2014). The stated intentions include raising the quality of teaching and leadership, using information more effectively to lift achievement, targeting resources to address disparity in achievement, engaging students and their families to sustain participation and transitions in education, and creating a modern learning environment (Ministry of Education, 2014).

However, in the modern learning environment, success at secondary school is typically measured by academic performance. In 2013 in New Zealand, 70.2% of Year 11 students gained a National Certificate in Educational Achievement (NCEA) Level 1 (New Zealand Qualifications Authority, 2014). This means that approximately 30% did not. Nearly a third of the Year 11 population was unsuccessful academically. "One of the most frequently used strategies to deal with at risk students is also the least effective: flunking them" (Slavin & Madden, 1989, p. 1).

This process is reflected in many schools where a 'performance culture' prevails. In these classrooms learning is about competing with other students and passing or failing assessments (Masters, 2006). Many New Zealand schools and students at the senior level adopt a credit focus (Hipkins, 2005), placing emphasis on passing assessments for credits and achieving academic goals. Learning that is not credit related is considered less important, and consequently less emphasis is placed on it. In a student's own words: "If it's not credits, we're not going to bother, because we've got so much other things that

are worth credits in other subjects... you are, like, what is the point of doing it?" (Kane, Maw, & Chimwayange, 2006, p. 28).

Schools are major instruments for the development of competencies that will enable students to meet the demands of the 21st century. They provide students with the qualifications needed to undertake the next phase of their education. However, as argued earlier, schools often focus on credentialing students, ensuring that they attain the qualifications necessary to enrol at University, or a Polytechnic course, or another form of alternative tertiary education. Yet assessment systems are designed to pass some students and fail others. Typically, school examinations do not measure the skills and dispositions young people are likely to need in their future work and life situations.

Students need to be prepared for life beyond school. Many schools do provide some "life-skills" courses, and of note is the fact that these are typically targeted at low achieving students and tend to focus on credentialing. However, all students need skills for life as is emphasised in the competencies identified by the Ministry of Education.

A 'performance culture' stands in contrast to a 'learning culture' where students feel safe and supported and learn to monitor their own learning over time. A 'learning culture' fosters healthy attitudes to failure, expects mistakes and encourages students to take risks (Masters, 2006). The educational challenge is to develop in all students a healthy attitude to failure: ideally, to see failure as part of life, essential to growth, a temporary setback and a learning opportunity. Students "in our schools need to be encouraged to see failure as an event not a state: to develop a deep belief that, although all humans experience failure, no human is a failure" (Masters, 2006, p. 15).

Although espoused as a desired outcome of schooling there is limited teaching of, and value placed on, non-academic education. Many employers, however, recognise that dispositions are more important to them than test scores. "They want employees who are loyal, trustworthy, creative, flexible and able to work

cooperatively” (Snook & O'Neill, 2010, p. 10). Employers want information from schools about the work readiness of students and find NCEA information difficult to understand (Moir, 2014).

Although there has been a general recognition of the need for values education, there are, however, significant problems involved in both defining non-academic outcomes and in measuring them. Non-academic outcomes need to be related to local situations (Anderson, 2009). For example, how can confidence be defined? Is it on a continuum? What is 'high' confidence? Is it desirable to have very high levels, in the same way as we might value very high levels of reading proficiency, or does that become overconfidence?

Students need support and direction to develop non-academic outcomes. Although students are often given many opportunities to show their non-academic skills, they are rarely explicitly taught (Anderson, 2009). Anderson identifies the role of self-reflection as the significant difference between measuring academic and non-academic outcomes. Although self-reflection is used as a teaching tool to improve academic outcomes, it is not an integral part of the outcome; on the other hand, self-reflection is an integral part of any non-academic outcome. Anderson identifies four main issues involved in meeting the challenge of measuring non-academic outcomes: finding the most feasible, reliable and valid way to collect information; providing sufficiently challenging and appropriate situations for students to show they have achieved the outcome; collecting evidence of student performance that can be used to support teaching; and determining how to challenge students to demonstrate the non-academic outcome across a range of contexts.

1.2.1 Learning as differentiated versus learning content

The focus on *learning* as differentiated from *content* in the secondary classroom is a relatively new phenomenon. Traditionally, teachers in secondary classrooms have been experts in their area of learning and have tended to focus on ways to deliver expertise. Schooling has been seen as a means “to develop a mixture of knowledge, understanding and skills to a level that will equip young adults to

benefit from further study and training, and to take part in the cultural life of their society” (Lucas, Claxton, & Spencer, 2013, p. 3). Organisation of schools has been based on the idea that traditional disciplinary knowledge is important and the need to sort people according to their likely employment destination (Gilbert, 2007). Skills or competencies deemed necessary for active citizenship in the 21st century are rarely assessed in any measurable form at secondary level; consequently students, parents, and teachers have little information about students’ strengths or areas that need to be developed.

In contrast, 21st century learners need to understand what they are being asked to learn and also how they can learn more effectively. The exploration of learning such as this breaks down some of the traditional approaches to teaching and encourages teachers to reflect on *themselves* as learners alongside their students. This is a very powerful and significant shift as education becomes digitalised (Ministry of Education, 2012).

Preparing students for life beyond school and preparing students to pass examinations are not necessarily diametrically opposed practices. Farrant (2014) explored the tension between teaching content and teaching skills for citizenship. She asked herself the question: Is teaching preparing students for examinations or for life beyond school? She found that although her intended purpose was to teach for citizenship there was no mutual exclusion between the teaching for citizenship and teaching students for examinations. It was possible to do both at the same time.

Claxton (2008b) argues that:

The purpose of education is to prepare young people for the future. Schools should be helping young people to develop the capacities they will need to thrive. What they need, and want, is the confidence to talk to strangers, to try things out, to handle tricky situations, to stand up for themselves, to ask for help, to think new thoughts (p. vi).

Lucas, Claxton, and Spencer (2013) see the core purpose of education as “to give all students the confidence and capacity to flourish in the world they are going to inhabit” (Lucas et al., 2013, p. 3).

Using the term “expansive education”, Lucas, Claxton, and Spencer (2013) highlight the importance of expanding the goals of education beyond academic success to include preparing students to face the test of life. Expansive education is about developing students’ capacity to learn. Mental habits such as “willpower, resilience, concentration, imagination and collaboration are all qualities of mind that can be coached and cultivated” (Lucas et al., 2013, p. 5). Expansive education also recognises and values the rich learning opportunities learners have outside school. Expansive teachers make sure that their pedagogy reflects the whole learning experience in students’ lives. Such teachers are models of learning. “The biggest effects on student learning occur when teachers become learners of their own teaching, and when students become their own teachers” (Hattie, 2009, p. 22).

Hargreaves makes the connection between what society needs, the dispositions learners should be developing in schools and the teacher’s role in developing the dispositions. Teaching for the knowledge society involves cultivating the capacities of “deep cognitive learning, creativity, and ingenuity among students; drawing on research, working in networks and teams, and pursuing continuous professional learning as teachers; promoting problem-solving, risk-taking, trust in the collaborative process, ability to cope with change and commitment to continuous improvement as organisations” (Hargreaves, 2003, p. 3). This vision provides the motivation for this research.

In Gilbert’s (2007) view, developing a knowledge society education system involves approaches that can:

- develop new knowledge where schools will be producers rather than consumers of knowledge;
- develop multi-modal literacy understanding non-print modes of making meaning;

- foreground the relationships, connections and interactions between different knowledge systems and different modes of representation;
- emphasise difference and diversity;
- foreground process rather than product;
- help builders build a sense of themselves as active knowledge-builders with a unique contribution to make.

The initiative under investigation in this research is focussed on these principles. This research investigates one school's response to the concern about student learning. It explores the process of trialling an initiative focussed on developing students' capacity to learn. It is about how change processes were enacted in one school.

The objective of this research was to document and analyse the process as the school carried out the trial. The trial was intended to improve student learning outcomes. This investigation explored why the school chose to carry out the programme, how it trialled the programme and the impact on students.

1.3 Research Questions

1.3.1 The Research Questions:

The research was guided by the following three research questions:

1. Why did the school trial the use of ELLI?
2. How did the school trial the use of ELLI?
3. What was the impact of the ELLI trial process on students?

1.4 Context for the Research

1.4.1 Competencies

In formal learning settings, the Organisation for Economic Co-operation and Development (OECD) has recognised that curricular-based and subject-related

competencies do not capture the full range of education outcomes (Rychen & Salganik, 2001). As a consequence the Definition and Selection of Competencies (DeSeCo) Programme determined what were important, necessary or desirable competencies from a broad holistic perspective (Rychen & Tiana, 2004). In the New Zealand context, the New Zealand Curriculum Framework (Ministry of Education, 1993) introduced the eight essential skills: communication skills, numeracy skills, information skills, problem-solving skills, self-management and competitive skills, social and co-operative skills, physical skills, and work and study skills in 1993. At the time, educators in New Zealand largely saw them as token gestures and struggled to work with them (Carr, 2006; Hipkins, 2006). Part of the impetus for the Ministry of Education to commission the Curriculum Stocktake Report in 2000 to review the curriculum framework, was in response to the growing interest in key competencies that had been stimulated by the DeSeCo project. In time, the New Zealand Curriculum (New Zealand Ministry of Education, 2007) replaced the essential skills with the key competencies which are defined as “the capabilities people have, and need to develop, to live and learn today and in the future” (Ministry of Education, 2013b).

Despite the importance of the key competencies in the education system in New Zealand, they are rarely assessed in any measurable form at secondary level. Consequently, students, parents and teachers have little information about students’ strengths or areas that need to be developed.

I had been interested in better meeting the needs of diverse students. I had been introduced to the Effective Lifelong Learning Inventory (ELLI) (Deakin Crick, 2006), when I was looking for a way to measure the key competencies and considered that it would be a valuable tool to support my school’s learning culture focussing on enhancing students’ self-awareness and astuteness. ELLI is an online tool designed to measure the learning dispositions of changing and learning, strategic awareness, learning relationships, critical curiosity, creativity, resilience and meaning making. Although a disposition to learning is not a

competency, the links between the key competencies and the learning dispositions measured by ELLI were immediately apparent.

There is a close association between the ELLI dispositions and the key competencies. Having the ability to do something cannot assume the inclination to do so. Having the skills is necessary for achieving an outcome but so is the disposition to do it. A disposition creates the environment in the mind for the competency to be enacted. They are two sides of the same coin; they impact subtly on each other. Links between the ELLI dispositions and the Key Competencies will be discussed further in section 2.3.6 p 40.

Given the close association between ELLI dispositions and the key competencies, I put a proposal to the school for the use of ELLI. Although my early interest was with students who struggle, it was clear that the potential of the tool extended to all students. Following further investigation, the school agreed to carry out a trial using the Effective Lifelong Learning Inventory (ELLI). This research explores the trial of the programme designed to measure a range of life skills that will help students become aware of their strengths and help them identify areas for development.

1.5 Significance of the research

There has been considerable research using the Effective Lifelong Learning inventory (ELLI) in the United Kingdom and other countries, but there has been no recorded research exploring the use of ELLI in New Zealand.

Competencies similar to those in ELLI are the focus of the Te Kotahitanga Programme (Bishop, Berryman, & Wearmouth, 2014), which investigated relationships, student voice, collaborative co-construction of solutions and evidence-based attention to experiences and outcomes of minoritized students to improve learning outcomes for Māori students. However, although the Te Kotahitanga Programme was of benefit to all students, the focus remained on Māori.

Many teachers in secondary schools in New Zealand have worked hard to devise teaching programmes designed to develop students' key competencies. However, there has been no coherent way demonstrated to measure the levels of competence attained by the students, nor to accurately gauge their progress. The ELLI trial was intended to meet that need.

1.6 Definition of terms

1.6.1 Competencies

In this research, competencies include the skills, knowledge, attitudes and values needed to meet the demands of a task. Competencies are performance-based and manifested in the actions of an individual in a particular context. Key competencies are defined as those competencies needed by everyone across a variety of different life contexts to meet important demands and challenges (Hipkins, 2006).

The concept of 'key competencies' originated from employers identifying key skills that were required for the workforce in the late 1980's (Gibb, 2004). Key competencies were identified in a number of countries, including by the Further Education Unit in the United Kingdom, in 1987, by both the Finn and Mayer reports in Australia in 1991, and 1992 respectively, and by the Labour Secretary's Commission on Achieving Necessary Skills in the United States (Haworth & Browne, 1992). The Mayer report typifies the competencies that were determined as necessary for effective participation in the workforce: collecting, analysing and organising information; communication ideas and information; planning and organising activities; working with others and in teams; using mathematical ideas and techniques; solving problems; and using technology (Haworth & Browne, 1992).

1.6.2 Learning dispositions

Learning dispositions are the dispositions people have towards using their skills or competencies. Schools can influence the development of these inclinations, and in that respect, the degree of disposedness may change over time and place. The dispositional approach assumes that to help someone become a more effective all-round learner, that person needs to help the learner to develop the 'disposition' to learn how to drive the process for himself or herself. In the school setting, the aim is to help students become better learners: curious, tenacious, thoughtful, imaginative, and so on, both in and out of school (Claxton, 2009).

1.6.3 Learning power

Learning power is a complex concept which has been defined as "a form of consciousness characterised by particular dispositions, values and attitudes, expressed through the story of our lives and through the relationships and connections we make with other people in our world" (Deakin Crick, 2006, p. 4). Learning power is a form of awareness about oneself as a learner which can be recognised in one's behaviours, beliefs and feelings about oneself and about learning. It is expressed in relationships where there is trust, affirmation and challenge. Learning power is reflected in how one sees the world and how we engage with life and the differing personal, social and political relationships we have (Deakin Crick, 2006).

Learning power is an idea that has been developed to describe our multiple capacities for learning. The concept stands in contrast to traditional ways of thinking about intelligence as being fixed, measurable and the main determinant of success (Deakin Crick, Broadfoot, & Claxton, 2004). Learning is seen as lifelong and based on a range of learning dispositions that can be learned. A simple analogy is that the brain is like a muscle that can be grown, strengthened, and developed, as opposed to a bucket to be filled with knowledge (Deakin Crick et al., 2004).

“Learning power is: the life energy which is present in all human beings that leads to human growth, development, and fulfilment over time. It is the life energy behind all human cultural, scientific and humanitarian achievements” (Deakin Crick, 2006, p. 3).

The ELLI tool is designed to measure learning power.

1.6.4 Engagement

Engagement, according to Fredricks, Blumenfeld, and Paris (2004), is a metaconstruct that has three aspects: behavioural engagement, emotional engagement and cognitive engagement. Behavioural engagement is exemplified by seeing students do the work and follow the rules. Participation and involvement in academic and social or extracurricular activities is considered vital for positive academic outcomes and preventing dropping out. Emotional engagement includes interests, values and emotions and can be seen by positive and negative reactions to teachers, classmates, academic and school which creates ties to the learning institution and a willingness to get involved the work. Cognitive engagement involves motivation, effort and the use of strategies which involves the idea of investment and includes thoughtfulness and willingness to put in the effort needed to understand complex ideas and master difficult skills.

1.6.5 Assessment for learning

Assessment for learning is understood, pedagogically, as teachers focus on student achievements, questions and problems, so that they can diagnose problems and use their teaching to target strategically. Assessment for learning focuses on types of assessment that are informative for the teacher as well as being diagnostic for the students (Claxton, 2008b). Assessment for learning has sometimes, however, been used to target more assessment of students and has often been used to focus on improving examination results (Claxton, 2008b).

The Assessment Reform Group (Broadfoot et al., 2001) identified 10 research based principles of assessment for learning to guide classroom practice. They found that assessment for learning should:

- be part of effective planning for teaching and learning,
- focus on how students learn,
- be recognised as central to classroom practice,
- be seen as a key professional skill for teachers,
- be sensitive and constructive recognising that any assessment has emotional impact,
- take account of the importance of learner motivation
- promote commitment to learning goals and a shared understanding of the criteria by which they are assessed
- provide learners with guidance about how to improve
- develop learners' capacity for self-assessment so they can become reflective and self-managing
- recognise the full range of achievements of all learners.

"Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting student learning" (Black, Harrison, Lee, Marshall, & Wiliam, 2004, p. 10). Assessment for Learning can provide feedback in self or peer assessment. It can help teachers modify teaching and learning activities. It is formative if it is used to adapt the teaching work to meet learning needs.

1.7 Organisation of chapters

Following this introductory chapter, *Chapter 2: The literature review* explores the research on programmes to enhance learning, including the Learning Futures Programme, Te Kotahitanga, Ka Hikitia, and Positive Behaviour for Learning. Research is explored focussing on enhancing students' learning, looking at student engagement and students' experiences, the concept of learning power and the learning dispositions measured by the Effective Lifelong

Learning Inventory (ELLI), the key competencies and the Te Kotahitanga principles. A model for sustainability of school change developed by Bishop, O'Sullivan, and Berryman (2010) is explored, with the dimensions of goals, pedagogy, institutions, leadership, spread, evidence and ownership, identified as necessary for the school change process to be embedded and sustained.

Chapter 3: The methodology examines the research methodology and provides a rationale for the methodological decisions made. Descriptions of the research site and the participants in the trial are given. The methods of data collection are outlined, and these include observations, teacher discussions, student learning conversations, and interviews. A number of ethical issues involved in the research are examined. These include working with students under 16, research in my own school, confidentiality, using school data, carrying out observations, and interviews with students and teachers.

Chapter 4: The findings provides a description of the events of the research trial. The first section: *The lead up: 2010*, outlines the factors that led to the trial and explores the culture of learning in the school, the assessment for learning goal of the school and the professional learning history in the school.

Phase I: A good start: 2011, describes the introductory sessions with the school leaders and the parents, initial planning meetings with the form teachers, and the partial completion of the online questionnaires leading to the learning profiles. *Phase II: Waiting for the platform: 2012* traces the events that took place while the technology was inaccessible, and these included a number of informal uses of the learning profiles by the form teachers. *Phase III: A new start?: 2013* documents the attempt to initiate a new mini-trial with the students who had successfully completed their profiles in 2011. The academic results from the two form classes and the changes to the students' learning dispositions are provided. The chapter concludes with a summary of the key findings.

Chapter 5: The discussion addresses the research questions. Question one examined why the school trialled the use of ELLI. It analyses the school goals

and the professional learning programme foci leading up to the trial aligned with the principles behind ELLI, and draws on Claxton's (2008a) concept of building learning power, incorporating the key competencies into the school programmes, and using assessment for learning. Question two is examined by analysing how the school used ELLI, using the dimensions in the GPILSEO model (Bishop et al., 2010) of goals, pedagogy, institutions, leadership, spread, evidence and ownership. A response to the third question is provided by analysing the impact of the ELLI trial process on students by looking at changes to the students' learning dispositions, their academic results and the students' perceptions of the process. The chapter concludes with a meta-summary of the effectiveness of the trial by outlining the positive aspects of the trial implementation process and the factors that limited the effectiveness of the trial.

Chapter 6: *The conclusion* begins with a brief overview of the research. A number of implications for practice are identified including the dependency on technology, the size of the trial group, time, leadership, when to reframe an initiative after a setback, and differences in commitment between a trial and the full implementation of a programme. Finally, the limitations of the study are explained, the rationale for the research is outlined and possibilities for further research are offered.

2 Literature Review

2.1 Introduction

This chapter seeks to explore possible approaches offered in the literature to enhance learning for the 21st century learner. How we learn and how we can improve learning involve complex systems comprising a wide range of factors that impact on student learning which interact with each other in multiple ways. These factors are typically separated to explore but do not stand alone and must be understood in the context of the whole system. In particular, this chapter outlines research on a range of programmes to enhance learning and a number of approaches to school change are outlined. A number of factors that may enhance learning are discussed by exploring engagement, listening to student experiences, the concept of learning power and the associated learning dimensions. Links between Te Kotahitanga principles, the key competencies and learning disposition are identified. A model for the sustainability of school change, developed by Bishop (2008), is described as a framework to investigate the interconnected processes of sustained change in schools.

2.2 Programmes to enhance learning

Improving the outcomes for at-risk students has been the focus of numerous studies both in New Zealand (Murrow et al., 2004; TNS & Monarch Consulting, 2006), and internationally (Barley et al., 2002; Latz, Speirs Neumeister, Adams, & Pierce, 2009; Lauer et al., 2006; Mosen, Vidovich, & Chapman, 2008; Nechyba, McEwan, & Older-Aguila, 2005; Nordlund, 2003). Prevention or early intervention programmes have been found to be most effective, but least relevant to secondary schools (Slavin & Madden, 1989). A brief summary of a number of programmes and approaches is outlined below.

A synthesis of research on classroom practices to help at risk students meet academic standards was carried out by Barley, Lauer, Arens, Apthorp, Englert, Snow, and Akiba (2002). Cooperative group structures were found to be particularly effective for low-achieving students, particularly when specific clear instructions are given and roles clearly defined (Barley et al., 2002). Tutoring was also found to be highly effective in improving learning outcomes for low-achieving students. (Barley et al., 2002). Tutoring takes many forms including Peer Assisted Learning Strategies and Reciprocal Peer Tutoring, and may involve adults, senior students or students of the same age (Barley et al., 2002; Capossela, 1998; Topping, 1988). To be most effective tutors need to be well trained and supported, with careful monitoring of tutoring behaviours and activities (Barley et al., 2002).

There has been a significant increase in the number of 'Out of School Time' (OST) programmes in the United States of America since the No Child Left Behind Act in 2001 (Lauer et al., 2006). A synthesis of research carried out by Lauer, Akiba, Wilkerson, Apthorp, Snow, and Martin-Glenn (2006) found OST programmes to have a positive impact on the achievement of at risk students: both elementary and secondary students showed improved reading; mathematics was significantly improved at secondary level; one-on-one tutoring for reading was found to have the most significant impact; programmes that had both a social and academic focus had positive influences on student achievement; and programmes of longer duration were more beneficial.

In the United States of America, Chenoweth (2007) identified and researched 15 successful schools where the students were mostly poor and coloured; they showed significant improvement on standardised tests, there were high rates of graduation and there was open enrolment. She found a number of similar characteristics across these schools: parents who were significantly involved; longer school days; homework centres and health facilities on campus; free summer schools; and in-class support from teacher aides and parents. The schools treated the social and cultural situation as central and compensated for social disadvantage by supplying the services that most middle-class children

already received in and around their homes. Quality staff were appreciated and supported with a distributive leadership structure where important decisions were made by teams consisting of parents, teachers and other community members. Teachers were given time to work collaboratively and to observe each other with targeted professional development (Chenoweth, 2007).

The Achievement in Multicultural High Schools project (AIMHI) was developed to raise the achievement of Māori and Pacific Island students in low decile schools in New Zealand (Hill & Hawk, 2000). Researchers observed teachers who were identified as 'effective' and interviewed the teachers and students. The project found that the relationship the students had with their teachers was crucial and the respect the teachers showed the students was not only a key feature but a prerequisite for learning. Relationships between students were important in creating a safe environment for risk taking and learning from each other (Hill & Hawk, 2000). Effective teachers were firm, fair and consistent and used positive and constructive behaviour management strategies. Students were encouraged to take responsibility for their learning and to use deeper thinking skills. Teachers worked hard to make learning processes transparent and understandable for the students (Hill & Hawk, 2000).

In the 2000's the New Zealand Government provided an *Innovations Funding Pool* to introduce programmes designed to improve the educational achievement of at risk students. Projects funded have included mentoring programmes, literacy and numeracy projects, well-being or self-esteem focussed projects, early intervention programmes and behavioural modification programmes (Clinton & Rivers, 2003). An example is the Mt Roskill Community Literacy Project, which involved a cluster of schools which aimed to achieve literacy for students by using a whole family mentoring intervention. The study found marked increases in comprehension and oral language which were maintained over a period of time. There were also improvements in social achievement and improved self-concept (Clinton & Rivers, 2003).

The Cool School Peer Mediation programme was established in primary and secondary schools throughout New Zealand. Senior students are trained as Peer Mediators who then patrol the playground at break times and mediate in disputes between students (Murrow et al., 2004). The “Kiwi Can” programme was delivered to primary and intermediate schools by trained young people who worked to improve children’s life skills and help them develop an “I can” attitude (Murrow et al., 2004). The Tū Tangata programme placed Education Support Personnel, often from the students’ whanau (family), into schools to work alongside targeted individual students (Murrow et al., 2004).

2.2.1 The Learning Futures Programme

The *Learning Futures Project* worked in 15 schools in the United Kingdom in 2009 and 2010, testing the hypothesis that students become more actively involved in their learning and so develop a positive self-motivated attitude that will set them up for life when: learning experiences are relevant; formal instruction-based approaches are combined with non-formal co-constructed learning; learning and assessment is integrated and recognises learning achievements that take place outside of school contexts; and learning is facilitated in a range of ways with a range of people (Deakin Crick, Jelfs, Symonds, Ren, & Grushka, 2010).

The following principles formed the basis of four programme themes: enquiry based learning; co-construction of the curriculum and pedagogy; expanding learning locations and partners; and mentoring. Underachieving students were found to have lower levels of learning power as measured by the ELLI.

The project found that the Learning Futures interventions helped students engage more actively and positively with their learning, increasing their learning power, particularly in the schools which had a commitment to giving students the responsibility for their learning, allowing them to talk about “themselves as learners and thus to engage in negotiation and constructing their own learning processes and pathways” (p. 22).

Deakin Crick et al. (2010) found that students' identities as learners were strongest when the learning dimensions were based on story, place and community which connected with school experiences, thereby enabling the learners to develop their learning identities. Successful schools had an authentic approach to pedagogy that was meaningful for the learner; learning was enquiry-based, and carefully scaffolded to allow students to take more responsibility for their learning. Trusting, facilitative relationships between student and teacher were key, where the main role of the teacher was to provide a framework and guidance for the learning process (Deakin Crick et al., 2010).

Deakin Crick et al. (2010) found that it was particularly important that leadership teams were strong, and that they created the conditions necessary to allow student-based enquiry learning to flourish and to "provide a 'buffer zone' between the Learning Futures innovative pedagogies and the fear which can be engendered by a performance-dominated external agenda" (Deakin Crick et al., 2010, p. 15). They argued that: "this approach to pedagogy stands in stark contrast to the traditional 'delivery' model of the curriculum, in which the curriculum itself pre-determines what should be learned and very often how it should be learned" (Deakin Crick et al., 2010, p. 15).

Characteristics of successful learning futures schools were identified as courageous leadership and a collective responsibility for student self-directed learning.

2.2.2 Te Kotahitanga

Te Kotahitanga focussed on improving student learning by enhancing teachers' abilities to relate to students. The first phase of the research and development project 'Te Kotahitanga' began in 2001 with the aim of improving the educational achievement of Māori students in mainstream classes in New Zealand. The programme has moved through a further two phases, going from a focus on individual teachers to a whole school approach. The Te Kotahitanga

programme works from a Māori perspective of the world by promoting an education that is based on a number of Māori principles: power sharing by self-determining individuals or rangatiratanga; valuing culture or taonga tuku iho; learning as a continuing interactive process or ako; and commitment between participants or whanaungatanga through the establishment of a common purpose or kaupapa of what is educational excellence (Bishop et al., 2014).

In-depth interviews with Māori students, their parents, teachers and principals were used to provide an insight into the students' experiences of schooling. It was found that although most teachers wanted to positively support the learning of Māori students, they saw deficiencies in parental support, low aspirations, and limited skills and knowledge as the main barriers to educational success. This was in contrast to the views of the students, their parents and their principals who saw in-class relationships as the key determinant of success (Bishop et al., 2014).

The Effective Teaching Profile (ETP) was developed from this knowledge, which encapsulates the Māori world view and vehemently rejects deficit theorising. Teachers were provided with professional learning opportunities based on the ETP to develop learning relationships with students that were culturally responsive (Bishop, Berryman, Tiakiwai, & Richardson, 2003).

The Te Kotahitanga professional development cycle begins with an induction workshop or hui whakarewa held on a local marae with Māori elders actively engaged in the process. This is followed by regular classroom observations of teachers by trained facilitators who provide specific information on student engagement, interactions and expectations. Facilitators give teachers specific feedback following these observations and then the teachers, together with the facilitators, construct individual goals to improve the participation and engagement of Māori students in their classrooms. Co-construction meetings are collaborative, problem-solving opportunities for groups of teachers who work with the same groups of students. Finally, the facilitators shadow coach individual teachers to support them as they work towards their personal and

group goals. The process has led teachers to critically reflect on their own positions, leading to a greater chance of increased power-sharing with students and more positive and inclusive relationships leading to improved student engagement and learning (Bishop, Berryman, Cavanagh, & Teddy, 2009).

In their investigation of more inclusive teaching methods for the diversity of students in today's classrooms, Bishop and Glynn (2003) describe five Māori principles that could guide teaching practice. Relationships with others sit at the heart as does the idea of student-centred pedagogy.

First the principle of tino rangatiratanga is based on the notion that parents and students should be able to take part in decision-making about curriculum planning, to the extent of sharing power over decisions about curriculum content and the directions that learning will take

The second principle is taonga tuku iho. Schools and teachers need to create contexts where to be Maori is to be normal and where Māori identities are valued, valid and legitimate, in other words, contexts where Māori children can be themselves.

Third, ako is about the reciprocal relationship between the teacher and the student. Rather than acting always as the expert who conveys information to students who receive it, the teacher is a partner in the conversation of learning.

The fourth principle is whānaungatanga. There is commitment and connectedness between learners, teachers, their whanau and communities where responsibility for the learning of others is fostered.

The fifth principle is kaupapa. Establishing a shared common purpose, where each of the participants clearly understands and believes in the shared goals.

The Te Kotahitanga programme continued to grow from the original twelve schools to 49 secondary schools, with a resulting improvement in success rates for Māori students. When the first cohort reached Year 11, the successful completion of NCEA Level 1 increased by 7.5% compared to schools that did

not participate in the programme. Similar gains were made by Pasifika students, indicating that using the Effective Teaching Profile may benefit other marginalised students (Bishop et al., 2009).

As an iterative research and development programme, the Te Kotahitanga research programme informs practice, and practice informs research in an ongoing cycle. Bishop, Berryman, and Wearmouth (2014) examined the process whereby change in schools is sustained or momentum lost after the initial period of intensive support and facilitation. They undertook detailed case study research into the 12 schools that had started the programme six to seven years earlier. They used a mixed methods approach using student outcome data: attendance, retention, engagement and achievement, as well as interviews with all involved parties, including leaders, students and parents.

Of significance is the finding of a wide variation in the implementation of the programme. Schools that were 'high implementers' had significantly greater improvements in student outcomes compared to the 'low implementers' (Bishop et al., 2014). A number of problems associated with the implementation of Te Kotahitanga included funding security, initial teacher resistance to change, lack of cohesive vision among the senior school leaders and difficulty retaining external facilitators (Bishop et al., 2014).

2.2.3 Ka Hikitia

Ka Hikitia was an initiative introduced by the New Zealand Government in 2008 with the intent of "Māori enjoying and achieving educational success as Māori" (Ministry of Education, 2008, p. 18). The aim of this initiative was to improve outcomes for Māori learners, for Māori to work with others to find successful learning and education pathways, realising their cultural distinctiveness, participating and contributing to Te Ao Māori, Aotearoa New Zealand and the world. These intentions were underpinned by the strategic drivers of participation, engagement and achievement (Ministry of Education, 2008).

The Office of the Auditor-General (2013) audited the Ka Hikitia initiative in 2013. Oral and documentary evidence from 27 English-medium schools was collected, using interviews, observations and documentary evidence from a wide range of sources including students, staff, whānau, Board of Trustee members and local communities. The findings from an online survey of 633 schools backed the findings from the in-depth studies. They also interviewed many officials from seven education agencies in New Zealand (Office of the Auditor-General, 2013).

The programme, which was widely respected, was based on sound educational research, and a consultation process with Māori groups and the education sector. However, it was found that the programme had not been introduced effectively. Although staff were aware the programme was high priority, they were unsure about roles and responsibilities, project management was weak, and poor communication with schools meant that schools were unsure how to respond (Office of the Auditor-General, 2013).

Attempts have been made to refresh the programme with a further phase: “Ka Hikitia – Accelerating Success 2013–2017”. The revised programme retained the vision: “Māori enjoying and achieving education success as Māori” (Ministry of Education, 2013a). It has five principles which include: showing how the principles of the Treaty of Waitangi can be applied in education and acknowledgement of the Crown’s obligation to do so; recognising the potential of Māori and having high expectations for success; the principle of ako shows that learning and teaching is a two-way process between teachers and learners, that teachers are learners too; valuing identity, language and culture and strengthening productive partnerships based on mutual respect; and recognising the potential for Māori to contribute to society. Two critical factors underpin this phase: quality teaching and learning supported by effective governance; and support and engagement from iwi, hapū, whānau, parents and other businesses and organisations (Ministry of Education, 2013a).

2.3 Enhancing student learning

At the individual level, to improve learning the student must have a mind-set that is receptive to new ideas, knowledge and ways of learning. Student motivation, engagement, social and emotional skills and belief system are all different facets of the students' readiness, to learn. In order for a programme to take effect on a large number of students, students' individual head spaces must be in a receptive state.

2.3.1 Positive Behaviour for Learning: School-Wide (PB4L: School-Wide)

In contrast to the culturally based Ka Hikitia programme, Positive Behaviour for Learning: School-Wide, this programme focusses on improving classroom climate by minimising negative student behaviours. Positive Behaviour Supports (SWPBS) programme was developed in the United States in an attempt to improve learning environments by: increasing the amount of time students are at school; increasing the amount of time students are engaged in learning; and improving the levels of academic achievement in the classroom. This initiative works on the premise that by improving social behaviour there will be more time available for students to be exposed to a learning environment and consequently improve their academic outcomes (Gage, Sugai, Lewis, & Brzozowy, 2013).

Gage, Sugai, Lewis, and Brzozowy (2013) examined the impact of SWPBS on school-wide academic achievement by conducting a comprehensive literature review and a longitudinal state-level analysis of schools implementing SWPBS in the United States. They found little to no relationship between SWPBS on its own and school level academic achievement. However, the programme was associated with improved school climate, less serious discipline measures and improved social skill development, and "has value in promoting the social culture of classrooms and schools and behaviours and values that are important

in later success in career, postsecondary and community activities and responsibilities” (Gage et al., 2013, p. 9).

This programme has been adapted for New Zealand as Positive Behaviour for Learning: School-Wide (PB4LSW). This programme provides a framework for schools to develop a consistent and positive school-wide climate to support learning. The New Zealand Ministry of Education supports the programme, providing a team of practitioners who offer training and support for the first two years (Ministry of Education, 2010). Each school implements the programme in a way that best suits their needs, but based on a set of core elements. The programme is implemented in three tiers. In the first tier schools establish a set of universal core elements. These include: effective leadership from the principal; a small number of explicit positive behaviour expectations that are school wide and actively taught; and a common approach to discipline where positive behaviour is reinforced with consistent consequences to discourage unwanted behaviour while the school develops decision-making systems that are based on data from a school-wide evaluation tool (SET) and shared with the school community (Boyd, Dingle, & Herdina, 2014). In the second tier small groups of vulnerable students are targeted and the third tier develops specialised interventions for individuals (Boyd et al., 2014).

After one year in the Positive Behaviour for Learning (PB4L) programme, Te Aute College’s experience is summed up in the following way:

PB4L recognises the vital link between the school and classroom behaviour and learning. Schools have a responsibility to teach both academic skill and social competence.... PB4L has certainly allowed our staff to focus more on the positive aspects of teaching and learning and in turn, students are becoming more receptive in class and positive behaviour towards learning is increasing. This positive change should lead to better results for Te Aute College. (Cochrane, 2012)

Boyd, Dingle, and Herdina (2014) carried out a mixed methods evaluation of the first tier of the nation-wide programme. They analysed data from surveys of school personnel (372 coaches and curriculum leaders), Ministry personnel, the school-wide evaluation tool (169 schools), national data on stand-down, suspension, expulsion and exclusion rates, office discipline referral data, and wellbeing@schools data (71 schools, 10,883 students). They found that the programme was valued by schools and that it had contributed to a more respectful and inclusive school culture. There had been significant positive changes in student awareness of behaviour expectations and consequences, a significant reduction in referrals for major incidents and an increase in on-task behaviour and engagement in class (Boyd et al., 2014).

Boyd, Dingle, and Herdina (2014) found that the programme was faster to implement in higher decile schools, although lower decile schools had a greater shift in student outcomes and the programme was more likely to be firmly embedded in the school. The extent that schools worked collaboratively with staff was an indicator of later consistency of practice (Boyd et al., 2014).

2.3.2 Engagement

Students' engagement with school is closely linked to success (Hopkins, 2008; Lane, 2008; Walker & Greene, 2009). Engagement includes students' sense of belonging and connectedness to their school, teachers and peers; their sense of agency, self-efficacy and orientation to achieve within the classroom and in their activities outside the classroom; their involvement, effort, levels of concentration and interest in subjects and in learning; and the level at which learning is enjoyed for its own sake (Gibbs & Poskitt, 2010). It is important to emphasise, however, that engagement is a changeable state; it is influenced by a range of internal and external factors including the extent to which learning is valued or seen as relevant and whether or not there are opportunities for students to experience challenge and success in their learning (Gibbs & Poskitt, 2010). Of significance is the point that engagement can be strongly influenced by the actions of teachers. "Motivation concerns what gets and keeps us going,

why we engage in particular courses of action, our level of commitment and effort and whether we stick at a task even when faced with obstacles” (St. George & Riley, 2008).

Brophy (2010) has identified two aspects of motivation: affective aspects are the amount of pleasure or enjoyment a person gets from a task; cognitive aspects refer to the degree of empowerment or enrichment attained. This leads to higher achievement levels while showing a deeper conceptual understanding, being more creative and preferring more challenging tasks and persisting when it gets difficult, and having greater emotional well-being (Stipek, 2002).

Social and emotional skills are vital for developing and maintaining learning relationships that are needed for academic learning as well as effective inclusive education. Emotional Intelligence is the range of social and emotional skills that help us turn ability into action and accomplishment (Elias, Arnold, & Hussey, 2003). These skills include: self-awareness; the ability to see how we respond to real life situations; the ability to manage and control our emotions and cope with strong feelings; being self-motivated and able to channel emotions towards chosen goals; having empathy and recognising emotions in others and seeing others’ points of view; and having the social skills to cope with a range of social relationships (Elias et al., 2003). Low-achieving students often lack these social and emotional skills, which are rarely the direct focus of teaching and learning (Devi & Chahar, 2015; Pearson, 2005) }.

A student’s belief system about personal intelligence has a significant effect on his or her level of success (Sternberg & Subotnik, 2006). On the one hand, students who see their intelligence as a fixed trait see themselves as either having enough intelligence or not; if they are unsuccessful it is because they are not smart enough. On the other hand, students who see intelligence as something they can develop with effort and learning see poor academic performance as an indication that they need to improve their current skill level (Sternberg & Subotnik, 2006). Research carried out by Sternberg and Subotnik clearly reveals that how students view their intelligence is an indicator of

achievement. Students who see their intelligence as fixed tended to receive grades that gradually decreased while those students who recognised they could grow their intelligence increased their grades. Interventions where low-achieving students were taught that intelligence can grow, significantly improved their learning outcomes (Sternberg & Subotnik, 2006).

All of these interrelated factors affect students' engagement in learning. Emotional intelligence is directly related to how students perceive themselves as learners and, as such, significantly impacts on learners' motivation and the development of both social and emotional skills as well as academic learning. Building students' engagement in learning is therefore a prerequisite to improving learning outcomes.

2.3.3 Listening to students

Students who struggle with learning may present a challenge for teachers. However, it is important that their voices are heard. There is a growing body of research that gives insight into students' perspectives on their schooling, including that by Brooking, Gardiner, and Calvert (2008), Bishop, Berryman, Tiakiwai, and Richardson (2003) and Kane, Maw, and Chimwayange (2006).

A report for the Ministry of Education looked at students in alternative education and recorded their experiences of secondary schooling (Brooking et al., 2008). A number of factors were identified as contributing to the students' disengagement with school. These included: the structure of the school; having to constantly change classes and teachers; and relationships with teachers whom the students perceived as negative, disrespectful and having low expectations of them (Brooking et al., 2008).

Listening to students gives insight into their perspective: "The teacher called me stupid and then I got angry and I didn't think about what I was saying when I swore at her" (Brooking et al., 2008, p. 44). Another student volunteered:

I didn't really get any attention from teachers... I don't think there was a teacher there that I could communicate with. It felt different and hard... (the teacher) tells you what to do then tells you to get into it. But they don't really help you. They didn't understand me and I couldn't tell them. They told me I had to learn to do it without help but I couldn't. (Brooking et al., 2008, p. 45)

Bishop, Berryman, Tiakiwai, and Richardson (2003) gathered stories of Māori students' classroom experiences in the first phase of the *Te Kotahitanga project*. The students clearly defined the relationships they have with their teachers as the main influence on their educational achievement (Bishop et al., 2003). The students recounted a range of issues and experiences that happened in a classroom context that impacted on their learning and recognised many negative connotations that were associated with them being Māori. They felt that teachers used racist Māori stereotypes, had low expectations of their ability to achieve and did not value their cultural heritage (Bishop et al., 2003).

Another study focussed on how students made learning processes explicit (Kane et al., 2006). Kane, Maw, and Chimwayange (2006) worked with groups of teachers, school management and students from three schools in New Zealand to make student learning processes explicit by asking secondary students how they constructed meaning and learned from classroom experiences. Researchers worked in a school for a term with teachers who volunteered for the project and a focus group of four students from each class. Teachers and students became aware of the importance of student voice in school improvement and teacher practice. "When teachers are provided with ways of listening to students about learning, teachers and students become co-learners and co-constructors of knowledge" (Kane et al., 2006, p. 31).

Teachers reported that knowing the students and their needs was fundamental to facilitating student learning and that to know their students well, they needed to develop respectful, and trusting relationships. Recognising the

significance of student voice is a way to access evidence about student experiences. Through interviewing students in her class, Farrant (2014) discovered that there was a disparity between how she saw the purpose of a teaching unit (using ethical decision making on socioscientific issues), and how the students viewed it. She believed she was preparing students for citizenship, while they believed they were preparing for university.

Understanding students' classroom experiences and developing an awareness of how they see their relationships with teachers both provide insights into ways to improve learning situations.

Involving students in the functioning of schools is a powerful means to support learning. In particular, student voice can impact positively on their schools. Hopkins (2008) argues that, "all school pupils have a right to be consulted and their voices listened to" (p. 393). Consulting students offers schools a very important way students can manage their own improvement (Hopkins, 2008). Students may have a role in informing policy and practice by being involved in decision making.

The use of student voice to improve learning outcomes and student experience in schools has been the focus of a number of studies (eg., Hopkins, 2008; Raymond, 2001; Sellman, 2009). As part of the Consulting Pupils about Teaching and Learning programme, Raymond (2001) described how the use of student voice became central to research on teaching and learning. Table 1: Levels of student involvement from Raymond, (2001, p. 58). below illustrates the different roles students may play. At the level of least student involvement, student opinion may be sought in the form of an anonymous questionnaire. At a higher level of student involvement, it is also reasonably common for teachers to be involved in active discussion with small groups of students to canvass their opinion on issues. At the next level students become partners in teacher led research. Raymond (2001) initiated a move from co-researching specific areas of research to the situation where students create and own the agenda for research issues they decide is important.

Table 1: Levels of student involvement from Raymond, (2001, p. 58).

DATA	DISCUSSION	DIALOGUE (Teacher led)	SIGNIFICANT VOICE (Student led)
Students as	Students as	Students as	Students as
DATA SOURCE	ACTIVE RESPONDENTS	CO-RESEARCHERS	RESEARCHERS

2.3.4 The Key Competencies

The learning dispositions of courage and curiosity, trust and playfulness, perseverance, confidence and responsibility, have been part of the New Zealand early childhood curriculum *Te Whāriki* since 1996 (New Zealand Ministry of Education, 1996).

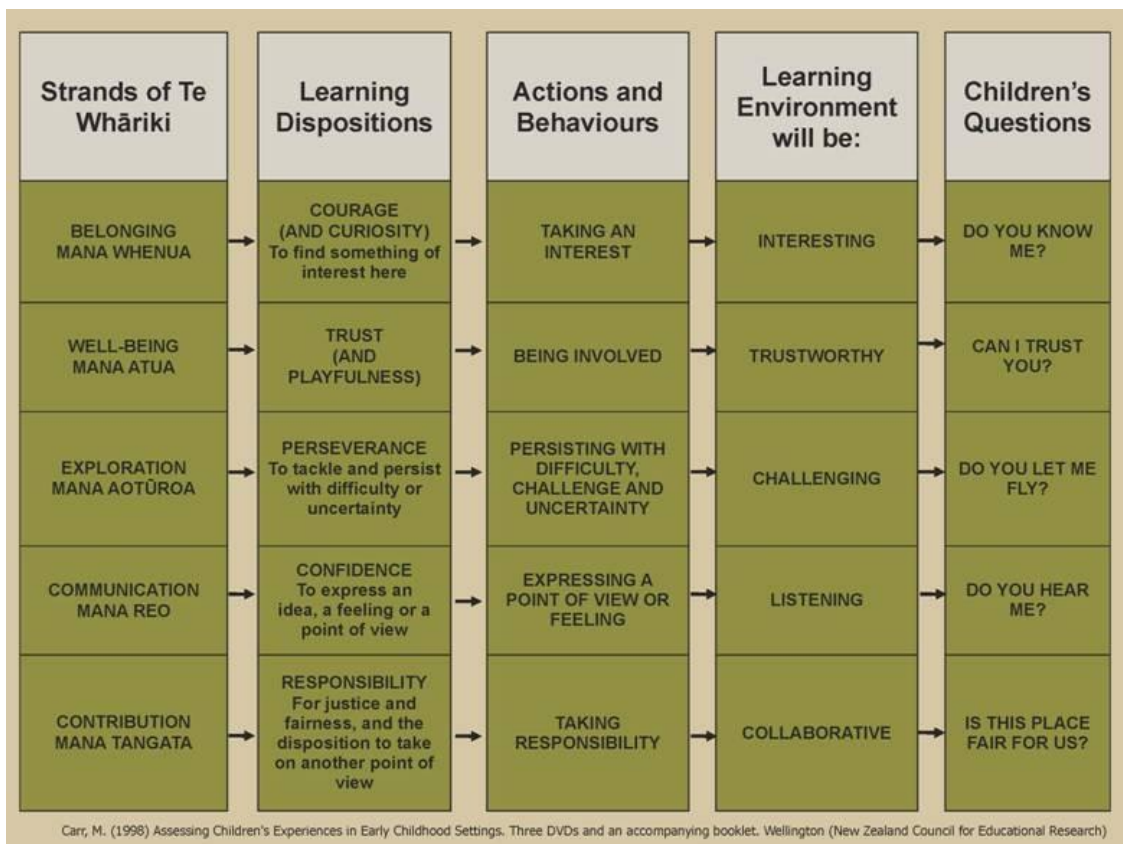


Figure 1: The strands of Te Whāriki (New Zealand Ministry of Education, 1996).

These learning dispositions are closely aligned with the key competencies in The New Zealand Curriculum (New Zealand Ministry of Education, 2007). A point to emphasise is that the key competencies of thinking, using language, symbols, and texts, managing self, relating to others and participating and contributing, are interrelated. The key competencies, with clear descriptions of the concepts and the learner characteristics, as identified in the New Zealand Curriculum (New Zealand Ministry of Education, 2007) are in Appendix I. They are pulled apart to understand their individual characteristics, but need to be put back together to work in real contexts (Hipkins, Bolstad, Boyd, & McDowall, 2014).

Carr (2006) recognised that the key competencies combine cognition and motivation and bring social factors into the foreground, and thus include a wide range of aspects that are relevant to successful learning. They imply a participation approach to learning.

Hipkins et al. (2014) advocate developing the key competencies through grappling with wicked problems. Wicked problems have no single solution but a range of often conflicting, possible 'clumsy' solutions. Such problems can be explored by bringing together different perspectives. To come to grips with wicked problems students must develop a range of capabilities exemplified by the key competencies.

If the development of key competencies has received attention, so too has their measurement. Haque (2014) raises a crucial issue with the key competencies in the senior secondary school, namely, how could schools measure and report on the competencies? Haque (2014) points out that the competencies are crucially important because they focus on the ability to learn rather than cramming content. However the key competencies are difficult to assess, particularly when trying to assess both a content-focussed achievement objective and the key competencies at the same time.

The New Zealand Ministry of Education suggests that schools should monitor and document the key competencies: "Documentation for monitoring key

competencies is not about recording indicators, criteria, marks, grades, or rubrics. Documentation for monitoring key competencies is more about rich descriptions, examples, accounts, and narratives” (Ministry of Education, 2013b).

The key competencies in the New Zealand Curriculum (2007) are integrated with other key aspects of the curriculum such as the principles, the learning areas, values and effective pedagogy. This integration is illustrated in Figure 2. below.

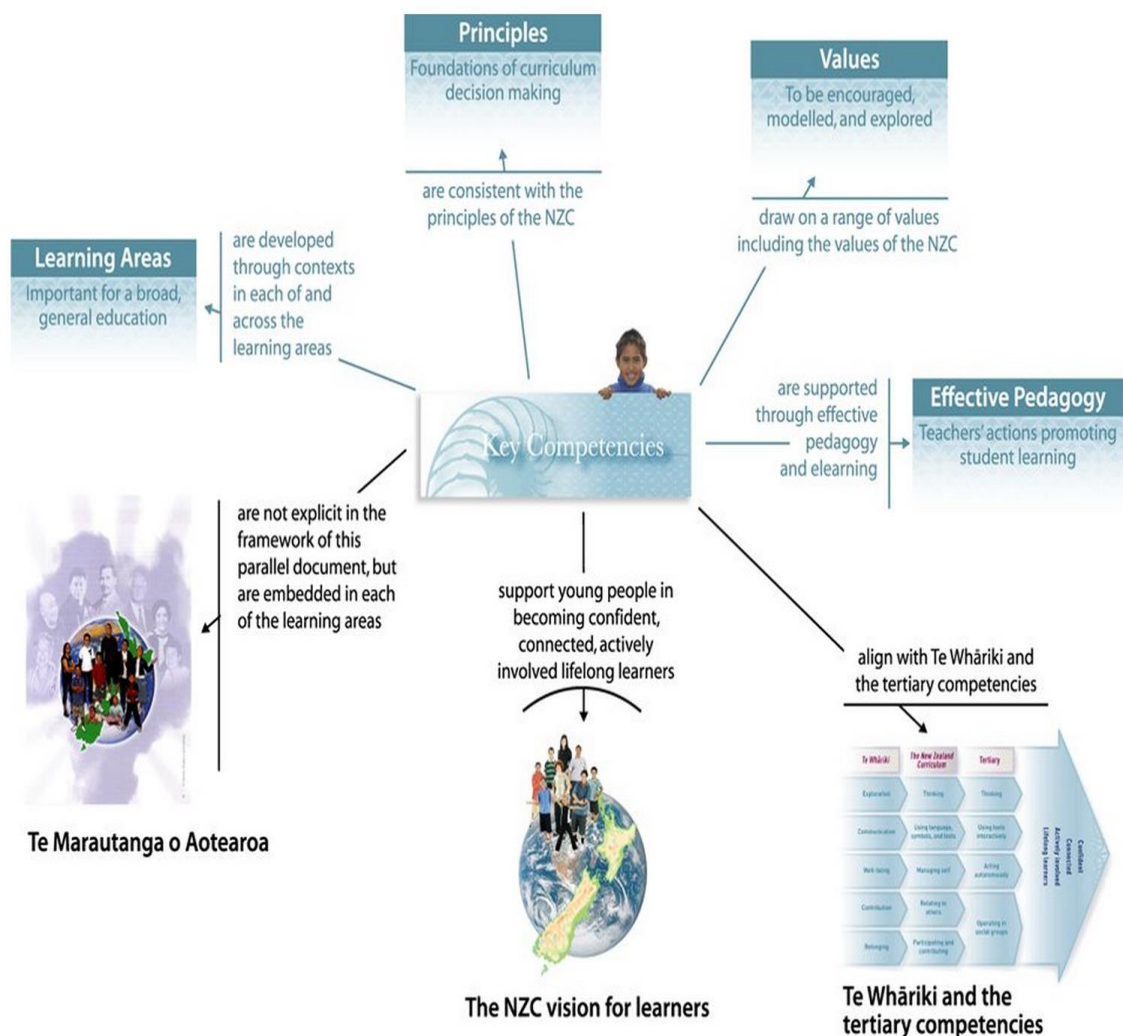


Figure 2: How the key competencies relate to other aspects of the curriculum (Ministry of Education, 2013b).

2.3.5 The Effective Lifelong Learning Inventory (ELLI)

The concept of an assessment tool for learning power was developed in the late 1990's. ELLI was developed from the synthesis of two concepts: learning power and assessment for learning (see definitions in Chapter 1). The ELLI research programme, led by Ruth Deakin Crick, carried out an exhaustive analysis on learning and the impacts on learning, based on prior research, and extensive consultation with academic experts, learners and practitioners (Small, 2010). A range of competencies needed for learning in the 21st century were evaluated. The result was both a measurement model and a set of research-validated strategies (Deakin Crick, Huang, Ahmed Shafi, & Goldspink, 2015). The ELLI tool is an online self-report questionnaire using a Likert type scale where learners indicated their approach to various aspects of learning. The scales for the seven learning dimensions were calculated, producing feedback for each of the learning power dimensions. A 'learning profile', in the form of a 'spider diagram', was created giving learners a visual representation of their learning dispositions.

Following the initial trial of the ELLI tool in three schools in the United Kingdom, with 12 teachers and 380 students a number of pedagogical themes were found to be significant:

- teacher commitment to learner-centred values and willingness to make pedagogical judgements;
- positive interpersonal relationships characterised by trust, affirmation and challenge;
- development of a language for learning particularly using metaphor and image;
- modelling by teachers of learning power and imitation of teachers' or other experts' behaviour by students;
- active learning dialogue;
- personal and collaborative reflection on learning power;

- the development of learner self-awareness and ownership of their own learning power;
- student choice and responsibility for learning decisions;
- re-sequencing of the content of the curriculum to support enquiry-based learning; and
- a re-examination of the internal structure of learning power (Deakin Crick et al., 2015).

The seven dimensions of learning power were identified and are described in the following table:

Table 2: The seven dimensions of learning power and their contrast poles (Small, 2010, p. 9)

The Seven dimensions	With the characteristics of	As opposed to being
Changing and learning	Having a sense of myself as someone who learns and changes over time	Stuck and static
Critical curiosity	Having an orientation to want to 'get beneath the surface'	Passive
Meaning making	Making connections and seeing that learning 'matters to me'	A collector of data fragments
Creativity	Risk-taking, playfulness, imagination and intuition	Rule-bound
Resilience	Readiness to persevere in the development of my own learning power Not giving up easily when the going gets tough	Fragile and dependent
Strategic awareness	Being aware of my thoughts, feelings and actions as a learner and able to use that awareness to manage learning processes	Robotic
Learning relationships	Learning with and from others and also being able to manage without them	Either isolated or dependent on others

The usefulness of ELLI as an agent of empowerment and change varies according to how, when, where and by whom it is used (Small, 2010) (Small, 2010). Small identified several factors that impact on the effectiveness of using ELLI for change. "The most important pre-condition is commitment by projected leaders, both, to the ELLI values and to adequate resourcing of

people's time to 'do it properly'" (Small, 2010). He recognised that the tool works best when strategies are tailored to the situation in which it is used. It is a tool that has been used to inspire a large number of highly imaginative and effective learning strategies and teaching ideas. It can also be used to help people communicate meaningfully about their learning, decide on change strategies and recognise, monitor and report on change.

ELLI has been found to have a significant impact on individuals, groups and whole organisations. Small outlined five levels of impact that ELLI could have on learners with a wide range of examples from research (Small, 2010). He reiterated the need for organisations to plan a programme around the needs of the students as identified by data from the students' self-report ELLI profiles and the needs of the organisation.

The first level of impact is on the individual learner, how the individual learner responds to their ELLI profile. ELLI impacts on the individual learner by attempting to inform and support the learners' natural desire to change and improve (Small, 2010). ELLI profiles have high face validity, "learners tend to agree with their profiles and find them useful" (Small, 2010, p. 43).

The second level of impact is coaching or mentoring. Mentoring and coaching was found to be highly effective to empower, build confidence and help learners make sense of the learning power dimensions and relate them to their own experiences and aspirations. The role of the mentor is to help the learner "find and use their capacity to turn self-diagnosis into a strategy for change" (Small, 2010, p. 45). Small outlines these principles for mentors as they support learners with interpreting their profiles: empowering, students' need to own their own profiles and strategies, building confidence by initially focussing on students' strengths and using positive language, and helping students see the connections between their profiles and their experiences. Small (2010) found that mentoring was reported as the single most powerful intervention. Mentoring helped students keep their goals to the forefront.

The third level of impact is adapting the learning and teaching in the existing curriculum. The aim is for the learning environment and subject curriculum to reflect the ELLI concepts and strategies that students have met in their learning conversations with their mentors. Small outlined a collection of strategies that could be useful for teachers could use to foster each of the learning dimensions. An example a suggested strategy to foster critical curiosity:

Coaching of questioning techniques, pointing out the difference between closed and open questions, with opportunities for practising such as 'hot-seating' exercises, can elevate Critical Curiosity to become an explicit part of the curriculum. Some teachers in primary schools have incorporated 'wonder walls' into their display work, to harvest questions 'to which no one know the answer. (Small, 2010, p. 72)

The fourth level of impact is on curriculum design. Curricula can be designed around the competencies using enquiry-based learning and perhaps making structural changes, such as the school timetable, to accommodate the change. This has freed schools from concentrating solely on subject knowledge and allowed them to focus on skills and competences needed to function effectively in the world. Small (2010) suggests developing programmes of learning through personalised enquiry, a strategy that has been a powerful intervention with both disengaged learners and high achieving learners.

The fifth level of impact is systemic change which requires a combination of a common sense of purpose, management of practical detail, time to embed changes and inspirational leadership based on shared community values (Small, 2010). ELLI has inspired people to change the way they see themselves. It helps understanding of wider issues and the ability to see possibilities for change. It provides a language, and a framework for thinking and discussion. "Embedding ELLI impacts on everything" (Small, 2010, p. 91).

In further research on the ELLI dimensions, Deakin Crick, Huang, Ahmed Shafi, and Goldspink (2015) have re-examined the structure of learning power and

found learning identity and openness to learning were critical pre-requisites for learning. They explored the following hypotheses:

- active learning power dimensions were all related;
- strategic awareness was a predictor of the active learning dimensions;
- learning relationships could be positive leading to challenge and change or negative leading to dependency and isolation;
- learning identity and trust were needed for engagement; and
- resilience is a complex construct that draws on all of the other learning power dimensions.

Schools are complex systems with a combination of interactions between structures. There are multiple systems at work. Learning power dimensions form part of a complex and dynamic process of learning that has lateral and temporal connections influenced by the social organisation, cultural processes, and world views. Deakin Crick et al. (2015) identified five social processes that enable learning to be understood as a journey of enquiry. These are: forming a learning identity and purpose; developing learning power; generating knowledge and know-how; applying or performing learning in authentic contexts; and sustaining learning relationships. Traditionally generating knowledge and know-how has been the focus of education, but in the 21st century, learners need to meet the challenge of complex problems and all of these social processes are needed (Deakin Crick et al., 2015).

Deakin Crick et al.'s (2015) new approach has moved from a reductionist model where the seven learning dimensions have similar status and a simple relationship with one another, to a complexity perspective on learning power. Deakin Crick et al. (2015) have been able to clarify the interconnectedness between the components of learning power.

From the original seven learning dimensions, Deakin Crick et al. (2015) determined a three-part structure. Learning relationships now comprises

belonging and collaboration. Resilience, which is renamed openness to learning, has two elements: submissive mind-set and dependence. The other five active learning dimensions, originally creativity, curiosity, meaning making and changing and learning collectively, have become mindful agency. Mindful agency integrates the three areas of metacognition, emotional intelligence and self-efficacy as managing feelings, agency and managing processes, as well as the remaining four active learning dimensions of creativity, including imagination and playfulness, curiosity, optimism and hope, and sense-making.

Of particular significance, Deakin Crick et al. (2015) findings show that a low dependence and fragility score indicates an emotional and cognitive 'closedness' to learning power and indicates a barrier to deep learning. Consequently, this scale should be assessed differently from the other dimensions because either extreme is undesirable for learning suggesting a midpoint on the scale would be a better indicator.

2.3.6 Links between the key competencies, ELLI dimensions and Te Kotahitanga principles

There are clear links between the ELLI dispositions and the key competencies in the New Zealand curriculum. Hipkins (personal communication, November 2010) provided a possible alignment between the key competencies and the ELLI dimensions which is set out in Table 3 below.

The key competency of managing self where learners determine their own goals and see themselves as capable, enterprising, resourceful and independent links to the ELLI dimensions of changing and learning, strategic awareness and resilience in situations such as identifying goals, prioritising choices, coping with the risks involved and the barriers encountered.

The key competency of thinking includes the ability to reflect on learning and to be able to challenge the assumptions people make, this links to all of the learning dispositions in ELLI. The ability to think in different directions, work

things out, assess one's own abilities, areas to focus on are inherent in all the ELLI dispositions.

Relating to others and the ELLI dimension of learning relationships has obvious links. Being able to collaborate with and learn from others is a key factor in most learning situations. Relating to others and participating and contributing are also related to the ELLI dimension of meaning making; making connections between ideas and people is central to building a cultural identity and using cultural diversity to extend collective understandings.

Using language, symbols and texts are competencies that are needed to explore, develop and use ideas. Finding new ways to express ideas, challenging and appreciating texts in various forms develop the learning dispositions of critical curiosity, meaning making and creativity.

Table 3: ELLI dispositions and key competencies alignment (adapted from Hipkins personal communication November 2010)

	Managing Self	Thinking	Using Language Symbols and Texts	Relating to others	Participating and Contributing
Changing and Learning	Awareness of oneself as a learner with knowledge of how to work with ones strengths and areas for development Understanding how to learn			Strengthening action competencies Knowing what and how to act alone and with others to address identified needs/issues and being disposed to do so Careers competencies Cultural competencies	
Critical Curiosity		The ability to think outside the box, ask critical questions, explore tangents Deciding for oneself the veracity of what is read or heard Not taking representations at face value Growing awareness of the “constructed” nature of all texts			
Meaning-Making		Working out why something works or understanding the basic premises on which an area of learning is based. Metacognition		Recognising and developing a cultural identity Using diversity as a resource for collaborative meaning-making	
Creativity		Playing with ideas as ideas Exploring different ways of thinking Exploring different ways of representing ideas		Thinking “in the spaces between” people Working with others on ideas, issues, products Both self-awareness, self-discipline and skills for relating to others needed	
Learning relationships	Self-awareness Interpersonal skills, areas for development				
Strategic Awareness	Self-awareness, including patterns of affective responses to learning			Recognising the potential of, and being willing to draw on, affordances for action people, places, tools, texts	
Resilience	Knowing about one’s “learning career” Perseverance Identifying strategic choices and following through Identifying risks and being willing to take them when goals warrant this				

There is a close alignment not only between the ELLI dispositions and the Key Competencies but also with the philosophy underwriting Te Kotahitanga. Each of the five tenets of Te Kotahitanga has strong links to a number of ELLI dispositions as summarised on Table 4 below.

The concept of rangatiratanga involves both parents and students being part of the decision making process about what is learnt and how it takes place. The dispositions of changing and learning, strategic awareness, critical curiosity and meaning making all allude to the value of seeing the importance of learning and is central to the willingness to work together to find the most suitable learning pathway for each learner. Changing and learning involves understanding ourselves and how we learn, strength in this disposition enables the learner to be actively involved in determining their learning pathway.

The Kotahitanga principle of taonga tuku iho promotes an education where the culture of students counts; an environment where to be Māori is to be normal, where Māori identities are valued and where Māori students can be themselves. This principle aligns with the key competency of participating and contributing that advocates being actively involved in communities, family, whanau and school, and having a sense of belonging. Recognising the role of culture in the way we think and learn looking and the way people learn together so that when someone is learning something their world view is acknowledged and validated, therefore they are not in conflict with what they are learning and what they already understand.

The concept of ako translates both as to teach and to learn encapsulating the idea that learning is a continuing interactive process. In this Te Kotahitanga principle the teacher is a partner in the learning process rather than just the expert who imparts knowledge to students who absorb it. There are clear links between this interactive process and the ELLI dispositions. The ELLI disposition of changing and learning involves developing learning power, and knowing that the ability to learn can be

Table 4: Te Kotahitanga and ELLI links

	Kaupapa	Rangatiratanga	Ako	Taonga tuku iho	Whanaungatanga
Changing and Learning		Knowing ones strengths and areas for development and how to use them to improve learning Asking critical questions and seeking solutions Exploring ideas Working out why something works			
Critical Curiosity					
Meaning-Making	Having a common shared purpose Making connections Seeing what is important Evaluating priorities				Valuing culture Making connections and seeing the importance of learning Developing a cultural self
Creativity			Playing with ideas and using imagination and intuition in the learning process		
Learning relationships			The relationship between the learner and the teacher is one of reciprocal teaching and learning from one another	Making connections within and between cultures. Accepting the validity and relevance of other perspectives Collaborating Commitment between participants Learning with and from each other	
Strategic Awareness	Being self-aware and using that knowledge to manage the learning process				
Resilience	Identifying strategic choices Understanding and evaluating the risks involved in a range of options and knowing when goals warrant taking them		Persevering when meeting difficulties		

developed. Meaning making involves seeing the big picture and working out what it means to the learner.

The principle of whānaungatanga involves a commitment between participants. This Te Kotahitanga principle has a clear connection to the learning disposition of learning relationships, being able to work with and from different peoples, students having a relationship with their teacher, other students and others that supports their learning. Connectedness between school, whanau and communities is linked to strategic awareness, the awareness of self in a cultural context.

The Te Kotahitanga principle of kaupapa relates to the importance of establishing a shared common purpose. This relates to the ideas of strategic awareness involving knowing oneself and using the knowledge about oneself to set goals and plan how to reach them, making meaning by weighing up priorities and having resilience by being prepared to take risks when necessary.

2.4 A model for sustainability of school change

Whole system change happens when all parts of the whole system, school, community, district and government, contribute individually and together towards a collective purpose (Fullan, 2010). To sustain improvements in education it is necessary to understand the process of change. A number of researchers' (Bishop, 2008; Coburn, 2003; Fullan, 2010; Gilbert, 2007; Hargreaves, 2009; Lucas et al., 2013) have recognised that improvements in educational outcomes for students need to come about through changes throughout the whole system. These researchers have all proposed their own models for change which incorporate a number of common themes, this thesis will explore one model with particular relevance to New Zealand.

Coburn (2003) analyses the concept of scale in school reform through the interrelated dimensions of depth, sustainability, spread, and shift of reform ownership. For Coburn depth refers to the nature and quality of reforms. She recognises that reforms must effect deep and consequential change in

classroom practice: “depth involves changes in underlying pedagogical principles embodied in the enacted curriculum” (Coburn, 2003, p. 5). Consequently, Coburn sees that research measuring deep and consequential change in classroom practice must examine beliefs, norms and pedagogical principles. Consequential change must go beyond successful implementation through competing priorities, changing demands, and staff turnover (Coburn, 2003). Successful reform “must also involve the spread of underlying beliefs, norms, and principles to additional classrooms and schools” (Coburn, 2003, p. 7). For a successful reform to be sustainable the ownership of the initiative must pass from an outside source or provider to the teachers and schools involved.

2.4.1 GPILSEO

Based on the work of Coburn (2003) and using research from the Te Kotahitanga programme Bishop (2008) developed a model for the sustainability of educational change. Combining the culturalist perspective that recognises teacher effectiveness as one of the most significant influences on student achievement (Alton-Lee, 2003; Hattie, 2009) and the structuralist idea that being poor or poorly resourced inevitably leads to poor educational outcomes Bishop’s relational theory conceives of an education system “where power is shared between self-determining individuals within non-domination relations of interdependence” (Bishop, 2008, p. 51).

Bishop’s model (2014), using the acronym GPILSEO (Goals, Pedagogy, Institutions, Leadership, Spread, Evidence, Ownership), identifies a number of dimensions needed from the beginning of the change process for pedagogic interventions to be embedded and sustained. These elements are: a Goal focussing on improving students participation and achievement; developing a new Pedagogy of relations; new Institutions and structures; Leadership that is responsive and proactive; Spreading the initiative to include the wider community; Evidence used to inform and improve the initiative; and Ownership of the initiative being retained by the school (Bishop et al., 2014).

This model has been chosen as the conceptual framework to analyse the trial observed in this thesis. Based on their experience of implementing Te Kotahitanga over ten years the GPILSEO model is highly relevant to New Zealand schools. Each of these elements of the model is elaborated below.

2.4.2 Establishing goals and expectations

Effective goal setting has been found to have a significant effect on student achievement (Bishop et al., 2010; Fullan, 2009, 2010; Hargreaves & Shirley, 2009; Hattie, 2009; Hattie & Timperley, 2007; Lucas et al.; Robinson, Hohepa, & Lloyd, 2009). "A combination of goal setting plus feedback is most effective.... Goals and challenging goals are mutually supportive. The greater the challenge the higher the probability of the student seeking, receiving, and assimilating feedback information" (Hattie, 1999, p. 13).

In Hargreaves and Shirley's (2009) vision, change happens when people work together as partners and share a compelling purpose. One of their key tenets is an inspiring and inclusive vision with a compelling moral purpose.

Goal setting is a key element of any school change programme. Bishop, O'Sullivan, and Berryman (2010) point out the need for setting specific, measurable goals for improving student participation and achievement. They argue that student achievement goals must be targeted to the specific needs of different groups of students because goals that focus on the whole group work to maintain the status quo with disparities between groups remaining. Similarly, Fullan (2010) suggests that the number of goals should be limited and sees numeracy and literacy as key priorities alongside higher order thinking skills linked to whole-child development which he sees as including the arts and emotional well-being.

Robinson, Hohepa, and Lloyd (2009) found that establishing goals and expectations was central to effective leadership. Goals needed to be clear and have an agreed common purpose. The content of goals was seen as important

as the process of setting goals. In higher performing schools goals were likely to be academic, although this purpose was not seen as incompatible with social goals. Trinick (2005) found in his study on the Te Poutama Tau initiative that the success of the initiative was, at least in part, due to the close alignment between the philosophy of Te Poutama Tau and the schools focus on co-operative learning.

While Robinson, Hohepa, and Lloyd (2009) focus on individual schools, Fullan (2010) explored the issue on a wider scale. He recognised that for sustained school improvement it is necessary to move beyond treating one school at a time and work with all schools simultaneously. He sees that whole system change happens when all parts of the whole system contribute individually and together towards a collective purpose (Fullan, 2010).

Lucas, Claxton, and Spencer (2013) in their work on expansive education see the need to expand the goals of education. They recognise that traditionally schools have measured themselves in terms of examination results whereas expansive educators extend the traditional measures to include “the extent to which young people’s horizons have been broadened so that they have really been prepared to face the tests of life” (Lucas et al., p. 4).

2.4.3 Pedagogy

Pedagogical change is inherent in any school change reform. Many factors need to combine to enable change to happen in the classroom. Teachers’ existing mind-set must be challenged (Bishop et al., 2010; Timperley, Wilson, Barrar, & Fung, 2007) and supported with effective leadership and relevant professional learning (Robinson et al., 2009), involving students in the process (Hargreaves & Shirley, 2009; Lucas et al.).

The New Zealand Curriculum (2007) outlines the kinds of teaching approaches that have consistently had a positive impact on student learning. The curriculum states that:

Students learn best when teachers:

- create a supportive learning environment;
- encourage reflective thought and action;
- enhance the relevance of new learning;
- facilitate shared learning;
- make connections to prior learning and experience;
- provide sufficient opportunities to learn; and
- inquire into the teaching-learning relationship (p. 34).

Bishop, O'Sullivan, and Berryman (2010) emphasise the importance of embedding reform deeply in an underlying theory. Teachers need the capability to implement the change in practice and to respond to new challenges and situations in ways that will deepen and maintain the change over time.

Curriculum development plays a significant role in the change processes.

Robinson, Hohepa, and Lloyd (2009) found that planning, co-ordinating and evaluating teaching and the curriculum had a moderately significant effect size of .42. Successful leaders had personal involvement in the planning and evaluating process; they promoted collegial discussions around the impacts on student learning, and they made sure student progress was monitored and assessment results fed forward to inform practice (Robinson et al., 2009).

Promoting and participating in teacher learning and development was found to have a highly significant effect size of .84 (Robinson et al., 2009). These actions involved the participation of leaders in, and promotion of, formal and informal opportunities for teacher learning and development either as leaders or learners. Successful leaders, it was found establish and promote communities of teacher learners and promote a collective responsibility and accountability for student achievement.

Robinson, Hohepa, and Lloyd (2009) found that selecting, developing and using smart tools which include anything from whiteboards to assessment data was important. Effective leaders select or develop tools that ensure they are able to

help the users achieve the intended purpose. Smart tools promote teacher learning about how to promote student learning.

Timperley, Wilson, Barrar, and Fung (2007), in their Best Evidence Synthesis of teacher professional learning and development, found that the learning content and its associated activities, together with an understanding of the need for professional learning was a significant indicator of improved learning outcomes for students. They also found that a feature of successful professional learning were challenges presented to teachers' existing understandings. As teacher expectations of students increased and teachers understood the impact of their practice on their relationships with their students, student learning improved, and, in a cyclical process, teacher expectations again increased (Timperley et al., 2007). They found that pedagogical approaches implemented in successful schools were in line with directives from subject associations and or national guidelines, particularly in mathematics (Timperley et al., 2007).

Students, like teachers are instrumental to pedagogical change processes. Hargreaves and Shirley (2009) have recognised that students should be partners in change. Assessment for learning develops student responsibility. It allows students to plan their own learning, be more reflective about how they learn best, and show their teachers how to help them, which enables them to negotiate next steps and set achievement targets with their teacher (Hargreaves & Shirley, 2009).

As Lucas, Claxton, and Spencer (2013) argue "Wherever they are, young people will need to be able to make discerning lifestyle choices; to make, maintain and repair friendships; to discover forms of work that are fulfilling and which pose interesting challenges; to enjoy enriching their lives through conversation, reading, art and culture; and to face uncertainties of many kinds with calm intelligence and resourcefulness. We think the development of such capabilities and attitudes has to form the 'core curriculum' of any system of education in the 21st century" (p. 4).

Such capabilities and attitudes are developed through expansive education enabling students' capacities to think and learn to be stretched and strengthened. Qualities of mind such as willpower, resilience, concentration, imagination and collaboration should be coached and cultivated. They encourage teachers to think of themselves as coaches of the capacities to think and learn.

2.4.4 New institutions and structures

A supportive environment is essential for teacher change and improved learning outcomes including: the ability to adapt school structures such as the timetable (Bishop et al., 2010); resources such as time (Hargreaves & Shirley, 2009; Robinson et al., 2009; Timperley et al., 2007); and providing the capacity for collective collaboration as in professional communities (Fullan, 2010; Hargreaves & Shirley, 2009; Timperley et al., 2007).

From the start, Bishop, O'Sullivan, and Berryman (2010) maintain that a reform must contain the means to support institutionalising the initiative within school structures and organisational arrangements. The reform elements must be embedded into the school's core business to maintain momentum since it will be competing with other school demands and staff changes.

An orderly and supportive environment has been shown by Robinson, Hohepa, and Lloyd (2009) to be influential (effect size of .27). An orderly and supportive environment enables teachers and learners to focus on student learning, which successful leaders establish by having clear and consistently enforced social expectations and discipline systems, and resolving any staff conflict quickly.

Robinson, Hohepa, and Lloyd (2009) also found that resourcing strategically was important for sustained change (effect size of .31). Effective leaders can recognise and find appropriate resources, including people and expertise, that are in line with their pedagogical and philosophical goals (Robinson et al., 2009).

Time is a critical factor in productive change (Anthony & Walshaw, 2007; Timperley et al., 2007). Timperley, Wilson, Barrar, and Fung (2007) found that in most cases of successful school change, learning opportunities happened over an extended period of time about six months to two years, with frequent contact with a provider. They suggest that this is likely to be because the process of changing teaching practice often involves significant new learning that may challenge existing beliefs and values, and so the learning process is iterative as new ideas are revisited in terms of their implications for the ideas the current practice was based on. Anthony and Walshaw (2007) found that for principals and teachers lack of time was a barrier to both the planning and implementation of new programmes.

Hargreaves and Shirley (2009) recognise the importance of high quality teachers in a supportive working environment with professional autonomy, powerful professionalism where teachers associations are agents of systemic change that benefits students, and lively learning communities where teachers learn and improve together in a culture of collaboration, trust and responsibility.

Effective professional communities were found by Timperley, Wilson, Barrar, and Fung (2007), in their best evidence synthesis of teacher professional learning and development, to be common in effective schools. Professional communities first; supported teachers as they processed their new learning and the associated implications for teaching; and second, the focus came to be on improving student learning, which developed a collective responsibility replacing an autonomous and individualistic perspective.

However, Lucas, Claxton, and Spencer (2013) acknowledge that education needs expansive and enquiring teachers. They see that teachers who exhibit the desirable dispositions such as experimenting, noticing, critical thinking, questioning, reflection and adapting, which are the same dispositions they are hoping to encourage in students, produce better educational outcomes.

According to Lucas, Claxton, and Spencer (2013), expansive educators move beyond reflective practice to a more rigorous mind-set with respect to all of

their teaching, they improve their observations of students and are more likely to share their research in some way with colleagues.

The capacity for collective collaboration is an important component of Fullan's (2010) whole system change approach. Collective capacity "enables ordinary people to accomplish extraordinary things" (Fullan, 2010, p. 72) because knowledge about effective practice becomes widely available and because working together generates commitment.

2.4.5 Leadership

Strong, effective leadership is essential for successful change in education. Leadership style, a theoretical understanding of the core philosophy, interpersonal skills and the ability to solve problems are key factors of successful leaders (Bishop et al., 2010; Fullan, 2010; Robinson et al., 2009; Timperley et al., 2007).

In the Best Evidence Synthesis (BES) on school leadership and student outcomes, Robinson, Hohepa, and Lloyd (2009) examined 134 studies, of which 61 were from New Zealand. For the purpose of their synthesis they used the term "leader" to include both informal leadership and formal positions, such as principal or middle manager. They investigated the impact of different types of leadership on student outcomes, the role of leadership in interventions and programmes that improve student learning in New Zealand contexts, and an exploration of the knowledge, skills and dispositions successful school leaders need (Robinson et al., 2009, p. 36).

Robinson, Hohepa, and Lloyd (2009) compared two types of leadership; pedagogical leadership, which emphasised the importance of clear goals, planning the curriculum and evaluating teachers, and transformational leadership, which emphasised vision and inspiration. They found that pedagogical leadership had nearly four times the impact of transformational leadership but warned against seeing the two types as being in opposition and

recognised that aspects of each type are useful. Pedagogical leadership involves a “close involvement of leadership in establishing an academic mission, monitoring and providing feedback on teaching and learning and promoting the importance of professional development” (Robinson et al., 2009, p. 55).

In their BES on school leadership and student outcomes Robinson, Hohepa, and Lloyd (2009) also explored the relationship between the knowledge, skills and dispositions of educational leaders and student outcomes. They found that effective leaders have a thorough understanding of theory and evidence of effective teaching which informs their administrative problem-solving.

Robinson, Hohepa, and Lloyd (2009) found that engaging in constructive problem talk was an indicator of a strong leader. Effective leaders talk about problems in ways that invites ownership and commitment from teachers; that enables them to understand how they may be contributing to the problem and to examine the theory behind their practice that needs changing. They are able to get to the bottom of a situation, acquiring the relevant information that enables them to find the best solutions to issues. They found that effective leaders establish norms of respect between themselves and staff, students and parents, modelling appropriate behaviour and challenging dysfunctional attitudes. They found that effective leaders have the interpersonal skills and values that enable them to engage in “open-to-learning” conversations so they can respectfully give and receive challenging feedback (Robinson et al., 2009).

Leadership, Bishop, O’Sullivan, and Berryman (2010) argue, must be distributed, responsive and proactive to sustain a reform in a school. They recognise that leaders of a successful reform must have a full understanding of the core concepts behind the reform and what the implications would be for classroom practice and on the structure and culture of the school. They see that leadership actions should focus on student learning outcomes and leaders should take responsibility for these outcomes (Bishop et al., 2010).

However, leadership also entails particular qualities. Fullan (2010) argues for the need for “resolute leadership”. Such leaders stay focussed on the key

priorities even when encountering inevitable difficulties. In Timperley, Wilson, Barrar, and Fung's BES (2007) investigating teacher professional learning and development, external expertise was a common feature of successful professional learning, usually also involving extra funding and being informed by concurrent research (Timperley et al., 2007). The experts needed to have the ability to make the content meaningful and manageable for teachers by working with them in iterative ways, involving them in discussion and developing meaning for their own classroom contexts.

Another trait of successful leaders is working alongside teachers and being involved in professional learning with their staff. Trinick (2005) found that a significant factor in the success of the Te Poutama Tau programme was the principals' hands-on involvement where the two principals both attended professional learning sessions and progress meetings on the programme and worked directly alongside teachers.

Importantly, Hargreaves (2009) identifies sustainable leadership as a key aspect of lasting change and argues that it can be developed by identifying and developing aspiring and emerging leaders.

2.4.6 Spread

A key facet of successful educational change is the spread of the change and the philosophy behind the change, both within a school and to the wider community (Bishop et al., 2010; Hargreaves & Shirley, 2009; Lucas et al.; Robinson et al., 2009). There must be a means in place to spread the initiative within classrooms, to the whole school, to other schools and to the community. To ensure sustainability it is necessary to align the new norms in the school within the norms of supporting institutions and communities.

Within schools, the reform initiative must contain a means of spreading more than just classroom strategies, materials and activities. It must also contain a means of spreading the underlying

beliefs, norms and principles of the reform to the additional classrooms and schools; that is, both to the teachers involved in the reform and to non-project teachers (Bishop et al., 2010, pp. 113-114).

Robinson, Hohepa, and Lloyd (2009) found that creating educationally powerful connections between individuals, organisations and cultures directly impact on student learning. Effective leaders encourage these connections by ensuring a link between students' lived experiences and their classroom experiences. Powerful connections are created by: ensuring continuity between students' identities and school practices; having coherence across learning programmes; and having effective transitions between different educational settings.

Leadership is particularly important when there is a wide gap between the educational culture of the school and the home. Robinson, Hohepa, and Lloyd (2009) identified the importance of powerful relationships with families, whānau and communities.

Public engagement is one of the core pillars of purpose and partnership in Hargreaves and Shirley's (2009) vision. They see public engagement as essential to move the communities' understanding along with the schools. However, businesses that participate in educational policy making should be those that practice social responsibility (Hargreaves & Shirley, 2009). Epstein (2002) argued when students whose parents are aware, knowledgeable, encouraging and involved the students will do better academic work and have higher aspirations and a more positive attitude to school.

Lucas, Claxton, and Spencer (2013) identified the need to expand the learning beyond the school gates. They recognise the rich learning opportunities that exist in students' out-of-school lives in their music, sport, community and family activity; for them, expansive educators make sure their pedagogical and instructional processes reflect student learning in all contexts (Lucas et al.).

2.4.7 Evidence Based

Evidence gathering is a core factor in school change. Evidence from a range of sources is needed to initiate and sustain appropriate initiatives (Bishop et al., 2010) as well as to inform the learning process (Alton-Lee, 2003; New Zealand Ministry of Education, 2007) and gauge progress (Fullan, 2010).

Bishop, O'Sullivan, and Berryman (2010) recognise the need to use evidence at the beginning of a school change initiative to help understand the issue and to initiate individual and collaborative problem solving and decision making. Collecting different types of evidence is useful to build a clear picture of an issue, from students' narratives, to norm-referenced national tests such as PAT's as well as evidence such as attendance and stand-down data.

Assessment data has changed in purpose since the 1990's from providing only summative information to being formative, a tool for enhancing learning. The New Zealand Curriculum (2007) outlines the purpose of assessment:

The primary purpose of assessment is to improve students' learning and teachers' teaching as both student and teacher respond to the information that it provides. With this in mind, schools need to consider how they will gather, analyse, and use assessment information so that it is effective in meeting this purpose.

Assessment for the purpose of improving student learning is best understood as an ongoing process that arises out of the interaction between teaching and learning. It involves the focused and timely gathering, analysis, interpretation, and use of information that can provide evidence of student progress. Much of this evidence is "of the moment". Analysis and interpretation often take place in the mind of the teacher, who then uses the insights gained to shape their actions as they continue to work with their students. (New Zealand Ministry of Education, 2007, p. 39)

Alton-Lee (2003) identified teachers and students constructive engagement in goal-oriented assessment as one of the characteristics of quality teaching. This characteristic involved using assessment practices to improve learning, with students being involved in the process of setting learning goals and teachers scaffolding and providing appropriate feedback while ensuring a positive impact on student motivation in a positive learning climate.

In contrast, Hargreaves and Shirley (2009) warn against overreliance on data which can distort the system and lead it to ignore or marginalise the importance of moral judgement and professional responsibility. They recognise that data can be misleading when there is an over-reliance on standardised test scores, particularly in literacy and mathematics.

Intelligent accountability is required. Fullan (2010) calls for assessment for learning, or assessment as learning where curriculum, instruction and individual student's learning are intertwined. He argues that it is important for schools to measure and track their progress against their own goals, and suggest that this internal accountability should serve as external accountability to the state.

2.4.8 Ownership

A number of researchers have argued that ownership of a school reform must lie with the stakeholders in the school (Bishop et al., 2014; Bishop et al., 2010; Coburn, 2003). For a reform initiative to be sustained it must become part of the culture of the school. If the initiative has been introduced to the school by an outside provider or as a package programme, there must ultimately be buy-in from all parts of the school community, from senior management to staff, to students, to parents, to the community, for the key philosophy to be encultured into the school (Bishop et al., 2014; Coburn, 2003). Any responsibility for the initiative must ultimately be passed to the school to ensure that ongoing changes to the culture of the school are in the hands of those responsible for student learning and student outcomes (Bishop et al., 2010).

Taking ownership of the initiative means asking hard questions about the progress being made towards goals set. This requires that schools have robust systems to collect reliable data to gauge progress. Schools need to be prepared to reorganise their institutional framework to establish the school as a professional learning community so that teachers can collaboratively reflect on the data gathered and to encourage them to ask hard questions of themselves, for the reform to become self-generative (Bishop et al., 2010).

This GPILSEO model will provide the conceptual framework for the analysis of the programme observed in this thesis, which describes one school's attempt at exploring the use of ELLI to initiate change.

2.5 Summary

This chapter has explored a number of approaches to improve learning for the 21st century learner. A number of programmes, focussed on improving student learning, both in New Zealand and internationally, have been explored. Situating students at the centre of their learning with a focus on developing their learning power has been a key element in these programmes. Researchers agree that we need learners who have the life skills needed to cope and thrive in the rapidly changing world of the 21st Century. These skills are embedded in the key competencies and are transferable; they enable students to meet challenges and lead fulfilling lives as valuable members of society.

The key competencies, since becoming a key part of the New Zealand curriculum, have been integrated into curriculum teaching plans in many ways. I was searching for a way to measure the key competencies for another research project. While students' development of the key competencies have been recorded through a range of ways, no clear insights within the literature have been shared with respect to the measurement of those competencies. Measurement of the progress that students make over the course of an intervention would be valuable.

ELLI I acknowledges the links between dispositions to learning and competencies for life. The key competencies are skills to be learnt, whereas, the ELLI dimensions are dispositions to learning that can be developed. In that respect there is a consistency in intent between the ELLI dimensions and the Te Kotahitanga principles. That consistency has been established in this chapter. To date there is no reported New Zealand research on ELLI. This project sought to fill that gap.

The literature highlights the importance of sustaining change. All parts of the system of a complex learning organisation, such as a school, are relevant to the development of students' learning power. In a complex system such as a school, each part of the system impacts on other parts; no part acts independently. A consequence is that good ideas atrophy in isolation. The GPILSEO framework, as described in this chapter, provided a means of analysing multiple facets of the school system, which ultimately must come together to sustain change.

All of the approaches and programmes to enhance student learning have valuable attributes. The challenge is to sustain momentum for any school change. A model for the sustainability of school change, based on the work of Coburn (2003) and Bishop (2010), has been outlined. Each of the dimensions of goals, pedagogy, institutions, leadership, spread, evidence and ownership, all of which are integral to sustained change in a school system, have been expanded and explored. This model will be used to analyse the trial process carried out by the school.

3 Research Methodology

3.1 Introduction

This chapter first outlines the research approach and then the methodology used to undertake the research. The research is grounded in the interpretivist paradigm, incorporating a sociocultural theoretical perspective using mainly qualitative research methods and takes a case study approach.

The essential features (Bassey, 1999) of case study are: (i) that sufficient data are collected for the researchers to be able to explore significant features of the case; (ii) to be able to put forward interpretations of what is observed; and (iii) that the research is conducted mainly in its natural context. These features are central to this case study. An extensive dataset was collected in the form of interviews, observations, and numeric data that enabled me to gain an in-depth picture of the case and to give my interpretation of this information which was all carried out on site in the school.

This case study examines the trial of a programme to enhance student learning. The research site and participants in the trial are described and data collection and analysis methods outlined. A number of ethical issues are considered.

3.2 Research theories and approaches

The terms positivist paradigm and interpretive paradigm have different understandings in relation to the nature of reality (Bassey, 1999). In the positivist research paradigm, the reality of the situation exists waiting to be discovered by careful observation. The world is rational and can be understood through meticulous research. The researcher is not a variable in the research and could expect other researchers to come to the same conclusions if they were observing the same events or situations (Atkins & Wallace, 2012; Bassey, 1999; Lichtman, 2013).

The interpretive research paradigm sees reality as a construct of the human mind where perception of a situation is often similar, but not the same. The interpretive research paradigm acknowledges that reality is interpreted by people who may perceive events and situations in different ways, who are part of the world they are observing and so may therefore impact on what is happening. Interpretive researchers recognise that by observing or asking questions they may change the situation they are studying. From the interpretive perspective, the purpose of research is to advance knowledge by describing and interpreting situations; to develop a shared meaning with others; to find deep perspectives; and to offer theoretical insights (Bassey, 1999). Interpretive research is interested in the social realities of people and prioritises understanding the unique experiences of individuals from their perspective's (Walshaw, 2012). This research takes an interpretivist approach to gain insights into the process of trialling a tool designed to help students improve their learning abilities.

3.2.1 Sociocultural theory

Informed by a sociocultural theoretical perspective, this research assumes that students' engagement with the learning process is affected by the quality of the relationships and the social practices in their classrooms and schools.

Sociocultural theory is based on the work of Vygotsky, who put forward the idea that social experience shapes how people think and interpret the world (Lim & Renshaw, 2001). Social and collaborative interaction assists the learning process as people construct knowledge together. Sociocultural theory is about learning and developing through social interactions. Learning happens through the interaction of people with their environment (Lim & Renshaw, 2001).

Claxton (2009) identifies two significant implications of sociocultural theory for educators. First, people's minds consist of strategies and attitudes that are developed by interaction with other people. As a consequence of this, he recognises that one of the most powerful influences teachers can have on students is the modelling of learning characteristics. Teachers' responses to

challenges communicate to students about how to respond in similar situations. Second, the individual mind is influenced by the unique situation it is in. Teachers can make use of this idea and ensure the learner is in a productive social space for learning. This can make available the particular resources necessary to maximise the collective learning power of all.

3.2.2 Qualitative Research

This research uses mainly a qualitative research approach. Qualitative research involves taking a holistic approach, studying the situation as a whole, in natural settings, and looking at a limited number of scenarios (Lichtman, 2013). According to Lichtman (2013), the main purpose of qualitative research is to provide an in-depth description and understanding of the human experience. This research observed the introduction of ELLI to the school as it was happening, in its natural setting.

The key goals of qualitative research are description, understanding and interpretation. A wide variety of data may be obtained in natural settings, such as interviews and observation in classrooms of the participants, or artefacts such as photographs or written work. Qualitative research often uses written rather than statistical forms of analysis (Hammersley, 2013; Lichtman, 2013).

Qualitative research is dynamic; it is fluid and changing (Lichtman, 2013). Qualitative researchers sometimes do not have a detailed and concrete plan and often find that questions they investigate evolve during the research process. Hammersley (2013) describes qualitative research as a form of social inquiry that usually uses a flexible, data driven research design.

The researcher plays a key role in the qualitative research process. The data are analysed and interpreted in the knowledge that the researcher's own values, perspectives and culture influence the interpretation (Atkins & Wallace, 2012; Hammersley, 2013; Lichtman, 2013). There are potentially multiple ways to interpret what is seen or heard in qualitative research. The qualitative researcher deals with specifics and moves cautiously to the general, or from the

concrete to the abstract (Lichtman, 2013). Qualitative research uses inductive thinking, so that when sufficient data are collected it can be seen whether there are many examples of a particular thing that would enable it to be identified as a central idea or issue, a concept or theme.

Whereas qualitative methods limit generalisability, they provide an in-depth picture of the situation at hand. Data are more likely to be in the form of words, often with direct quotes from participants used to illustrate points. Thick description is needed to enable underlying meanings and understandings to be illuminated (Lichtman, 2013).

3.2.3 Numeric data

A small set of quantitative data was collected where they were available with a view to enriching the overall picture. The data focussed on students' ELLI profiles and achievement measures.

3.2.4 Case study

Case study was the chosen methodology for this research because the focus was on the trial of a specific programme in a specific setting. It involved the systematic gathering of information about a programme that allowed me to effectively understand how the programme was trialled (Denscombe, 2010; Fraenkel & Wallen, 2009; Stake, 1995). It represented an empirical inquiry that "investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2009, p. 18).

According to Simons (2009), case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context. The primary purpose of a case study is to generate in-depth understanding of a specific contemporary phenomenon to generate knowledge and/or inform policy development, professional practice and civil or community action.

Case studies have a valuable contribution to make where knowledge is shallow, fragmentary, incomplete or non-existent (Punch, 2005). What can be learnt from a case being studied might be unusual, unique so that building an in-depth understanding is invaluable. Where complex social behaviour is involved, an in-depth case study may be the only means to reach understanding of the phenomena (Punch, 2005).

Case study methodology is inclusive of different methods and is evidence led (Simons, 2009). Case study employs many of the same research methods and epistemological arguments as other forms of qualitative inquiry (Berg, 2004).

While generalisations may not be possible from the case study, there may be insights gained from looking at the individual case that may have wider implications and may not have shown up with other types of research. "The aim is to illuminate the general by looking at the particular" (Denscombe, 2010, p. 53).

Bassey (1999) refers to "fuzzy generalisations" as the most appropriate findings in educational research. Scientific generalisations can be made when the population is very large and other variables can be controlled. However, effective samples of large populations are difficult and expensive and consequently rare. "Fuzzy generalisation... is the kind of prediction, arising from empirical enquiry, that says something *may* happen, but without any measure of its probability" (Bassey, 1999, p. 46). Bassey (1999) suggests that this is as far as it is possible to go in research that can only observe a limited amount of data in no more than a few settings.

Gall, Gall, and Borg (2007) outline three purposes of a case study: to describe, explain or evaluate a phenomenon. A descriptive case study provides "thick description" of the phenomenon, to re-create the situation and its context as much as possible so as to illuminate the meanings and intentions inherent in that situation (Hamilton & Corbett-Whittier, 2013). An explanatory case study tries to provide patterns of variation that may indicate a relational pattern or possibly a causal relationship between the phenomena under study. Evaluative

research tries to describe, interpret or explain what is happening and to make value judgements about the worthwhileness of the case, with the expected endpoint being that someone will use their findings to decide whether or not to try and induce change (Bassey, 1999).

This case study is descriptive. It explores the trial as it occurred and gives insight into the process of initiating and trialling an innovation. The research sets out to follow the process of the trial by exploring the perspectives of the key players, particularly, the students, the form teachers, the Assessment for Learning Manager (AFLM) and the principal. The voices of these key players provided "thick description" which enabled a deep understanding of the trial process.

3.3 Description of research site

3.3.1 Research site: School

The school is a decile nine co-educational urban secondary school with a student population of approximately 1000 students. In New Zealand, schools are given a decile rating based on the socio-economic indicators of household income, parental occupation, household crowding, educational qualifications and level of income support. Schools are ranked decile one to ten. Decile ten schools represent those schools with the highest measure of socioeconomic indicators.

Students in the school come from a range of ethnic backgrounds: approximately 11% identify as Māori, 8% are of Pacific Island origin, 18% are from a range of Asian ethnicities, 8% are Indian and 5% are international fee-paying students largely from Asia, South America and Europe. The school has a very stable leadership team and a history of professional learning foci centred on student learning.

3.3.2 The school assessment system

The National Certificate in Educational Achievement (NCEA) is the main qualification for secondary students in New Zealand. It progresses through three levels, Level 1 in Year 11 at about 15 to 16 years of age through to Level 3 and University Entrance in Year 13.

Students typically study five or six subjects in the senior school. Subjects are comprised of a number of individual standards each worth a specified number of credits that are graded as achieved, merit or excellence. Some standards are internally assessed and some are externally assessed in an end of year formal examination (New Zealand Qualifications Authority, 2013). A specified number of credits must be attained at each level to achieve that level, for example to attain NCEA Level 1 a student must achieve 80 credits at Level 1 or higher with at least ten of these from numeracy standards and ten from literacy standards. Each level can be endorsed as achieved, merit or excellence if a specific number of credits is reached at that grade (New Zealand Qualifications Authority, 2013).

University Entrance (UE) is gained by a minimum number of credits at Level 3 in a range of specified Level 3 subjects. However, different universities and their courses may have differing entry requirements.

At Years 9 and 10 assessment in the school is based on the New Zealand Curriculum. In English and mathematics, students are assessed against the curriculum levels. In other subjects students are assessed by their level of achievement against the curriculum content. Students at the junior level are also assessed against nationally referenced assessments: Progressive Achievement Test (PAT) in mathematics and listening, and Assessment Tool for Teaching and Learning (AsTTle) test for reading. These tests are used to gauge individual levels of proficiency to enable targeted support as well as national comparisons.

3.4 Participants

3.4.1 The leader

The person leading the ELLI trial was a long-serving member of the staff at the school who has had a range of roles and responsibilities within the school, but for the purpose of this research was the Assessment for Learning Manager and will be referred to as the AFLM. The AFLM attended an ELLI training workshop to qualify as an "ELLI champion". She was one of two ELLI champions in the school.

3.4.2 The form teachers

The trial was planned for two Year 9 and two Year 10 form classes and their form teachers. Form teachers at the school remain with their form class throughout their time at the school as long as there are no staffing changes. Form teachers at Year 9 are often new teachers to the school. The form teachers in the trial were selected by the AFLM from the available pool of form teachers at each year level. The form teachers selected for the trial were chosen because they were experienced teachers in the school and for their perceived preparedness to be involved in new ideas. The two form teachers remained with their form classes through the trial from Year 9 to Year 11. The form teacher of one class will be referred to as Form Teacher One and the form teacher of the other class will be referred to as Form Teacher Two. Both form teachers are highly regarded, experienced teachers within the school. Form Teacher One with her form class was the focus of in-depth discussions meetings and interviews.

3.4.3 The form classes

Form classes at the school are of mixed ability, background and behaviour. Where possible they have the same form teacher throughout their time in the school. The intention of the initial trial was to use ELLI with four form classes, two at Year 9 and two at Year 10. The initial meetings with form teachers,

deans, parents and students were based on this assumption. The form classes were chosen by the willingness of their form teacher to participate. Two Year 9 form classes and half of one of the Year 10 form classes had completed their ELLI profiles before the technology failed and was unavailable for several months. Following a period of frustration and concern about the reliability of the technology, the school continued the trial with the two original Year 9 form classes only. One of these form classes became the focus of in depth observation and reporting.

Students in Year 9 and 10 are taught science, social studies and physical education in their form classes. English and mathematics are "broad banded", meaning there is a class of students strong and a class of students weak in that subject 'taken out' and the rest of the students are mixed. Technology, languages and art classes are of mixed ability.

All students in Form Class One were invited to share their experiences through group discussions facilitated by the AFLM and to be interviewed by the researcher. Six students agreed to participate in both individual interviews and the group discussion, four students agreed to participate in the group discussion only. These students had a range of abilities and came from a range of ethnicities that reflect the ethnic diversity of the school: six students identified as New Zealand European, one as Māori, one as Cambodian and two as Chinese.

3.5 Methods of data collection

A qualitative approach was taken with data collected from a range of sources. Observations of discussions, meetings and events, and interviews with a range of participants were the main sources of data.

Quantitative data were collected where it was available; these included junior assessment data, NCEA information and learning dimension scores.

3.5.1 Observations

Observations were undertaken to see first-hand the events of the trial as they occurred. I was present at that moment in time with my own interpretation of what was happening, and so was not dependent on the interpretation of others. Observing people in their natural settings increases understanding of the complexity of social situations and relationships between participants (Lichtman, 2013). Observation of the events involving the ELLI trial included planning meetings, the form class, the introductory programmes to staff and parents, and student learning conversations.

As a teacher in the school and an ELLI champion I was involved in the ELLI trial as an insider. As part of the group studied, I was a *participant observer* (Lichtman, 2013). Hamilton and Corbett-Whittier (2013) recognise that as a practitioner in education, being a participant observer is the obvious form of observational role to employ. Fraenkel and Wallen (2009) use the term *participant-as-observer* to describe the researcher who is fully involved in the activities under observation, but is clear to participants about the dual role of the researcher. Further discussion around the ethics of my role as an insider is carried out in 3.7.1.

Punch (2014) differentiates between participant observation and direct or non-participant observation. In direct or non-participant observation the researcher is a detached observer of the situation. In participant observation the researcher is both a participant-in, and observer-of, the situation. Participant observer was most appropriate due to my dual role in the school. My role as a researcher in the school is discussed further in section 3.7.1.

3.5.1.1 Introductory session

The introductory session, run by the AFLM, was the initial training which involved a range of staff members: two Year 9 form teachers, two Year 10 form teachers, the Year 9 Dean, the Year 10 Dean, the Professional Learning Team and the Senior Management Team of the school consisting of two deputy

principals and the principal, and two deputy principals and the principal of the neighbouring Intermediate school.

3.5.1.2 Parents' evening

Parents and caregivers of the students in the trial were invited to an evening programme to learn more about ELLI and the trial the school was undertaking. I attended this evening as a participant observer. The evening was attended by approximately 30 -35 parents, caregivers and students. I assisted in the organisation and supported the presentation given by the AFLM, but was also able to observe the event first hand.

3.5.1.3 Teacher discussions

Planning meetings were held with the form teachers and initially the deans of the classes involved in the trial on five occasions, which were led by the AFLM. I observed, recorded and transcribed these meetings. Transcripts of the meetings were given to participants for review.

3.5.1.4 Form class

The form classes were observed while completing their learning profiles on several occasions. Form Class One was observed when they were working on their MyPortfolio. It was hoped to observe Form Class One when Form Teacher One was introducing and developing the ELLI concepts with the class, however this was not practically possible.

3.5.1.5 Student learning conversations

I had originally intended to hold group discussions with participants around their attitudes to learning and their understanding of their developing learning dispositions. Six students agreed to be involved in these small group discussions. After discussion with the AFLM, it was decided that she would lead the small group learning conversations. She considered that the facilitation of these discussions was part of her role as Assessment for Learning Manager, which was to gauge and facilitate student learning. I recorded the conversations, transcribed and returned them to the students for review.

3.5.2 Interviews

Interviews provide a rich data source (Hamilton & Corbett-Whittier, 2013). The interview is a useful way to access “people’s perceptions, meanings, definitions of situations, and constructions of reality. It is also one of the most powerful ways we have of understanding others” (Punch, 2009, p. 144). I conducted a number of individual interviews throughout the trial period. Interviews are described by Lichtman (2013) as “a conversation with a purpose” (p. 189).

Interviews allowed me to gather information from participants about the trial as it was proceeding. There were many purposes of the interviews. First, the student interviews were designed to give an insight into the students’ thoughts and understandings about their learning power and to gauge any changes over time. Second, the form teacher interviews were used to provide information about how the form teacher was using ELLI with her form class and how she perceived students’ learning processes. Third, the interviews were used to elicit background information as to why the trial was initiated, the culture of learning and professional learning history in the school. Fourth, interviews were used to ascertain participants’ thoughts and understandings about the trial and its usefulness in the school.

The advantage of an individual interview over a group interview is that participants can feel free to volunteer information without their peers knowing, or feeling any pressure from them. It is important that respondents are frank and open in their responses and do not feel the need to moderate what they say because of the presence of others. The one-on-one interviews were beneficial because I wanted a personal reflection rather than the brainstorming of ideas which was achieved in the group meetings.

Semi-structured or guided interviews (Lichtman, 2013) were used. The researcher typically uses either a guide of the general topics or issues to be covered, or a set of questions to focus the interviews, but in this research the interview process was determined by the responses of the participants.

3.5.2.1 Students

Six students gave consent to individual interviews. Consent for them to participate was also given by their parents or caregivers. Individual students were interviewed at the beginning of the trial, during the trial and at the end of the trial. All interviews were transcribed and returned to the interviewees for review. No changes were made to the transcripts of the interviews when reviewed. However the transcripts provided the basis for further questions and discussion for future occasions.

3.5.2.2 Teachers

I interviewed Form Teacher One on four occasions. Interviews were held at times to suit the work lives of both myself and the interviewee. On two occasions I gave the interview questions to Form Teacher One in advance and Form Teacher One responded in her own time and space. On the first occasion, she recorded her responses into a digital recorder, and on the second, she typed her responses in an electronic document. This process had the advantage of giving the interviewee time to think about the questions and her responses and to answer in a timely manner.

A number of other interviews were carried out during the trial. I conducted interviews with the principal on two occasions, the AFLM twice, two deans and Form Teacher Two. Interview questions were given to the principal in advance to allow him to think around the situation and be prepared to elaborate his responses. All interviews were transcribed and returned to the interviewees for review. No changes were made to the transcripts of the interviews when reviewed. However, the transcripts did generate further discussion on a number of occasions.

3.5.3 Numeric data

Numeric data were collected where it was available. The numeric data on the form classes included: their ELLI profiles in Year 9 and in April and October in their Year 11 year; PAT mathematics and listening, and AsTTle reading results

in Years 9 and 10; and the number of NCEA credits and endorsements awarded at the end of Year 11. These data gave the opportunity to assess any change in students' academic achievement. Owing to the small number of students who completed all the profiles it is not possible to draw statistically significant conclusions. However, this information adds to the interviews and observations to form an overall picture of the effects of the trial.

3.5.4 Field notes

A reflective research diary provided an additional dataset of field notes. The diary held notes written during the trial and data gathering process as well as reflections and developing themes. These notes were a valuable resource as they enabled reconstruction of my experience in context rather than just relying on the recordings for detail. They recorded my observations, personal reflections on the research process and contextual information relevant to the observations and interviews. The diary provided a means of prompting and recording reflexive inquiry of the themes as they emerged. Notes were also made following supervisory meetings which generated further reflection and discussion (Holly, 1997).

3.6 Data Analysis

The analysis of the data was in line with interpretive principles. In qualitative research, data analysis involves the process of systematically reviewing and organising the data collected during the research process (Punch, 2009). Analysis involves working with the data, looking for patterns and deciding what is important and what is not important. Using an inductive approach (Lichtman, 2013), data analysis began with the collection of a considerable amount of data, then upon examination of the data the categories were chosen. The coding categories in this research began with focussing on the research questions. Using the research questions was the most straight forward way to begin analysing the data (Hamilton & Corbett-Whittier, 2013).

The research process was an iterative process involving a to-ing and fro-ing across the data, critically reflecting on possible choices during the analysis. The iterative process included data collection, reduction, display, conclusion drawing and verification (Hamilton & Corbett-Whittier, 2013). Collection involved the generation and collation of data. This was undertaken by interviews with the teachers, principal and students, the students' ELLI profiles, and other meetings. Content analysis looked for the presence of key concepts in the data and evaluated their frequency.

Reduction involved coding the data collected, recognising the categories as they emerged. Focussed by the research questions, themes emerged by extracting relevant parts of interviews and a comparison of the ELLI dimensions. Themes included the events of the trial, the timeline of the events and student comments.

My involvement in the process of conducting, collecting, and interpreting the data created the potential for me to influence and distort the data. During the data coding process my value-laden assumptions, views and beliefs would have been present (Denzin & Lincoln, 2008). Throughout the gathering and analysis of data, and the following interpretation transparency was of great importance. I focussed on presenting sufficient information from the range of sources which enabled findings to be quality verified by cross-reference and triangulation (Creswell, 2009). I critically engaged with the content and context of the data during this process. I did this by reengaging with the themes initially identified in subsequent interviews and meetings and by reflecting critically on the meanings of the situations rather than accepting pre-conceptions (Creswell, 2009).

The research questions were addressed by organising the data according to the events in the timeline as well as under the GPILSEO headings. Interviews with the principal, AFLM and Form Teachers were analysed to determine the common themes to analyse Question One: Why did the school trial the use of ELLI? Question Two analysed how the school trialled the use of ELLI using the

GPILSEO model (Bishop et al., 2010). Each component of the model (goals, pedagogy, institutions, leadership, spread, evidence and ownership) was described and interpreted. Question Three explored the impact of the ELLI trial process on students by analysing the data from the interviews of the students and the form teachers and by the changes to the students' learning dispositions and academic results.

A summary of the research design and methods is shown in the table below. The table summarises the connections between the methods chosen and the research questions and notes the quality assurance processes undertaken for the collection methods and data analysis. The table also provides an indication of how the data were synthesized across the methods.

Research questions	RQ1: Why did the school trial the use of ELLI?	RQ2: How did the school trial the use of ELLI?	RQ3: What was the impact of the ELLI trial process on students?
Research design	Case study - descriptive		
Data collection methods and how method contributes to RQ	Interviews with the principal gave insight into the decision-making process. Interviews with deans, AFLM, Form and teachers reinforced the school foci School plans provided statements of the annual school goals.	Observations of events: the introductory session, parents evening, teacher discussions, Form Class 1, and student learning conversations revealed the process as it unfolded. Interviews with students and teachers gave insight into their perspectives of the process.	Observations of learning conversations Interviews with students and teachers explored how the students viewed their learning and how it had changed during the trial. ELLI data provided evidence of changes in students' learning dispositions during the trial. School academic data illustrated similarities and differences between the classes in the trial and other form classes in the school,
Quality assurance	Transcriptions were returned for accuracy and further discussion.	Transcriptions were returned for accuracy and further discussion Verification made through observation journal notes.	Transcriptions were returned for review. Veracity of findings was checked against journal entries.
Data analysis methods	Content analysis of the transcriptions was used for the identification of key issues, substantive points, and themes.	GPILSEO framework (Goals, Pedagogy, Institutions, Leadership, Spread, Evidence, Ownership) was used to analyse the process of the trial.	Transcriptions were used for the identification of key issues, substantive points, themes. Examination of students' learning dispositions and academic results
Quality assurance of analysis	Checks for themes recurring across respondents.	Themes recurring across multiple participants and observations	Checks for themes recurring across methods.
How data synthesised across methods	Triangulation between methods and between participants' data.	Triangulation of data between what was observed and what was said by the different groups of participants said in their interviews and meetings,	Triangulation between the students' interview data, their academic results and ELLI profiles.

Table 5: Summary of research design and analysis

3.7 Ethical issues

This research was conducted with approval from the Massey University Human Ethics Committee: Southern B, application 11/43, see Appendix H. Issues addressed in the application included: working with students under 16; researching in my own school; confidentiality; using school data; observations in classrooms; interviewing students and teachers; and the trustworthiness of the data.

3.7.1 Research in my own school

I was a teacher at the school since 2001 in various roles including mathematics teacher, student teacher co-ordinator, dean, timetable assistant, special education needs co-ordinator (SENCO), professional learning team member and focus group leader. One of the difficulties faced in carrying out research in one's own school is managing the dual roles of teacher and researcher. I was a teacher in the school; I was also instrumental in introducing ELLI into the school and had a vested interest in the trial. I am a researching professional rather than a professional researcher (Atkins & Wallace, 2012). As a researcher reporting on a case study I tried hard to separate the two roles.

As a teacher in the school I had some advantages and some disadvantages. I had input into the decision-making process regarding the trial which gave insight into the process and the justification for decisions. However, I had no ultimate control over decisions made. Being so closely involved may have meant I missed aspects that may have been visible from a different perspective.

One of the main advantages of 'insider' research is that it is pragmatic (Atkins & Wallace, 2012). Insider research enables access to the organisation and to colleagues and students with existing relationships. Trust from colleagues and insights into the culture of the organisation are already established. Being an insider provides greater scope for positive change. Atkins and Wallace (2012),

however, point out the increased chance of “over-report” which may result in participants being represented in an unrealistically favourable light. Where possible I have tried to let the participants’ own words speak for themselves to avoid my reinterpretation at too early a stage. Wellington (2000) argues that all research should be trustworthy, as well as “systematic, credible, verifiable, justifiable, useful, [and] valuable” (Wellington, 2000, p. 14).

Atkins and Wallace (2012) point out the challenges associated with insider research, particularly those relating to role identity, boundary conflict, confidentiality, relationships, power relations and impartiality. As the researcher, I had the responsibility to ensure that the process was systematic, rigorous, credible and as reliable as possible.

Although I was the researcher and a teacher in the school, I did not teach the participants, nor had I taught them in the past. However, as a teacher in the school, there were power relations that needed consideration. A third person was introduced, the Guidance Counsellor, to discuss the research with the students to ensure they understood that participation was voluntary and that they could withdraw at any time. The Guidance Counsellor continued to be available if the students had any concerns at any stage throughout the research.

3.7.2 Working with students under 16

The research involved students under the age of 16. Initially students were in the age range of 13 to 14 and were 15 to 16 by the end of the study. Informed consent was obtained from both the students and from their parents or guardians. They were fully informed about the research and their rights. A third party, the Guidance Counsellor, explained the process of consent to the students, ensuring, as already noted, that they understood that they could withdraw from the research at any point. They understood that they were entitled to ask any questions about the research and have their questions honestly answered. There was no need, nor any desire for any form of

deception to be used. On the contrary, the proposed research involved the participants acting as agents of change themselves.

3.7.3 Interviews

The interviewer was mindful of the well-being of interviewees. No participants showed any signs of discomfort during their interviews. If they had, the meeting would have been stopped until such time as the issue was resolved and the participant was comfortable or chose to discontinue. This was not necessary.

All participants were made aware that they could withdraw from the research at any time by informing a third party either the Guidance Counsellor or the Assessment for Learning Manager.

3.7.4 Observations

I observed Form Class One when the form class was discussing the ELLI dimensions and when the students were recording their goals and progress on MyPortfolio. In the school it is common practice to have observers in classrooms. These observers often include the Resource Teacher of Learning and Behaviour (RTLB), Deans, members of the Senior Management Team, Teacher Aides and fellow colleagues. For example, 'Browse Week' is an established part of the school year where teachers are encouraged to experience a range of learning environments and observe a number of colleagues in action.

3.7.5 School Data

In this study permission was granted by the Board of Trustees of the school to use the school's existing literacy and numeracy data, NCEA results and other achievement data recorded on the school data base as part of the research. The Board was explicit about what data could be used as part of the research and appropriate specific consents were obtained.

3.7.6 Confidentiality and anonymity

Participants were assured of anonymity and their real names have not been used. Transcripts and/or summaries were given to participants to approve or amend. (see Appendices B – G for Information letters and Consent Forms for Participants)

Confidentiality involves maintaining the security of data so that individual participants could not be identified. Because the research explored change processes within a school, the findings will be disseminated within the school and the school community. This creates an increased risk that individual participants may be identified. All care has been taken to present data that does not have identifying features. This has been achieved by reporting the principles identified, rather than individual stories.

Although the school is not named in the report it is the workplace of the researcher and therefore may be identified. I have discussed this issue with the principal. In his view, the research is a positive initiative that other schools may wish to adopt. He is not uncomfortable with possible identification.

3.8 Trustworthiness

Key measures of the validity of research are the clarity and logic of the approach to data analysis (Hamilton & Corbett-Whittier, 2013). Validity can be maximised by member-checking transcripts of meetings and interviews and triangulation of data (Hamilton & Corbett-Whittier, 2013). Member checking allows the researcher to pick up any inaccuracies or misinterpretations before final analysis is completed. All transcripts and summaries of interviews and meetings were returned to participants for checking. This gave the participants the opportunity to confirm or reframe statements made. In this research no participants made any changes to the transcripts. However, they did generate more discussion on occasion.

Triangulation is used to describe multiple data gathering techniques to investigate the same phenomenon (Berg, 2004). An important feature of triangulation is the attempt to relate the different kinds of data and so counteract the possible bias in any one method and substantiate findings (Denzin & Lincoln, 2008). This research used data from multiple sources and used multiple methods which provided triangulation of data. Transcripts and summaries from all meetings, interviews and presentations were made for both students and teachers, as well as existing school achievement data.

3.8.1 Generalisation

Generalisation is the extent to which research findings in one context can be transferred or applied to other contexts or settings. However, it is not possible to generalise based on one case (Punch, 2009) nor with complete certainty (Wellington, 2000), even with cases that are based on a statistical sample. In case study research it is rare for an entirely new understanding to be reached. However, existing understandings may be refined. Stake (1995) refers to this as modified generalisation. Reader or user generalisability places the responsibility on the reader or user of the research to determine the applicability to their own research environs (Gall et al., 2007).

3.9 Summary

This chapter has outlined the research methodology for this case study. Using an interpretivist approach, I recognise that I had an impact on the trial, both intentional and unintentional. I believed in the merit of the programme and was one of the champions trained to use the programme in the school. As a champion and a teacher in the school, I had a duty to support and actively help drive the programme. I did not initiate the trial, nor was I responsible for major decisions around the trial, such as resourcing of time and personnel, but I did have input into the running of the trial, such as participation in meetings and facilitating the students' use of the ELLI programme. This thesis is my

interpretation of the observations and events that occurred. Other researchers may have had different insights and may have reached different conclusions.

A sociocultural perspective provided a rationale for the methodological decisions made. Descriptions of the research site and the participants in the trial have been given. Qualitative methods to collect data were described which included observations, teacher discussions, student learning conversations, and interviews. A number of ethical issues involved in the research have been examined. These have included: working with students under 16, research in my own school, confidentiality, using school data, carrying out observations, and interviews with students and teachers.

4 The Findings

4.1 Introduction

This chapter reports on the findings of trialling the Effective Lifelong Learning Inventory (ELLI) through the phases from the initial lead-up to a good start, waiting for the platform and then a new start. ELLI was introduced to the school as a trial involving two form classes at Year 9 and two form classes at Year 10. The intention was for the form teachers, deans and the Assessment for Learning Manager to use the ELLI profiles as a starting point to determine collectively the programme for implementation, based on the learning power approach established by the ELLI developers (Deakin Crick, 2006; Small, 2010).

The ELLI programme was introduced to the school at the end of 2011 following the training of two teachers as ELLI champions in 2010. The formal introduction began with an information afternoon for significant leaders in the school followed by staff and parent information sessions. Students from four form classes began taking their profiles in November 2011. However, the technology failed before all students had completed their profiles. The platform remained unstable during 2012, effectively halting the trial, although the form teachers used the information from the profiles with the students in their form classes in a number of ways. Confidence in the platform did not return until the beginning of 2013 when, after negotiations with the provider, there was an attempt at a scaled-down trial. The trial was concluded at the end of 2013 with students completing their on-line profiles at the end of October.

The data selected for presentation in this chapter are presented in chronological order as the trial progressed through three distinct phases. Data addressing Research Question One: Why did the school trail the use of ELLI? largely relates to The Lead up: 2010. This aspect involved interviews with key staff members, particularly the principal and examination of school documentation. Content analysis of the transcriptions identified key points behind the school's decision

to implement ELLI. As the same themes emerged in the interviews of staff members and since they concurred with school plans, the evidence from the interviews was deemed to be substantiated and suitable for inclusion.

Data to address Question Two: How did the school trial the use of ELLI? was also collected through interviews of the key staff members as well as a range of students. Observation of the introductory presentations and planning meetings also provided data. The findings will be analysed using the GPISEO framework. Specific quotes are used as representative sample of what was said in the interviews, and from observations of meetings.

Consideration was given to the interviews with the students and the analysis of the ELLI data for the classes to answer Research Question Three: What was the impact of the ELLI trial process on students? Students' NCEA results were also examined. The multiple methods used provided triangulation of the data and also offered a high level of trustworthiness of the findings.

4.2 The lead up: 2010

I was a teacher in the school who had an interest in and experience with students with learning difficulties, as a year level dean and as a professional learning leader. I had a concern to better meet the needs of students who did not fit the norm, whether because of a learning difference or as a result of a difficult period during which they were not connecting with the classroom learning. There was a recognition of the need for skills to prepare all students for life beyond school, particularly the skills that were embodied in the key competencies of the New Zealand Curriculum (New Zealand Ministry of Education, 2007). When looking for a way to measure the key competencies, I discovered the Effective Lifelong Learning Inventory (ELLI) and believed that it could be a useful tool to support the school's interest in students becoming more self-aware and independent learners.

The principal agreed to trial the use of ELLI in the school. His decision was based on a number of factors including: the culture of learning in the school,

his interest in Building Learning Power (Claxton, 2002), his awareness of work on learning power the neighbouring intermediate school was involved in, his belief in supporting staff who are passionate about ideas that fit with the school foci, the relevance of the ideas behind ELLI with the work that had been carried out in professional learning in the school, as well as pressure from the Education Review Office (ERO) to use data to inform practice at the junior level, which initiated the assessment for learning focus in the school.

4.2.1 Culture of Learning in the school

The philosophy of the school had been working towards students taking responsibility for their own learning, and their self-reflective practice.

The vision for our school is to prepare us for the vision for the country. I think that we need to have young learners that are flexible in their thinking. I think we need to have them know how to work co-operatively, how they can share their ideas. They are resilient, that they are adaptable, that they will embrace a changing world of technology and a world that is full of change. (Principal, 11 November 2013)

4.2.2 Building Learning Power

The principal was interested in the ideas of Claxton and *Building Learning Power* (Claxton, 2002) following a principals' conference he had attended where Guy Claxton was a presenter.

At a principals' conference, I guess could have been four or five years ago now, I had attended some sessions on building power with Claxton and it seemed really interesting to me. And I got the book and I shared that with a number of people...

...Also about there, as we were looking at our professional learning about raising literacy with our students and I like the work around resilience, which I think Claxton was nailing a lot better than other

stuff. My thinking was that if we could have resilient learners we had strategies to identify who was resilient and who wasn't, we might see that there would be shifts in the kids' learning, because they would persevere more.

4.2.3 Teacher Learning Culture

The principal had a belief in a strong learning culture among the staff.

I think the staff, as learners, are highly engaged... I genuinely believe that there are whole bunches of people who are really engaging with their own personal learning....

...And from there with your (the researcher's) interest and [the AFLM]'s interest, I thought well, I am quite keen on people if they do have passions, rather than just say no to their passions, take them, run with them, see where they take you, and I will support you, because at the end of the day, it may be something that will contribute to our school. So that's what we did. (Principal, 8 October 2014)

4.2.4 Neighbouring Intermediate School practice

The principal followed up this initial interest through his own professional reading which he shared with the principal of the neighbouring Intermediate School which initiated a Building Learning Power programme in that school.

...One of the things that was sitting behind all this, which I think is really important, is that the Intermediate had grasped this, that really underpins a whole lot of stuff that they were doing. I had a meeting with (the Intermediate Principal) and (the Intermediate Chairman of the Board of Trustees) and (our Chairman of the Board of Trustees. (Their Chairman) was really excited about this as well, so part of my thinking way back then is: if the kids are getting this at the Intermediate as part of their skill set, there is a basis there for us

to build upon. It is also interesting for me, if they are teaching them to be resilient and have critical curiosity and all those things up there, what are we doing about it down here. ...

... that it was in the Intermediate and it targeted skills that we didn't know enough about but the literature had said were important. Our students, there were real weaknesses in their learning and schools' traditional curriculums didn't address those. I guess that's where I am coming to and I keep saying resilience because I like resilience...

... In an historical context I was seeing it as building on what the Intermediate was doing. (Principal, 8 October 2014)

4.2.5 Assessment for Learning

The Education Review Office (ERO) set out its recommendations for the school in 2010:

Areas for development and review

While self-review activities are extensive, it is now timely to strengthen practices to support greater coherence and alignment across the various aspects and levels of the college's processes. This includes a need to revisit and extend the evidence base for self-review and decision making through:

- development of explicit and clear links between what student achievement information shows and strategic goal setting and annual planning;
- collation, analysis and reporting of schoolwide achievement data for groups of students, including ethnic and gender groups, and Year 9 and 10 students, with comparison to national expectations; and

- increased use by teachers of student achievement information in their planning and implementation of differentiated teaching within classes.

The college has a focus on strengthening students' involvement in their own learning through the setting of specific goals. ERO confirms this direction. (School ERO report: 30 September 2010)

Following a push from ERO, the principal had initiated a focus on assessment for learning and using data to inform practice. As part of this initiative he had created the position of Assessment for Learning Manager (AFLM) to co-ordinate the data collection and to explore ways the data could be used to inform teaching practice in the school.

It seemed at the time a really useful sounding approach to improve our students' learning, because, sitting in the background of all this is I had been really concerned that we had been constantly told by ERO that we need to be gathering more junior data to inform our practice to bring about changes to our kids' learning. And it had sat with the HOD's and we hadn't really got any traction going on there. While we were doing PAT's back then, and maths did the [HOF mathematics] design your own test. We were doing that, I think that gave us a sample of where the kids were at, but it was not really flowing into informing our practice about what we were doing. I think we just did a snapshot at the front and a snapshot at the end, but nobody did anything with it in between. (Principal, 8 October 2014)

The principal questioned whether students were improving their ability to learn without using traditional assessment measures.

Students as learners, how do you know whether they are learning or not without using the traditional benchmarks of things like NCEA....

...We set ourselves a goal by looking for two shifts [asTTle increments] and that's happened. So that's really good, but I still think we've got top end groups of kids who are really embracing their learning and striving for excellences, but I also think we have still got a group down the bottom who are just going through the motions and eating their lunch. (Principal, 8 October 2014)

4.2.6 Professional learning history in the school

The history of professional learning of the school supported the current school culture of learning. In the early 2000s professional development was based around courses for individual teachers that may have inspired teachers for a time but had limited transferability.

The model of professional development and learning was that everybody got \$200 each and they went off and had a warm fuzzy and it didn't change anybody's practice at all. (Principal, 11 November 2013)

Through professional reading the principal became aware of the benefits of school-wide professional learning.

They talked about bringing effective change in a school: it had to be a school-wide focus where the staff had commitment and buy-in to a common goal and you steer the common goal course towards achieving it. That then becomes part of the culture of the school and then you start finding that people, in conversations at lunchtime ... start talking about what's happening in their class, trying this strategy, which also fits in with what you are doing. So professional learning is about ... school's involved in continuous improvement ...to continue to improve, it is the school's job to provide you with the knowledge and the skills and the expertise and the opportunities to do that. (Principal, 11 November 2013)

In 2003 and 2004 there was a focus on literacy across the curriculum with whole staff development using 'building blocks'; a range of literacy strategies useful across subjects, run by the deputy principal responsible for professional development.

The idea was that people needed, that we wanted whole school PD where everybody was using and thinking around the same kind of strategies and so on and tended to be focussed in improving the access to literacy pretty much, for kids, and enabling people to have confidence in doing that. (AFLM: 18 October 2013)

Following the building blocks programme an outside provider was brought in to continue introducing new teaching strategies with a focus on a particular advance organiser from 2005-2006. During this period there was a change in deputy principal with responsibility for professional learning in the school and a consequent shift in the philosophy of professional learning in the school towards teacher-centred professional learning. There was a three year Ministry of Education funded ICT project from 2007 to 2009.

Then [the new DP] arrived on the scene about then. And he started thinking about Professional Learning, having a committee of people, and that committee of people then went off to conferences and so on.... I remember his impact in the school being quite strong at the time because he got people thinking about whole school approaches to professional learning that were in-house. (AFLM: 18 October 2013)

Focus groups were initiated where members of the professional learning team led groups on areas of interest determined by the staff, which became a key feature of professional learning at the school. Initially the groups were self-selected based on teacher-perceived need and included foci such as boys' education, learning differences and thinking. The focus groups gradually became more focussed on specific school-wide goals. In 2009 all focus groups undertook work around learning power and increasing the 'learning muscles'

(Claxton, 2002) of resilience, resourcefulness, reflection and reciprocity, until, in 2010, all focus groups covered the same content. In 2010 the focus was on the key competencies, particularly managing self and thinking, looking at strategies such as Bloom's taxonomy, De Bono's hats, Ryan's thinkers' keys, and Structure of Observed Learning Outcomes (SOLO). In 2011 the focus was on assessment for learning, using data to inform practice.

One of my distinctive memories of professional learning as a lay person, is [a professional learning leader] doing boys. Because we had a really interesting group of people and I really enjoyed the debates that we had. It was intellectually and pedagogically really interesting.

But the problem was that we were finding that across the school that those focus groups had a lot of good ideas and a lot of interesting thinking going on but they were getting no traction. They were getting no traction because we didn't have people feeding back up to the Senior Management, and Senior Management weren't as involved with Professional Learning at the time. It tended to be something that was done sort of out there... we made the change for Senior Management to get more involved in the Professional Learning Committee. That was because things would be discussed and thrashed out and people weren't hearing the discussion so it became a wee bit tricky at times.

At the moment, I see that there has been a really positive shift, in that the senior management team are now more involved in the professional learning, so rather than it being a separate thing, it has become how we do things around here that people are part of it. They are part of the discussions, they are part of the focus groups, and they are seen to be, more than they used to be, they are seen to be leaders of learning. (AFLM: 18 October 2013)

4.2.7 ELLI training

At the end of 2010, the AFLM and I attended an ELLI training workshop run by a school principal 600 kilometres distant. The workshop explored learning power in practice, an understanding of the seven learning dimensions of ELLI, ways to incorporate ELLI into the school and an examination of the five levels of impact including individual, mentor, pedagogical, curricular and school systems. This workshop qualified the AFLM and the researcher as “ELLI Champions”. To use ELLI in a school, two staff members must be ELLI Champions.

4.2.8 Summary of events for The Lead Up: 2010

Table 6: Timeline for the Lead Up: 2010

	Date	Event	Who	Details
2010	November 23 and 24	ELLI Champions workshop	Researcher, AFLM (Assessment for Learning Manager)	ELLI Champions workshop run by a trained ELLI facilitator 600 kms away for two days.
2011		School decision to trial ELLI	Principal	The principal committed the school to a trial of ELLI with four form classes to be run by the AFLM

4.3 Phase I: A good start: 2011

In September 2011 approval was received from the Massey University Human Ethics Committee for a case study on the implementation of the Effective Lifelong Learning Inventory (ELLI) in the school. The ethics approval coincided with the school’s plans for the launch of the project.

In the first phase of the trial a number of introductory presentations and meetings took place in the school. These meetings informed interested parties

as to the purpose of the tool and its potential use with students in the school. This phase culminated in the students beginning to take their on-line profiles.

The meetings included:

An introductory session to the senior management team of the college and its neighbouring intermediate school, the professional learning team, the deans and form teachers of the form classes that were to be involved in the trial, as well as two senior students.

A parents' evening, where all of the parents of the students in the four participating form classes were invited to an information evening.

A meeting with the deans and form teachers of the classes involved in the trial to start the process of planning how the tool was going to be used.

4.3.1 Introductory session: 5 September 2011

The introductory two-hour session was held in an afternoon from lunchtime into the afternoon. It was held during senior school examination time to allow for a number of staff to be present while limiting the amount of relief required.

The presentation was run by The Assessment for Learning Manager (AFLM) who had completed the ELLI Champions training in November of 2010. The objective was to give a range of key players in the school a reasonably in-depth account of the purpose of ELLI and how it might be used in the school.

Those present included the principal, two deputy principals, the Professional Learning team including the Specialist Classroom teacher, the junior deans, two form teachers from Year 9, two form teachers from Year 10, two Year 13 students who had been acting as mentors for junior students during the year, and the principal and two deputy principals from the neighbouring intermediate school. The form teachers chosen to participate were those whose form classes were to be the focus of the trial.

The session took place in a classroom, with displays of student learning on the wall. The presenter had chosen to use this classroom because it was in the middle of a student learning area and she wanted to model for the students that everyone was still learning and instil the idea that learning is a lifelong process.

The initial introduction involved a brief discussion of the history of ELLI. A number of links were made to professional learning in the school and previous work that had been done on Learning Power (Claxton, 2002), mentoring and enhancing the role of the form teacher, which had been school goals for the year.

The session attendees broke into three groups to answer three questions:

1. What do you think are qualities and characteristics of a successful learner?
2. How can we develop assessment strategies which strengthen those qualities?
3. How do we help learners to engage their life stories, life worlds and communities in their learning?

One group's mind maps are presented below.

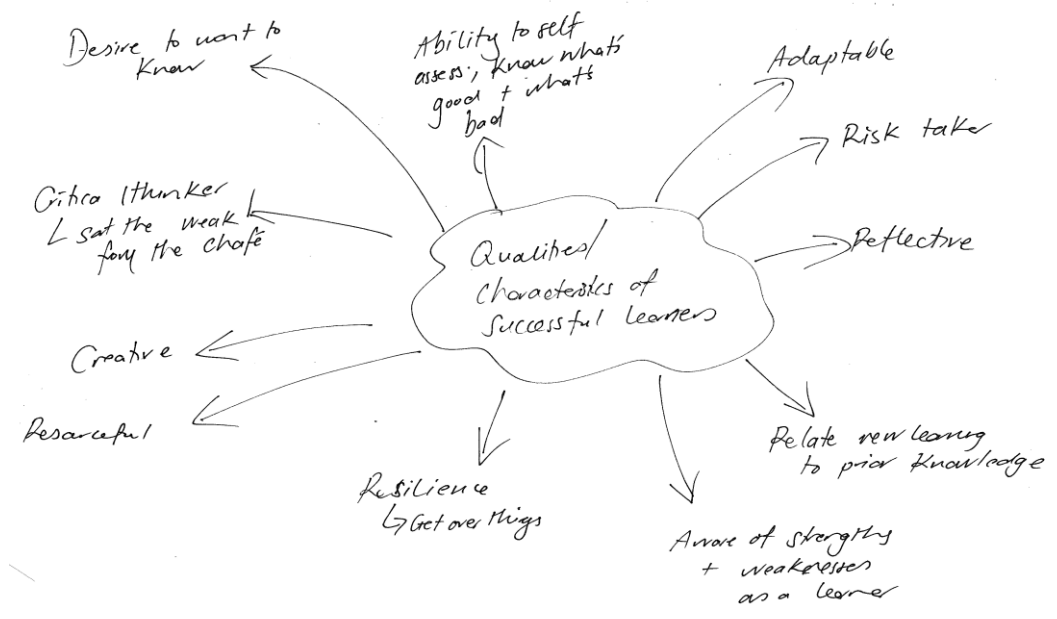


Figure 3: What do you think are qualities and characteristics of a successful learner?

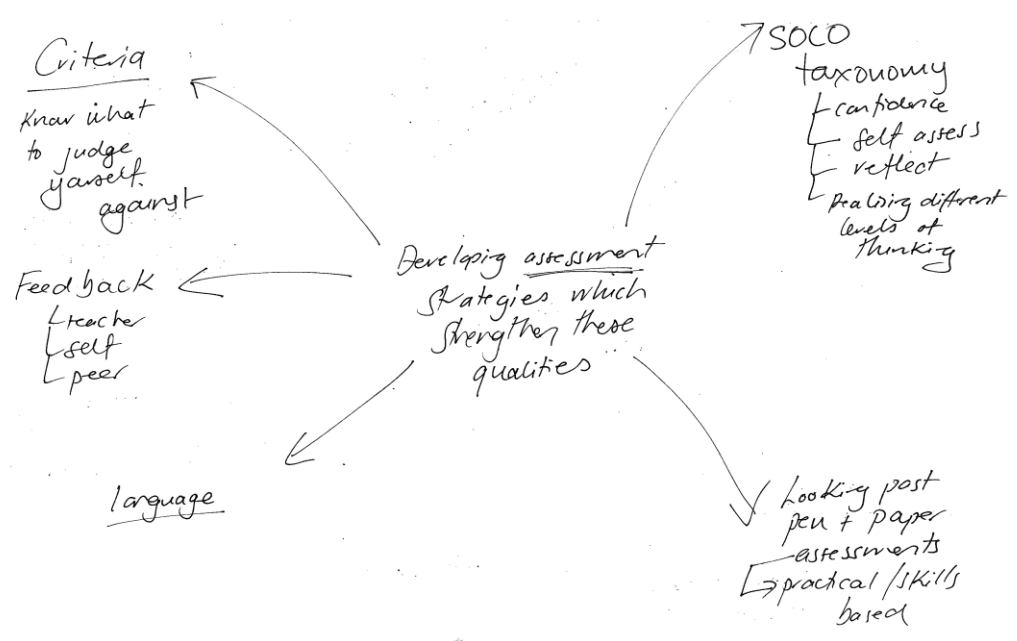


Figure 4: How can we develop assessment strategies which strengthen those qualities?

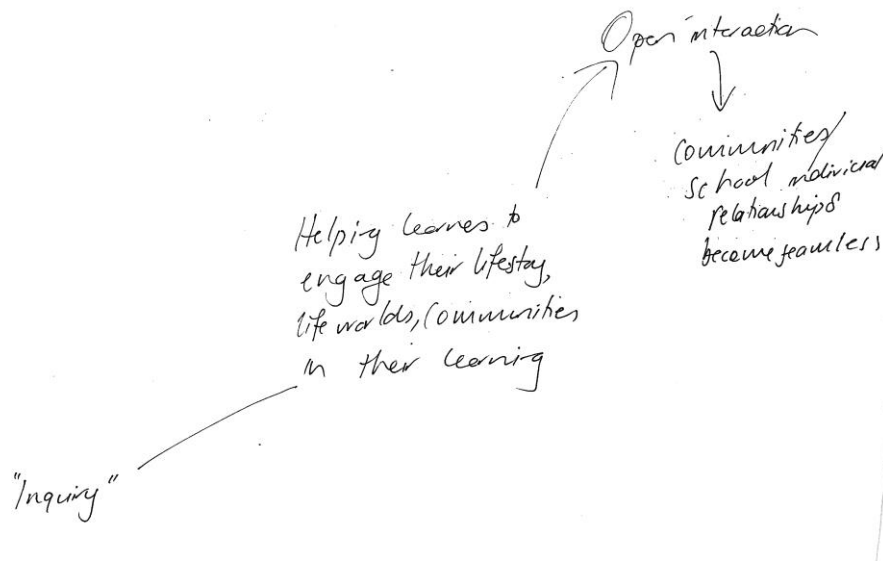


Figure 5: How do we help learners to engage their life stories, life worlds and communities in their learning?

These questions generated discussion around the importance of life-long learning strategies, many of which underpin the ELLI learning dispositions. Links between the key competencies from the NZ curriculum and the ELLI learning dispositions were made based on a model proposed by Rose Hipkins (see Table 3: ELLI dispositions and key competencies alignment)

The presentation continued with an outline of the seven learning dispositions and an indication of the conversation starters and activities that might enhance students' understanding and development of their dispositions. The use of symbols and metaphor, and how they could be used by the school to help understand and talk about the learning dispositions, was also discussed.

The last thirty minutes of the session involved participants completing the online questionnaire, resulting in ELLI profiles for themselves. The profiles were not able to be immediately accessed. However, the AFLM printed them out immediately following the close of the session and was able to distribute them to most participants before they left for the day.

As the profiles varied considerably, it was seen as appropriate that they were not publicly shared. However, a number of conversations ensued the following

day where people were talking the language, and using the terminology to describe themselves as learners.

4.3.2 Initial planning meeting: 23 September 2011

The original intention was for the Year 9 and 10 deans and the four form teachers of the classes involved in the trial to meet with the AFLM and the researcher to collectively decide the best use of the ELLI profiles in the school. This group, except one form teacher, had already attended the introductory session that had been held two weeks prior.

The group was positive about the possibilities of using the profiles with their students. A number of suggested uses and ideas as to possible approaches were put forward, for example:

A useful start may be brainstorming what good learning is. Then get students to identify how these concepts are similar and different to the ELLI learning dispositions. Then, 'What do you think you are on these dimensions?' Take the test to tell. (Dean One: 23 September 2011).

A good idea to relate it to exams, it will help identify the areas that might support exam revision or individual goals. (Dean Two: 23 September 2011).

The development of symbols for the dispositions was discussed. The use of metaphor, story and iconography had been extensively used with ELLI in the past, which was outlined in Small's (2010) *Learning to achieve: A handbook of strategies for increasing learning power* and had been supplied to each of the group members. Students development of their own symbols was recognised as the best way to come to grips with what the dispositions were and to develop an understanding of them. There was discussion around whether each class would have their own symbols or whether school wide symbols would be developed.

Most of the discussion centred on practicalities of getting the four form classes to complete the questionnaire, which required the use of computer rooms. Possible times were proposed: setting aside some form times to administer it, the AFLM approaching core teachers and using a period of class time, the AFLM taking students in groups of six throughout the day or inviting the students to come to school early on the day the staff have professional learning and school would normally start later.

One of the form teachers pointed out that there were a number of students who would require ESOL or literacy support. There was a suggestion to use the Year 13 mentors as reader writers.

No formal decisions were made, but the group had developed a sound collaborative base from which to work in the future.

4.3.3 Parents evening: 27 October 2011

An evening presentation was held for the parents of students in the four participating form classes. Approximately 30 parents, caregivers and students attended the evening run by the AFLM in the staffroom of the school at 7.00 pm. Posters on each of the ELLI Learning dimensions were on the walls.

The presentation followed a similar process to that of the introductory session involving the school leaders, beginning with an explanation of the purpose of ELLI; each of the learning dispositions were outlined with discussion around how they might affect the learning of their child. There were group discussions around what a successful learner looks like and how learners might engage their lives and life worlds into their learning. This presentation and discussion took approximately 40 minutes. The parents and caregivers then went to the library and completed the questionnaire for themselves, and viewed their own profiles. After completing their profiles they returned to the staffroom where supper was available and further questions and discussion ensued. The AFLM printed off their profiles and most were able to take them away with them.

We sent letters home to the parents, then we invited them in to come and do their ELLI profiles and if I remember correctly I think we probably had around 20 parents, maybe who took advantage of that. And I thought that was a really powerful evening and it was enlightening actually because one or two of the parents were very uncomfortable with computers, which I thought was interesting. They didn't know how to do anything with them and that gives them a really useful source of information for their own learning and who they are as learners and some of them really took that on board and I have had several conversations with parents since about what it showed them. (AFLM: 26 April 2012)

4.3.4 Initial interview with Form Teacher One: 7 October 2011

A preliminary interview was held with Form Teacher One on the last day of term 3 2011. The purpose of the meeting was to find out about her attitudes to teaching and learning, her awareness of her students as learners and any strategies she used to encourage students to reflect on their learning.

Form Teacher One placed high value on establishing a safe learning environment.

I think about them in terms of their personalities because it brings so much to the learning environment and so for me it's about learning about what makes them tick a little bit first. So I'm not too interested necessarily in their skills straight away but more how they think and how they react to one another and their style of learning.

What I like to do at the beginning of terms is to do lots of generic lessons where it allows them to show lots and lots of different ways of working together and thinking just so I can get a feel for how they interact with one another. And to let them to get to know me as well and for me to get to know them as well so I can actually tailor my lessons a little bit to the way they like to work. I don't want to push

them out of their comfort zone straight away because they need to trust me and there is a big element of trust I think, especially when you are going to do something a little bit different or something they are not expecting. So if you can develop that trust aspect like getting to know them a little bit I think that really helps with the initial stages of learning.

It doesn't always have to be about having rules and being this strict authoritarian. It's about actually I am a person too, and I want this to be a nice experience I want to enjoy this learning experience, yeah, it's going to be uncomfortable at times, but that's okay because it's a safe environment to do it. (Form Teacher One: 7 October 2011)

Form Teacher One valued peer assessment and encouraged her students to reflect on their learning.

I've done a lot of peer assessment stuff where I have got them to talk to one another in pairs, usually with a friend that they trust, so that the friend will give an honest opinion about them. And I have also tried my thinking hats template where I have got them to reflect on their work and not just about the skills that they have learnt but the way that they have worked... I have interviewed them, on a one to one basis, about what they've enjoyed about the lessons and what they've found difficult and the ways that they have enjoyed working. (Form Teacher One: 7 October 2011)

Form Teacher One worked to develop students' independent learning skills.

To give them some sort of checking strategies, really, to find out where their problems are. So I am sort of scaffolding that strategy and then eventually later on it will be, "Well can you ask yourself a question to find out without asking me?" (Form Teacher One: 7 October 2011)

Form Teacher One used a range of learning strategies.

I still use a lot of collaborative work in my small Year 9, ... matching them up with kids who perhaps have got better skills in certain areas, matching the kids who have got lesser skills. So having that multi-level learning going on is a really useful way of helping them to become more independent...

...Making self-help guides, ... something I did with Year 10 was "the guide to solving equations" but they all had different ones. They had to make a little guide for their own equation. And so therefore by doing that they had to learn exactly how it was to complete that. They then had to think about how they would teach it to somebody else. And they had to then share it with someone else and the other people had to try and do it and ask them for advice. (Form Teacher One: 7 October 2011)

Form Teacher One was looking forward to using ELLI and was interested in incorporating the ideas into the culture of learning in the school.

I think it will help people become more reflective of the learning process...

...It needs to become part of the natural part of form time almost, that: "These are the just some of the things we do. We are going to reflect on our learning because it's important, because that's what we are in the business of doing, in the business of learning here." And it sort of becomes part of the natural course of things...

... I am interested in it, and I think that makes a difference. So perhaps that's the key, because, just get people interested, it becomes part of the general interest. This is what teaching is about, if you love what you are doing, you love learning, and I do, so, I think it's a good thing. (Form Teacher One: 7 October 2011)

4.3.5 ELLI Questionnaires: October, November 2011

The administration of the online questionnaire was trialled with a small number of students at the end of term 3 when a number of minor administrative issues were encountered such as difficulties logging on or missing passwords. The AFLM worked on the problems with IT people both in the school and outside the school. At the beginning of term 4 the focus of the school was on preparing the senior students for external examinations and it was not until 7 November that there was another attempt for a small group of students to complete the questionnaire. Most of the students were able to complete their questionnaires at this time, although there were still some issues with logons and passwords.

On 8 November Form Class One and on 11 November 2011 Form Class Two successfully completed the questionnaires, with only a small number of students unavailable on the day. On 22 November one of the Year Ten form classes were working on their questionnaires when the programme crashed at a point where a third of the class had completed their profiles, but the rest were only part way through. The second Year Ten form class did not start the process. In total 67 students completed their profiles in 2011.

As an example, Sofia's learning profile is provided below. ELLI as a self-report inventory, organises what students say about themselves into a profile in the seven learning dimensions. The profile gives the learner a clear diagrammatic picture of their strengths and areas for development. It has high 'face-validity'; learners tend to agree with it (Small, 2010). Sofia could relate to her profile. "I think I agree with it. I am not a very creative person."

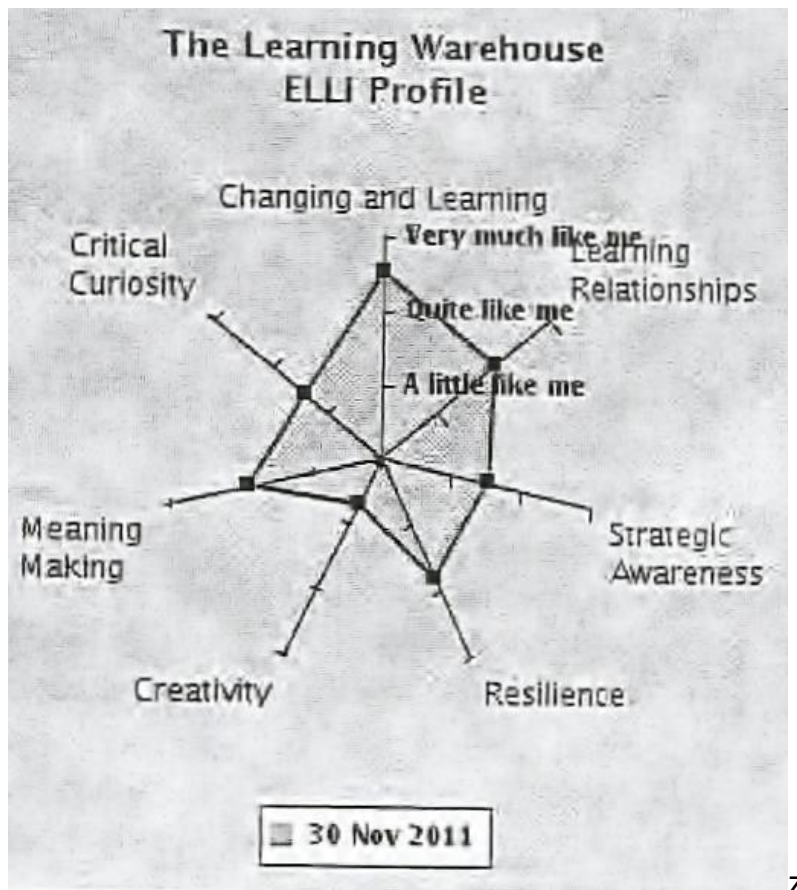


Figure 6: Sofia November 2011

4.3.6 Posters on form class walls

A casual conversation between Form Teacher Two and I on 11 November centred on the need to get information about the ELLI dispositions out and visible. But teachers in the school were very busy preparing senior students for external examinations. There were still posters on the staffroom wall from the parents evening and Form Teacher Two suggested giving a copy to each of the form teachers involved to have on their form class wall. The posters are of each of the seven dimensions with a definition and symbol, such as Bart Simpson on his skateboard for the springboard zone – creativity, an Australian eagle for strategic awareness and so forth. There was discussion around developing our own unique symbols for the school that were particularly New Zealand and possibly multicultural that everybody would relate to and link to the learning disposition to anchor their understanding.

I copied a set of A3 colour posters and gave them to the form teachers for their form class walls.

4.3.7 Student comments: 6, 7 December 2011

A number of students had agreed to be part of more in-depth discussions during the ELLI trial. These discussions were in the form of either group discussions led by the Assessment for Learning Manager (AFLM) or individual interviews led by the researcher. The initial discussions centred around the students' attitudes to learning and how they saw themselves as learners.

Students were asked what they thought it meant to learn:

You can recall knowledge if you need it. (Honor)

Know more about something, like you improve on the knowledge you already have. (Sofia)

To improve your skills. (Jai)

I just like learning stuff that will benefit me, that I can use and stuff. (Emma)

Students described a number of characteristics of an effective learner.

That you are really good at learning, pay attention...understand things properly. (David)

You feel interesting and you listen. You listen to the teacher and you feel like that's pretty interesting. (Jai)

When people...tell me stuff and then they can give me examples and they ask me what I think about it and I say what I think and they can tell me if I am right or not. (Emma)

Students had a range of strategies to cope if they did not understand the learning.

Listen. (Honor)

Concentrate. (Sullivan)

*Ask questions ... focussing hard on what the teacher is saying.
(Sullivan)*

Ask for help. (Jazmine)

*Don't give up... try hard to get it. Get a tutor,... revise yourself, try
and work it out. (Orlando)*

Ask friends. (Sullivan)

*If the person next to you knows how to do it you may as well just
ask them and if they don't understand it, well, then you should ask
the teacher... See the answer and work out how they worked it out.
...See the question and see how they worked it out you might
understand how they did it. (Orlando)*

*I just get the teacher to explain again or I just ask someone else.
...ask someone else who can use different, who has a different view
or something. (Emma)*

Students described what learning was happening when they were doing something interesting.

How to work as a team....volleyball skills. (Orlando)

Finishing the project I designed. (Honor)

*Being able to design something yourself and make it yourself.
(Emma)*

Students had set goals at the beginning of the year and had reviewed these goals throughout the year. Their goals largely focussed on specific results or grades in assessments.

Trying to get a good score in my exam or something. (Jazmine)

Getting one excellence. (David)

*To get a high score in my end of year exams and learn my quotes for English..... I spent a little each day just revising my notes and going through my quotes and the whatever paragraph, that SEXY thing.
(Sofia)*

Students valued working in groups and recognised a number of advantages of collaborative work.

*[I] like being with friends so you can talk and be able to discuss things and get opinions so you can work out [things together].
(Sullivan)*

Just more ideas. (David)

Everyone have a different idea.... So we can think about it, whose one's the best. (Jai).

I work best on my own, but I like working in groups, but I don't really do it as well as when I am working by myself. (Emma)

Students were motivated to come to school for a number of reasons.

So you can learn and get some qualification to get a decent job and have money for a life... To get a job.... You wouldn't be able to have a good house if you didn't have good qualifications. (Orlando)

To learn, to get good marks. (Kieran)

Students recognised the value of a range of learning opportunities outside school.

Sports, you are working in a team.... and you're improving your skills, for playing, fitness, speed, catching skills. (Orlando)

Discipline.... your coach teaches you discipline, and listen to your elders and all that and you take it back to school. (David)

When you hang out with friends they can tell you information.... If you are in different situations then they can tell you how to get out of them, or sort it out or something. You learn life skills when you are in situations. (Honor)

You have to have discipline not to get a yellow card or red card, you're achieving something. (Orlando)

You have discipline when you go to each class so you don't miss classes. (Honor)

4.3.8 Summary of events in Phase I: A Good Start: 2011

Table 7: Timeline for Phase I: A Good Start: 2011

	Date	Event	Who	Details
2011	5 September	Introductory presentation	AFLM, SMT, PL team, Deans, form teachers of the trial classes, SMT of neighbouring Intermediate school, 2 senior students, researcher,	Run by the AFLM, the objective was to give a range of key players in the school a reasonably in-depth account of the purpose of ELLI and how it might be used in the school.
	21 September	Introduction to staff	AFLM, 8 staff members, researcher	After-school introduction to ELLI for interested staff.
	23 September	Introductory meeting of the intended implementers	Year 9 and 10 Deans, the 4 Form Teachers, AFLM, researcher	Discussion on how ELLI should be introduced to the form classes. This was the team intended to be the key players in the planning and facilitation of ELLI.
	27 September	Parents Evening	AFLM, over 30 parents and students, researcher	The purpose and uses of ELLI introduced to parents. Parents had their own profiles taken.
	7 October	Form teacher interview	Form teacher, researcher	Form teacher's attitudes to teaching and learning explored. How she saw her form class.
	7-8 November	Trial profiles taken	9LIT, 9ESOL, AFLM, researcher	Trial run taking ELLI assessment with two small classes. Small problems re logons, passwords etc. sorted out.
	8, 11, 14 November	Form class profiles	Two year 9 form classes and one year 10 form class, AFLM, researcher	Two year 9 form class had their profiles taken. The first year 10 class was half completed before system crashed.
	11 November	Posters	Form teachers, researcher	Posters on each dimension - colour, A3 to each form class for wall.
	6, 7 December	Student voice	Facilitated by AFLM, seven students, researcher	Group discussion and one individual interview around how the students see themselves as learners and what they understand learning to be about.

4.4 Phase II: Waiting for the platform... 2012

The school year began in 2012 with every expectation that the technology problems were minor and planning for using the students' ELLI profiles continued. An initial meeting was held with the form teachers, where the AFLM outlined a proposed timeline for the first term. One of the form teachers of the 2011 Year 10 students had moved on and a new form teacher allocated.

Initially the technical experts promised that the platform would be running smoothly by April, enabling the final class and a half to complete their profiles, but this was not the case. As time went by it became clear that the technology problems were ongoing. The AFLM had numerous email communications with the technical personnel in an attempt to resolve the issues. However, the problems were not with the school but with the platform and there was nothing the school could do about it. An August date was given, but there were still problems. The AFLM and other staff members involved lost confidence in the platform.

Due to the inability to complete the profiles of all the form classes the school's plan was held in abeyance. The two form teachers whose classes had largely finished their profiles initiated a number of informal uses of the students ELLI profiles.

As part of the goal-setting process both of the form teachers used the students' ELLI profiles as a starting point for discussion, to give the students an insight into where they may like to extend themselves. To initiate this, Form Teacher One grouped students according to their weakest learning disposition; the groups then explored ways that they could develop this disposition and made a "top tips" poster. This was to help students better understand the learning disposition as well as explore a range of possible strategies that they could use to strengthen it. Form Teacher One also used MyPortfolio to store information about their goals and to reflect on learning successes and areas to develop.

4.4.1 Initial Planning Meeting: 10 February 2012

The AFLM held a planning meeting early in Term One 2012 to outline the process for the first term. Her intention was for the form teachers to use an extended form time with their classes to introduce the ELLI dimensions and to use the students' profiles to help them with their goal setting. There was no suggestion that there may be further delays at this time.

I have the profiles here, I want to go through what we can do with some of this stuff and how the year might pan out. I will just hand out a brief timeline of what this term might look like, see what is possible. We are just going to have a catch up now. There are still some kids we need to catch up with, I am hoping to do that next week...

...Some of the kids' information is really interesting, there is a lot there, there is a lot to start the discussions with when you get the chance. I am proposing an extended form time, form time would go through to the end of the day. If we see that as an opportunity to start thinking about ELLI stuff and start talking about individual learning as a kind of a catalyst for getting your goal setting going as well, if we are going to talk about ELLI it would be really good if we could do it in an extended time...

...We are moving towards Progress Conference Day on the 27 March where it might be nice if ELLI is part of that discussion. From the look of the profiles I have seen I think it is a really useful tool but you need to be ready to talk about it. We need to have done some discussion as a group or you need to have done some reading about what is shown in the graphs...

...And then I am looking at Term Two as a time when we will introduce the whole thing to the staff. ... but I think it is only going to be useful when everybody in the classroom understands what it is,

where the kids are at. So again, it's one of the those tools, an assessment for learning tool. ... You have got five kids in your class who do not make meaning particularly well, what can you do? (AFLM: 10 February 2012)

The AFLM handed out copies of the graphs below that gave an indication of the strengths and weaknesses of the whole group. These graphs show the numbers of students reporting themselves high, 75% and above, medium 45% to 75%, and low, up to 45% in each of the dimensions. The shading enables the reader to recognise these categories at a glance. This allows the teacher to see the strengths and weaknesses across the whole group. Figures 8 to 14 show that as a group the students were weak in critical curiosity and creativity, but strong in meaning making and changing and learning.

It should have been possible to obtain separate frequency graphs for each of the form classes, and the AFLM had requested this. However, the ongoing technical problems prevented this.

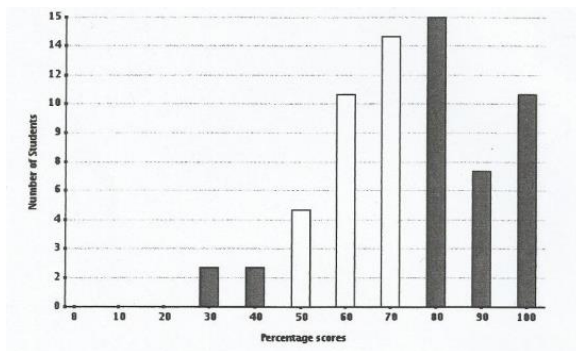


Figure 7: Changing and Learning

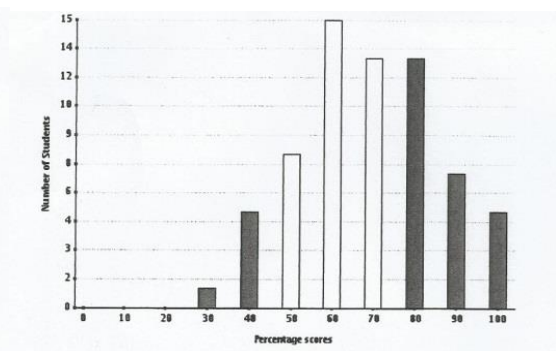


Figure 8: Meaning Making

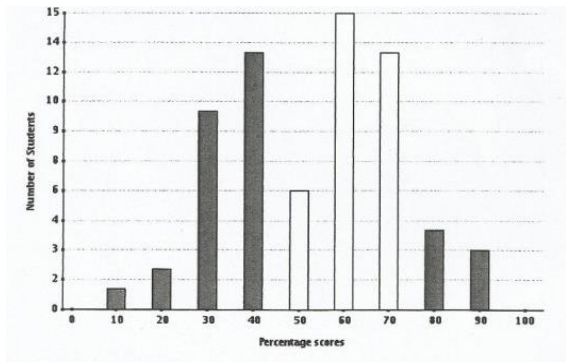


Figure 9: Critical Curiosity

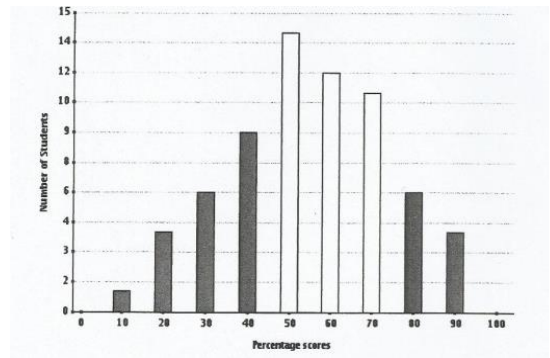


Figure 10: Creativity

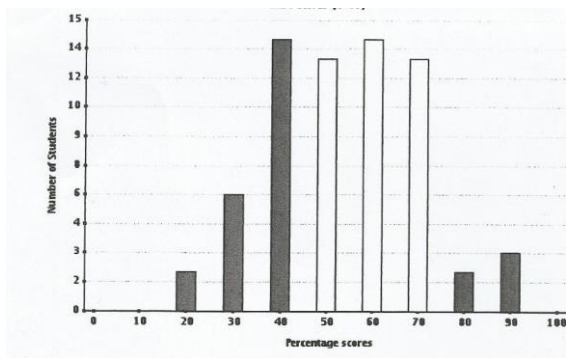


Figure 11: Strategic Awareness

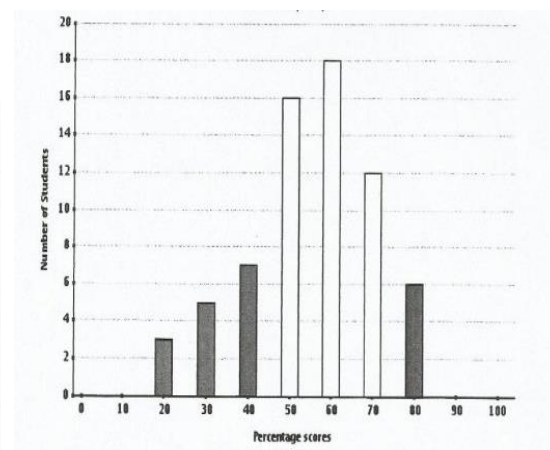


Figure 12: Resilience

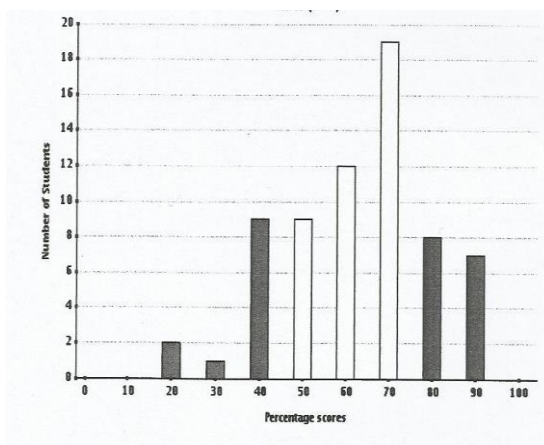


Figure 13: Learning Relationships

These graphs could provide valuable information to a classroom teacher. The teacher could develop strategies to use the stronger dimensions to build up the weaker areas.

*What I can get now out of the ELLI stuff, is quite useful in terms of the specifics. Now this [referring to the graphs] reveals some quite clear strengths, for example making meaning, a lot of them are reasonably competent at that, whereas they struggle a little bit with creativity in their learning. There are not many kids who are at that higher end with resilience, there's lots in the middle. Again, it is a useful thing for us to consider, and I am trying to make it, as a tool, more useful. So that it could go out to your core class teachers, this is my class, here are the strengths and areas for development.
(AFLM: 10 February 2012)*

4.4.2 "Top Tips": February - March 2012

Despite no official start to the trial the form teachers used the ELLI profiles in a number of ways. Form Teacher One grouped students according to their weaker learning dimensions and got them to explore what the learning dimension meant. They then were asked to come up with a "top tip" sheet of ideas to improve that learning dimension that they would realistically be prepared to give a go. They then presented their ideas to the whole class using a poster or other visual aid, which was then left on the wall for reflection.

So over a couple of form times the students had to spend time talking together, they had to work out what each of their learning dimensions meant, they had to then look at the "top tips" and look at realistically whether it was something they would give a go. So they had to make sure, they had to sort of have a bit of a voting system really, as to which ones they were determined that they would at least give a try at some point during the year.

So, after that, they came up with their "top tips" and then on another session, then they actually relayed what their top tips were to rest of the... Form Group. So they had a bit of a discussion and they told everybody what their dimension was and then said, "Well these are our top tips" and they showed any sort of visual aid that they had made that went with that. (Form Teacher One: 26 March 2012)

4.4.3 Goal setting

A regular feature of the form class programme at the school is setting goals at the beginning of the year. This is to encourage students to reflect on their progress over the previous year and set some goals for the coming year, usually both academic and personal, and then to plan steps to reach those goals. Goal setting is an important part of the learning culture of the school, encouraging students to reflect on their learning process.

At [the school] one of the key aspects of our pastoral care ... is goal setting. If the student engages with goal setting it can be a powerful tool, because we are raising their awareness of themselves as learners. It's about that taking ownership of your own learning and I think that [the school] is trying to empower our students with a target of goal setting.... People do actually engage with their goals. And I think that's a really important aspect of the whole thing. (AFLM: 26 April 2012)

Goal setting is about putting the students into a powerful position to identify where they are at, where they want to be and some positive steps about how to get there. So that they have a process, so that they know what to do. In terms of that they will also identify the people that they need to help them with strategies to do that. (Dean One: 30 April 2012)

I think that goal setting is very important, and that's because I am a strong believer that we need to have stepping stones in life, and we always need to have little goals I guess to work towards, to actually achieve things. (Dean Two: 9 May 2012)

The goal-setting process had not always been taken seriously by students and the deans had put a lot of work into developing workbooks structured to scaffold the process and help students take ownership of their learning and develop a deeper understanding of themselves as learners.

This process has had varying degrees of success in the past. Many teachers have found it difficult to motivate the students to take the process seriously. (Dean Two: 9 May 2012)

Goal setting I think, has come a long way in the school compared to five or six years ago where it was just a one sheet, let's set some goals type thing in one form time. ... In the last few years we have developed booklets, really well scaffolded goals, and I think that we have done a good job with that. (Dean Two: 9 May 2012)

I am still unsure how effective we have been at actually administering that. I am not sure how to help students understand that actually this is really important and this is really relevant for you. And I think part of the issue is that we tell them to do it, and as soon as you tell someone to set a goal, or as soon as you say, 'All right it is goal setting time' it's like, 'Actually I am not ready for it right now, I want to do it a week later'. And I think that is reflected as well in the staff at the school too. I think that a lot of staff feel that we are told what goals to set. (Dean Two: 9 May 2012)

I think there are some issues there in terms of our modelling to students, so I reckon that one thing we could be doing a lot better is actually sharing our own goals with students and actually modelling that process. Because I think we feel, I am speaking really generally

here but, I think as a staff we feel that we feel some frustration with the goal setting process, and that's filtered down to the kids. So, yes, I think goal setting is very important, yes I want kids to do it, but I am not sure how relevant they think it is to them, and am not sure how exactly to make it relevant and exciting for them. (Dean Two: 9 May 2012)

Form teachers found that using the students ELLI profiles alongside their goal-setting conversations enabled a deeper understanding of themselves as learners and extended the scope of their thinking around how to meet their goals and understand barriers they had experienced in the past. In Form Class Two the students were keen and felt the information "gave them something to hook into." (Form Teacher Two: 31 August 2012) Some of the top-end students were particularly interested to find specific areas they could target.

The intention... was to set some goals for this year and really look at how perhaps, we could use some of the dimensions as stepping stones to help us achieve our goal. Now some of the students have done this quite successfully, I have heard students say, "I am going to look at creative ways of writing my notes in a particular subject." Some students really struggled with the idea and had to be pointed back to the learning dimensions and say, "Well what tips did you come out with? Are there any here that would help you in this scenario?" And so I think even though we had done quite a lot of talking and discussion about the dimensions the students still didn't turn to them naturally as something to assist them with their goal setting....

...As a sort of resultant to [the "top tips" investigation by the students], we then looked at our goal setting exercise and we looked at some of the potential barriers as to why they hadn't achieved goals from the previous year and some of their potential barriers, we tried to fit them into the learning dimensions. So if it was things to

do with perhaps, revising, that was a bit of an issue for them. We then looked at their learning dimensions and said: "Well okay I need to be a bit more creative, how could I be more creative in my revision to make that perhaps easier for myself." Or if it was things like focus, structured by friends, well let's have a look at resilience and see what top tips we have got in our resilience to help us stay focussed and perhaps avoid distraction. Or maybe it's our critical curiosity that's making us distracted. Maybe we need to start asking more questions. What could I do to encourage my critical curiosity? And in turn, how does that help me not be distracted? So we tried to address some of our potential barriers to achieving our goals last year by looking at the dimensions. (Form Teacher One: 26 March 2012)

The goals the kids had set, it seemed like they had bought into the whole process a little bit more, and they were a little bit more focussed. Like one student said that she wanted to find a way to make taking notes more exciting, and also when looking back on her notes, it was more exciting and relevant for her to read over. So, she sort of talked about being more creative with note taking and using colours and, rather than just making lists making sort of visual diagrams and stuff. So that was really specific and I thought that was great, because that leads into a wider goal of being a successful learner and getting good grades at school and all that. But that was one step towards that, that's what we are asking kids to do so that was really good. (Dean Two: 9 May 2012)

4.4.4 Progress Conference Day: 27 March 2012

In 2012 the school held its first Progress Conference Day. No formal classes ran and all students in the school had a fifteen minute conference meeting with their form teacher or mentor, and their parents or caregivers. The purpose of the conference was to have a three-way conversation about the student's

situation, their progress, and goals for the future, both short term and long term. The day is intended to create the space to form a dialogue with the home and result in a shared common purpose.

The principal outlined the purpose of Progress Conference Day in a newsletter to parents:

In the past few years we have been aiming to increase the engagement of students by encouraging them to take control of their own learning. In order to do this, students need to be informed and be part of the learning process. They need to know where they are at, be able to evaluate their progress and ascertain what they need to do to improve. The development of learning intentions and student goal setting are all part of that process. (Principal: February 2012)

Both Form Teacher One and Form Teacher Two used the students' ELLI profiles at Progress Conferences to help both the parents and the students understand the students' strengths and areas for development and to set more specific goals that, it was hoped, would ultimately improve their performance at school. The profiles gave them a deeper understanding of themselves and how they learn and they were given information on ideas to enhance the specific learning dispositions.

So my Progress Conference day, it was really, really useful showing the learning profiles to the parents and it really gave them a good idea as to what we were trying to achieve with students, particularly with the goal setting. The parents really understood the picture, once I had sort of described and explained what it was about, and they really appreciated that visual. They also thought the idea of linking the academic and personal goals with this idea of a style of learning a really, really, useful process. They thought it was something that they could perhaps contribute to, and talk about at home too, which I thought was quite interesting. Some of the parents took the goal

setting sheets home, so that they could actually talk about them with their kids, and to discuss these learning profiles. So that was a really, really positive thing. (Form Teacher One: 10 May 2012)

The most relevant thing I did as a mentor with the majority of my class,... I used [the profile] when we had Progress Conference.... So we just discussed that as part of maybe their learning profile, things they could possibly address to improve their performance in school. (Form Teacher Two: 31 August 2012)

A number of parents from the form classes had attended the parents' evening the previous year. Although it gave them an insight into the learning dispositions and made it easier to understand their child's profile, many of them were struggling to remember the detail. Form Teacher One expressed some frustration with the lack of progress with the platform and consequently the school plan to use the profiles.

The parents who had done their own profiles, there was only one or two who could recall doing them themselves. There was a couple of parents who actually said to me, "Ah, yes, I remember doing this last year, but I can't really remember what it meant." So that sort of suggested to me that perhaps there needed to be some follow up with that sooner rather than later. I understand there has been lots of issues with technology and the ability to get these things sorted more quickly, but ideally that would have made the whole process better. So I guess some sort of organisation in that respect needs to be thought about. (Form Teacher One: 10 May 2012)

4.4.5 Posters: 2012

Sets of laminated posters on each of the learning dimensions were given to the form teachers to display on their form class walls at the end of 2011. They continued to be displayed throughout 2012. The intention was to keep the

concepts in the forefront of everyone's minds and to remind them of the meanings of each of the dimensions.

Then we got a set of posters printed, ... we had this set of posters up so quite a number of form times when I had the larger group, I sort of related back to the posters quite often. So we talked about maybe one particular poster. (Form Teacher Two: 31 August 2012)

4.4.6 MyPortfolio: 2012

Form Teacher One used MyPortfolio with her form class, which enabled the students to keep their own records of their goals, achievements and aspirations. MyPortfolio is an eportfolio service developed in New Zealand by a number of universities and supported by the Ministry of Education. The programme allows students, teachers and schools to collect together online reflections and digital artefacts, it is an online space that can be used to manage your life, learning and goals (Kineo, 2014).

MyPortfolio was used [by Form Class One] to record their goals and to keep a record of their interests and achievements. It has the advantage over the goal setting booklets used by students in the past because it is hosted outside the school domain so students can access it from anywhere. It also keeps their intentions, successes, and reflections together with the ability to review and refocus. It also provides a record of the students' successes and intentions. It's a record that students can access whenever they would like to. (Form Teacher One: 10 September 2012)

I was then thinking about what else am I going to do with ELLI, how am I going to take this forward, how am I going to encourage the students to reflect on their goals, reflect on what they are doing at school, out of school, and beyond hopefully. Because this is a whole journey, it's lifelong learning afterall....

...And my aim is to try to get them all onto MyPortfolio, create a resume, and then once a week add something to that resume.

The other nice thing with MyPortfolio is actually the students can access it from home, which is a real real major benefit. Because it allows them to share it with their parents too. (Form Teacher One: 10 May 2012)

MyPortfolio provides the facility to reflect at a time when the student is most inclined to. The form teacher hoped that it would enable the students to inform her of any issues they were having and so enable her to give them some direction with their journey. The students also worked in other areas of MyPortfolio, describing their skills and interests, which helped Form Teacher One gain a broader view of who they were and what they were about, enabling a better dialogue to open up which led to a more useful and stronger relationship between the form teacher and the students.

It has meant that I have been able to reach some of the students that are not so forthcoming with having a chat one to one. When you ask them a question and they're not sure of how to respond to you, I can ask a question that directly relates to something that they have written down and ask them to expand on that a little bit more, and that makes things easier for those students. It gives me a way in and it gives the students a way in so we can have those conversations. I think it just opens up that dialogue better for all of us. (Form Teacher One: 10 September 2012)

4.4.7 Planning Meeting: 16 August 2012

In August 2012, a planning meeting was held with the AFLM, Form Teacher One, the researcher and another staff member. The AFLM outlined email communications with a range of people trying to sort out the technical issues and get a timeframe within which the school would be confidently able to use the platform. However, it was becoming increasingly clear that the ongoing

issues with the Portal was a long term problem and that despite a series of promises the rest of the students were not going to be able to complete their profiles in the near future.

Stock was taken of the current situation and options for the trial explored. The two, now Year 10, form classes had largely completed their profiles, only one of the Year 11 form classes was partially complete. It was recognised that even if the platform became functional immediately, it would make sense for the trial to continue with only the two Year 10 form classes.

It was recognised that both form classes had made some use of the existing profiles with goal setting, the posters initiating discussion and at Progress Conference Day. Form Class One had done further embedding of ideas with their "top tips" exercise and reflection on MyPortfolio.

They are starting to write their goals [on MyPortfolio], and they are starting to keep a journal of activities that they have done that have contributed to them meeting that goal and also some of them have been successful with that and others haven't. And others have also been writing down things like achievements, and successes that they have had, whether they be big things that are celebrated as a school, or things that they have recognised themselves within their learning. (Form Teacher One: 16 August 2012)

Form Class One had experienced difficulty with limited time at form time and slow technology.

We have only just started doing [MyPortfolio] but the technology has been a bit limited because of the fact that we only get twenty minutes at form time and it takes us a while to log on. (Form Teacher One: 16 August 2012)

The AFLM discussed the possibility of measuring changes in the student learning if the profiles were not available for reassessment.

If we put aside relying on the actual spider diagram as a worst case scenario, then I think there are other things you can still do to measure those shifts in learning. It may be that we look at the kids reviewing themselves in terms of what they are doing differently and try to think about how they themselves reflect on their learning and how they see their movement. (AFLM: 16 August 2012)

4.4.8 Teacher Reflection: 2012

In August and September the two form teachers and the AFLM reflected on the culture of learning and the process of change in the school, NCEA, barriers to change, their involvement in the trial, and the importance of the ELLI dimensions.

4.4.8.1 The Culture of Learning in the School

The form teachers valued the vision of more independent learners and realised that although their students were becoming more reflective, further change was necessary to reach the vision.

I think students are becoming more aware of how they learn, but I don't think it is consistent over the whole school with some of the vocabulary that we use or you know some of the ideas that we have, I think some people are using the thinking hats, and the SOLO taxonomy and what not, but there is nothing that's common. The students are becoming better at reflecting on their learning, but it's not something that is necessarily natural to all of them. And that I think needs to be explored more, because we are all expected to set goals and assess our own performance and push ourselves forward and take forward our learning. Especially in the way that society changes and the work place changes so rapidly these day....

...So I find the students a little bit passive sometimes with their learning and ... I am really all for putting the learning into their hands and making them active learners and going out there and

doing what they need to do for themselves, rather than me feeding it to them. (Form Teacher One: 10 September 2012)

I think that we need to have better independent learners. I think we do far too much for students. We are very much: come into class, learn and go. And I think there is a place for social sciences to be together or maths, science to be together or work out a programme that's a bit more interactive, that the compartments can be put together because I think at secondary school sometimes the students see it as compartmentalised learning rather than across subjects, across areas that actually complement each other. So for example if I am teaching PE I say, "Well in science you would have learnt, because, well you know PE is the science of movement so in actual fact it is science you are learning when you are in PE. So you should remember you have learnt Newton's Law so you have learnt about force and acceleration and so you tie it all together." ...

...I don't think we are facilitating the students that are more kinaesthetic.... I don't think that the courses that we have got meet the needs of the students that we have.... I don't believe we have got the academic school that we are perceived to have, and for that reason I think a lot of our students are not buying into the system. And if we go to culture now, the system doesn't meet their culture or way of learning. (Form Teacher Two: 31 August 2012)

4.4.8.2 The Process of Change in the School

Change in the school is instigated by both senior management and by staff who have key ideas about how to promote learning.

Change is mostly instigated by staff. I think we are quite a dynamic staff in many ways, we come from lots of different points of experience and learning and so forth. And I think there is quite a lot of people who are interested in making things better for teachers and for students and you know for education on the whole really. I

think people really want to move things forward so I think change happens through staff coming up with ideas and being allowed to experiment and to try things out and share thoughts and those sorts of things. And I think that's how change happens; it's instigated by us....

...Sometimes people get overwhelmed by some of the things that SMT [Senior Management Team] put in front of them. But I think it's because SMT have a different agenda, a different view of what's happening, they have a wider view because they are in that privileged position of seeing things from lots of different angles and being privy to that information. So I think SMT's culture of learning is a positive one. I think they encourage their staff to learn and to try things out and I think that's a good thing, I really enjoy that about this school. And they do listen. I am not sure if that's everybody's experience. (Form Teacher One: 10 September 2012)

We have done a lot of things in the past trying to improve outcomes for students: student voice, trying to get some feedback from the student, Progress Conferences where they want to take their own learning and being a far more independent learner. (Form Teacher Two: 31 August 2012)

4.4.8.3 NCEA (National Certificate in Educational Achievement)

Form Teacher Two was concerned about the NCEA system being assessment focussed rather than learning focussed, inhibiting the development of lifelong learning skills.

I think our NCEA system... is destroying our young people. They don't have the resilience, I don't think that they have the emotional intelligence to survive three years of bombardment.... It often impacts on students who are good at everything.... so they might be good at production, sport, academic, so they try to do too much and

they just fall over, basically their mental health is suffering. I don't think that's a good place for us to be....

...NCEA is geared to assessment, it's not geared to learning, you learn for the assessment. The students themselves are saying 'I don't need to learn that because that's not in the assessment' and so they are not learning, they struggle to retain some knowledge. Maybe they don't have enough time because they are constantly getting assessment after assessment, practice assessment, internal assessment, and external assessment. So it seems to me, I am not sure we are in the right track to promote learning.

Learning, I think, is quite a different thing, it's lifelong. They don't know how to do these things, and if we don't actually have somewhere that they learn some of those skills as well, which are lifelong learning skills, and skills that are relevant to their daily day to day life, you know they are not going to be successful. (Form Teacher Two: 31 August 2012)

4.4.8.4 Barriers

Time and technology were acknowledged as two barriers to the successful implementation of the trial.

Form time, I hardly teach any of my form [class] in my programme, so the only time I get to see them is usually 3-4 times a week for 20 minutes. And that can be quite hard when you are trying to do all the administration and everything else in that time, and there's notices and mentoring taking place. And so to actually get around to actually speak to everybody in a week can sometimes be really, really tricky in the time constraints that we have got. So [using MyPortfolio] sort of pushes me to be still able to have that dialogue even when I am not standing in front of them I can still speak to them through technology or think about what I want to say to them before I see them. It's not on the hoof all the time. And that's a good

thing for me, because I want the conversations to be useful and not contrived and so it gives me that time to think properly about them....

...The biggest barrier is time. Twenty minutes trying to log onto a computer and get connected can be a trial. So sometimes the time that the students actually have to write something down is only about five minutes, and that's been quite difficult, or if at all sometimes for some students. And also with the logging on system, people can't remember their logon names and passwords. Twenty minutes in form time is quite short, it would be nice occasionally to just have a big block of time to say, "Okay this is what we are going to do, we are going to update this." 35 minutes would be the ideal time, just to get logged on, have a think, do some writing and then put it away. (Form Teacher One: 10 September 2012)

The reality is, it's kind of interesting that the technology has just fallen over, because that's what happens with these things isn't it? You have this great tool and then you can't use it because either your school network is not up to speed or something else external to the school falls over, and that happens so often with this kind of technology. (Teacher: 16 August 2012)

4.4.8.5 ELLI Dispositions

Form Teacher Two recognised the relationship between the ELLI dispositions and the skills needed for life and lifelong learning and the AFLM appreciated both the concrete profile to initiate a learning conversation and breaking down the components of a good learner so that they are manageable.

I think that's when I looked at it first, that's when it hit me that that was so obvious and you know looking at your creativity or looking at your resilience in your learning, those are the things that get you through. You know you have to think outside the square, you have to be able to problem solve, you have to come up with new ideas, or

different ideas or what are all the possibilities, sticking at something even when you find it hard, how do you find a way to approach it differently so you can actually get a better outcome, rather than this is too hard, finish, finite, give it away. So if life was that easy then that would be fair enough, but life is hard, so you have to actually find resilience in your learning so that you can actually keep pushing your boundaries, keep challenging yourself. (Form Teacher Two: 31 August 2012)

It is quite a difference for a lot of people to be able to talk about something that they perceive as being concrete, whether or not it is or not, I don't think it's a concrete measure at all, but I think people need something on paper, that they can actually then start the conversation. That's the tricky bit, especially for staff, I think, in actually talking about it. Everybody knows what a good learner looks like, but breaking it down, it's like good writing, what does it look like, you've got to break it down to actually move kids on. (AFLM: 16 August 2012)

4.4.9 Student comments: 2012

Students were part of more in-depth discussions throughout the year. These discussions were in the form of either group discussions led by the Assessment for Learning Manager or individual interviews I led. Students from the two form classes also anonymously completed a questionnaire administered by the AFLM. The discussions continued to give insight into students' attitudes to learning, their goal setting process, and ELLI.

4.4.9.1 Student attitudes to learning

Students particularly enjoyed activities they were physically involved in. Jazmine was motivated by food; in food technology being able to eat the product was stimulating. Sullivan enjoyed learning when he had enough knowledge to feel

comfortable participating in the class activities. Sofia and Kieran enjoyed the physical aspect.

I am excited because I enjoy those activities (badminton and netball) it might be the competitiveness and that I am out there doing something. (Sofia)

In science, we are going to do an experiment where, like, we are actually doing it not learning it in books...it is really interesting doing it that way. (Kieran)

Sofia enjoyed learning when she was fully involved; however she became frustrated if she was unable to solve problems.

I enjoy learning when it's fun, or I have a fun teacher. ...when you talk and you have like class discussion and when you do it with the whole class it's a bit more interesting.... I am flexible, I only like [problem solving] when I can do it.. if I get to a harder problem that I can't do I ask the teacher, but if I still don't understand I get frustrated. (Sofia)

A number of students preferred to work in groups but others found co-operative learning distracting.

You do learn off each other, so if someone else has something, another point of view or something like that, then you can open your mind to other things that you hadn't thought about. (Honor)

I learn more by myself because when I am with other people I just get way too distracted. (Sharon)

Learn by myself so that I can concentrate more, just talking other things then not learning the topic. (Kieran)

Students discussed methods they used to revise for assessments. Methods were often based around reading notes, but also included answering practice questions and making flash cards.

Look over your notes. (Jazmine)

Looking over your notes and getting examples of questions that are probably going to be in the test. (Sullivan)

Research, review what you did, work we did in class. (Kieran)

I actually quite like to use flash cards and I will probably reread some of the books and rewatch the movies that I studied in English in the holidays. (Sofia)

4.4.9.2 Goal setting

Goal setting is an integral part of the school year for all students at the school. Although many students' goals centred around getting better grades and assessment results, others were more specific.

Students were scaffolded through the goal setting process and had meetings to discuss them with their form teacher or mentor. Many goals were still focussed on reaching higher grades.

We have just been looking at our goals, just writing new ones for the year, and so one learning goal and one social goal for each term, and then we had that at the conference thing. My goals were to get good marks or like good school reports and to do well in the sports I was playing in then. (Sullivan)

Get better results in my tests. (David)

Get better results, achieve in all my subjects. (Kieran)

Try to get an excellence in all of my subjects. (Jazmine)

To get better results, getting above achieved, or better results than last year. (Sullivan)

To be more confident, like build confidence in drama, like that was for my speech. (Honor)

Students in Form Class One had used MyPortfolio to record their goals and progress they had made towards them as well as other successes and aspirations.

We wrote about how our goals have been going and if we had achieved them or what we need to do to achieve them. (Sharon)

Although the class were using MyPortfolio, a number of students were unable to access the programme.

It just didn't work... it just kept on logging out every time I tried to do something. (Sharon)

4.4.9.3 ELLI

Some students made insightful comments about their learning dispositions.

[Sofia decided to] use more colours in my work to remember things, identifying main points and highlighting them. (Sofia)

Critical curiosity ... was just like asking questions in class... We had to write down good learning habits. ... like have times that you are going to study at and then be able to do that but make sure you have free time to be able to do other things as well. (Sullivan)

Kieran knew he was good at critical curiosity and needed to work on his learning relationships. He had insight into his difficulties as an immigrant who arrived in the country with little English four years ago.

Probably work more with people, like work in group, communicate more, probably discussing things or just get involved in group....

Asking questions to teacher, or answering.... I don't know how to explain things. (Kieran)

Honor felt she had learnt a lot about herself from her ELLI profile and resulting discussions.

I am more confident in the stuff that I do. Like outside of school, like inside as well. I was quiet like when I was talking to other people, I would say I was more talkative now. (Honor)

4.4.9.4 Areas for development

In September both of the form classes completed a questionnaire administered by the AFLM reflecting on the year and their areas for development. Responses were anonymous.

There was a wide range of responses. Students identified that they need to work on such things as their handwriting, working in groups and specific subject areas.

Working in groups, if someone has a different idea I get annoyed.

My areas is take some time off and look back in your book.

Science, I just need to get better. Maths I am just not good with numbers.

Handwriting

Many responses were around focus and the need to avoid distractions.

Sometimes I find it hard to commit myself to studying after school or working while others distract me.

Focus, talk with friends.

Concentrate more, not to get distracted too much, doing your homework every night.

Focussing for a long period of time. Keep trying when I don't get it.

A number of responses referred to asking for help or asking questions in class.

I want to ask more questions in class.

Asking questions for help when needed.

[I] don't ask for help when needed. Find spelling hard.

A few responses referred directly to the ELLI dispositions and the students' areas for development.

Resilience because I always go off task and always give up when it's hard.

I have some creativity and imagination and the will to learn more.

Resilience because I tend to give up easily. Also creativity because I tend to not think outside the box. I also need to work on asking for help.

I want to learn how to make better connections

4.4.10 Summary of events in Phase II: Waiting for the Platform: 2012

Table 8: Timeline for Phase II: Waiting for the Platform: 2012

sh	Date	Event	Who	Details
2012	10 February	Planning meeting	Two of the intended four form teachers, AFLM, researcher	Initial plan for the first term.
	16, 23 March	Individual student interviews x2	Two students, researcher	Approach to learning.
	26 March	Form teacher interview	Form teacher	How she has used ELLI with her classes.
	27 March	Progress conference day	Whole school	Meetings with form teachers, students, parents and caregivers.
	30 March	Small group interview	Two students, researcher	Approach to learning.
	26 April	AFLM interview	AFLM	ELLI Journey, barriers, goal setting, PL in the school.
	30 April, 9 May	Dean interview x2	Two year level deans, researcher	Goal setting, ELLI.
	10 May	Form Teacher One interview	Form teacher One	Conference day, goal setting, MyPortfolio.
	June	Form class observation	Form Teacher One, Form Class One, researcher	Form class using MyPortfolio.
	16 August	Brainstorm meeting	AFLM, Form Teacher One, mentor, researcher	Where are we at with ELLI and where do we go?
	31 August	Form Teacher Two interview	Form Teacher Two, researcher	How ELLI used with form class. Goal setting. Educational change at the school. Culture of learning, NCEA. Systems to support learning.
	10 September	Form Teacher One Interview	Form teacher One	How ELLI used in form class, hopes and barriers. Ed change in the school. Culture of learning.
	September	Student questionnaire	Form class x2, AFLM	Learning review, reflection back over year: strengths, areas for development, challenges, enjoyable learning.
	26 September	Group discussion	AFLM, seven students, researcher	ELLI profiles, goals, form class activities, learning, managing self.
	28 September	Individual Interview	One student, researcher	Change as a learner, what motivates.

4.5 Phase III: A new start? 2013

At the beginning of 2013 the platform appeared to be stable and it was decided to start a new, mini trial. The intention was for the students from the two original Year 9 form classes who were now in Year 11, the first year of formal national assessments, to have their profiles taken, a new programme negotiated by the form teachers and the AFLM undertaken, with final profiles being taken at the end of the year. Although the platform was now functional, the providers were still unable to access the previous profiles from 2011 which would have enabled a direct comparison to illustrate any changes that had occurred.

After a significant amount of administrative and financial negotiation by the AFLM, with money paid in 2011 for profiles not completed, being refunded, and renegotiation of a change in system to requiring direct negotiation with the platform provider instead of the link being through another school, the new mini trial was initiated. New profiles were finally taken in April 2013 with the two Year 11 form classes.

A number of planning meetings were held during the year, in April, May and September. A number of actions were proposed and agreed. However, very little action ensued for a range of reasons. Initially an Education Review Office (ERO) visit to the school meant staff were busy preparing for the visit and students were in their first year of formal external examinations and much of the focus for students was on preparing for these assessments, limiting the time available for ELLI.

4.5.1 Form teacher meeting to plan way forward: 5 April 2013

The AFLM held a meeting with the form teachers and me to reflect on the situation, refocus the group and plan the next steps.

So, the ELLI platform is up and running, and we have done a wee test run with five kids and it all seems pretty straightforward. Just

letting you know the background to it, basically we got our money back from [the other school] who we were going through and we are now about to send off the money to [the new provider] directly, so that we can run the whole process through them. Same thing, but there is a lot more on the website now, and it looks actually like they are starting to get their act together. (AFLM: 5 April 2013)

The AFLM was keen to support the reintroduction of ELLI and make direct links with students.

While I think we have done a little bit we haven't done much, so if we get the profile done again next week then we will dive in to actually doing some stuff, and making it work. I will just put out there, that my goal for myself in this role is to get out into classrooms and support the use of data, the use of assessment for learning stuff and information out there in the classrooms, so I am trying to, basically I will be promoting ways of doing that and I see this as a really useful way of doing it.... We will come and do some form time stuff. It will just be a reminder really, of what it is about, and what their learning profiles have shown about them and how we can, what we can use profiles for, the areas for development and so forth. And then what I would like to do is actually go into their classes and see if I can be working alongside the teacher to talk about the kids' strengths and areas for development. (AFLM: 5 April 2013)

The AFLM explained how the new profiles might be compared to the ones done in 2011 and to ones done later in the year.

At the moment they can't find the data that we did through [the old portal], because they have changed the platform, but we still have the hard copies. So, the profile itself hasn't changed, the printout is very similar, so it may be for the kids who we have still got hard copies for, we can look at shifts from then 'til now, but certainly from

now, if we did like a two terms worth, at the end of that two terms we will be able to see if any shifts have occurred. (AFLM: 5 April 2013)

Thought was given as to how to use the new profiles and where the students would be in their thinking.

We need to think about what it might look like. Because [Form Class One] has done a bit of work on what the dispositions were and how they could work on improving them, but [Form Class Two] hasn't done that, so I think we need to have a bit of a work on this together. I think even going back to it for [Form Class One] will be really important and I also wonder about that coming to grips with what's meant by those words, you know, what is critical curiosity, what does it look like, how does it affect me, what does this point on the line mean in terms of my critical curiosity and then what does the understanding of that mean in terms of my learning and my success and my improvement...

...The other thing that I had been thinking about was the timing of the profiles. So, because we are paying more money again we can get two profiles out of this. So the first one, if we've got it, it would be good to compare it to, but some of the kids didn't get it anyway, but if we get the two... I think we need to get the first one done this term but we need to get the second one done three or four weeks before senior exams, in Term 3. So that they can use what they have learned and then recognise any shift in their dispositions and then apply that to their exam prep and their thinking about exams and then their actual success in NCEA at the end.

That timing would make best benefit of it given that the students are now Year 11, we don't have them in core classes and we can't work that way anymore. But they have had some look at the ideas, so

they have got something that has been, hopefully a little bit brewing in the background.

I think that we need to have a think about how we can best use that information now, once we get the profiles, think about what can we actually do in form classes, what can you do, what can I do, how can we support each other, is there somebody that has got a real handle on it from [Form Class One] that could talk to [Form Class Two], I don't know, there is lots of different things we could do, going back to the booklets and looking at the strategies in there, coming up with symbols, I think there's the two sides to it. There's coming to grips with what the dispositions mean and internalising that, and then how can I affect that disposition, what can I do to improve my resilience, critical curiosity, meaning making, or whatever. (Researcher: 5 April 2013)

Form Teacher One described what she had been doing with her class and how she had an idea about how she may bring the students' new ELLI profiles into it.

I have got to say I have come off the boil a little bit because it was difficult to see how we were going to measure it, so I haven't really pushed it, but now with my goal setting that I am doing at the moment, what I am going to try and do, one of my goals was to make sure I reviewed in six weeks' time. And I was going to try and sit with groups of two, because I have buddied them up, they have got to have shared their goal with somebody else in the class, so they are going to come up with their buddy and talk about what progress they have made, and I am going to try and get the buddy to talk a little bit about what progress the other person has made, what they have seen, from their sharing.

So I am not sure whether I can try and bring the ELLI stuff in as part of that. And seeing perhaps, once they have tested themselves, well

okay, if you are low on resilience how is that impacting on you achieving your goal. And what are you going to do about your steps to achieving your goal that will improve that resilience aspect or whatever it is that they are lacking. I am thinking possibly that's the ways I am going to go with it and keep it as part of the goal-setting process. (Form Teacher One: 5 April 2013)

The AFLM considered giving the students a handout and putting up the posters again.

AFLM: I thought what I would do is get a handout just describing the whole thing a little bit again about the dispositions, what it looks like to be a creative learner and all that sort of thing. So that we have got some idea of what we are talking about and I know you've got... have you still got the posters up on your wall?

Form Teacher One: Yep.

AFLM: So we will make sure you have got posters.

Form Teacher Two: I have got them up, a couple have fallen down, but I have had them up all the time.

*AFLM: Great, so we have got the visuals up on the wall to refer to and then, yeah, that's a really good way to draw them back in.
(AFLM, Form Teacher Two: 5 April: 2013)*

Much discussion ensued about when to take the profiles. Since the computer system was slow it was not possible to take them in a form time of twenty minutes. Now that the students were Year 11 it was not possible to take them out of subject classes. In the end it was decided to take them out of core PE, a compulsory no-examination class, where possible.

It was decided to get the profiles completed and then look at the next step.

There was a lot of discussion around individual students and their learning, and their learning difficulties.

4.5.2 Profiles taken: 17-19 April 2013

The profiles of both form classes were taken before the end of the first school term in 2013. The first group of students completed their profiles during their period of extra physical education, the rest were followed up in form time, which ran into the last period of the day for some students.

When the profiles were received the provider had made an error with their representation. Figure 14 shows Agnes' profile printed immediately after the assessment was taken. Figure 15 shows the same data for Agnes's April 2013 assessment printed in 2014 following a further change in provider.

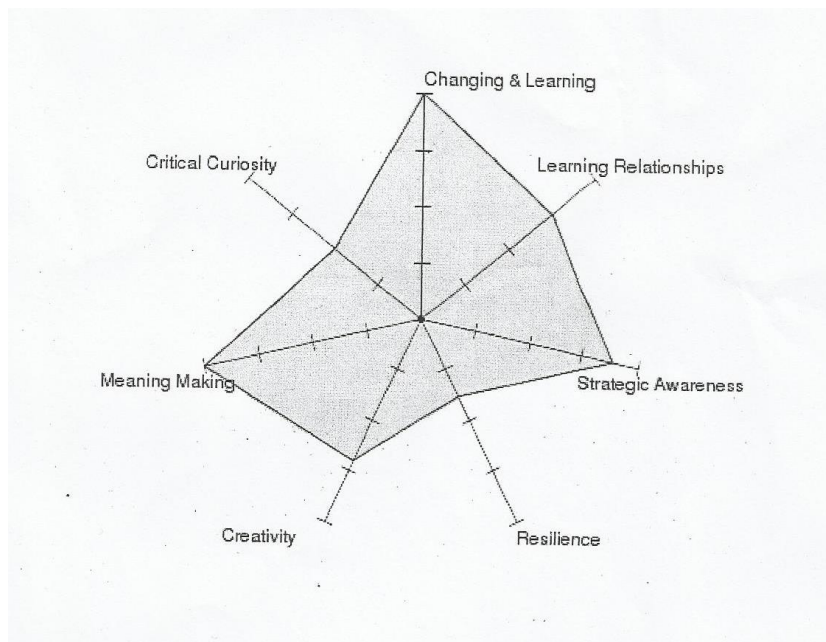


Figure 14: Agnes' profile of April 2013 printed in April 2013

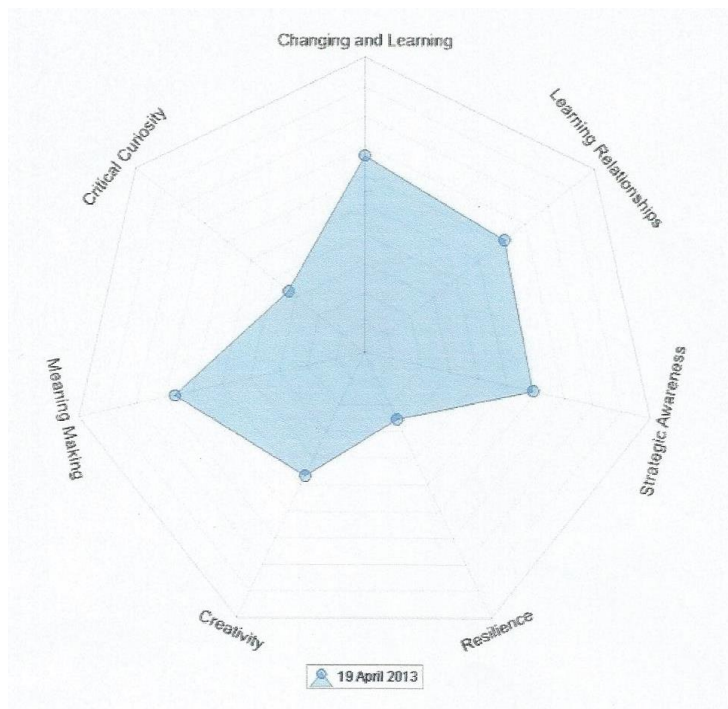


Figure 15: Agnes' profile of April 2013 printed in 2014

As can be seen, the scale of the two profiles differs. The first profile has the dimensions of changing and learning and meaning making on the maximum possible level of the scale. The second profile has a point on the scale at 66.67% for both changing and learning and meaning making. This student would have believed that her meaning making and changing and learning dispositions had no room for improvement. Neither the students, the staff nor the providers were aware of this anomaly at the time. As the error was not discovered until the following year, students were not made aware of it. It is not possible to say how much this error affected students' understanding of their learning abilities. Students who had one or more learning dimensions at the maximum of 100% would not have experienced this error.

4.5.3 Planning meeting: 29 May 2013

Students' profiles were shared with the form teachers and discussion ensued around specific students and their learning dispositions and how they may have changed. The idea of setting up a googledoc was explored.

Form Teacher One reviewed what she had done in the previous year.

There were some strategies in the book that they could do, I photocopied the page for each learning area and we looked at some of the strategies and then they started talking about things that they would try, and they developed, I did like a little poster type thing with the strategies on, and we had them up on the wall. So they did that sort of thing last year, but we could do with developing that a little bit more really. (Form Teacher One: 29 May 2013)

The AFLM suggested focussing on one dimension, and developing a googledoc with the associated suggestions accessible to students from their devices.

One way I was thinking we could start to share this information, rather than photocopying stuff is do something where we have shared documents. So we collaborate even in a googledoc, because I am thinking of things that I can do to set the thing up. So if we had a googledoc focussing on resilience, I could have scanned in some of the suggested strategies for resilience and then invite the students to contribute to the googledoc, so we sort of grow one as a whole group, either that or as a form class group.

The thing I like about a shared googledoc is where they do contribute what they have done.... It kind of starts to become a record of how they have trialled something. And if it works really well, ...then the kids are going to jump on board and have a look at what other people have, and every time someone has added something to the shared googledoc then they get an email and they can start to collaborate around it. Because as you say, form time itself, you can do the discussion of what it is, and do the thinking about it, but you haven't got a lot of time to revisit. (AFLM: 29 May 2013)

The AFLM acknowledged the importance of learning conversations.

I don't want that to be the focus of it necessarily, the most significant part of it will be your conversations, our conversations with the students as we are talking about their learning, and for me this gives you a bit more information to actually have that discussion. But I am just thinking of ways to manage the whole process so that we don't lose traction, we've had such an up and down time with it. (AFLM: 29 May 2013)

Form Teacher One was concerned that it would be difficult to get her students to write in form time.

I do have a little bit of a concern with the googledocs thing because I know some of my kids just hate writing about what they have done. So they don't like adding to it or writing to things, because when I have done it before, for instance I have done MyPortfolio and asked them to contribute something to their curriculum vitae they struggled to want to write it down. Talking about it, some of them are great, but to actually write it... (Form Teacher One: 29 May 2013)

It was suggested focussing on each disposition one at a time with the students with a range of strengths placed in small groups.

Researcher: You could organise them in groups, so that you had a really weak one and a really strong one and an average one, for that particular dimension and then shuffle them up each time so that one: they would work with different kids, but two: there were different perspectives on it, because some would be really good at it and some would not.

Form Teacher Two: I like that idea of having someone strong and someone not so strong and sort of sharing those ideas, because I think that's where it really makes people think about it, gives it the power.

It was agreed to trial this strategy. I agreed to estimate the strength on each of the dimensions and rank them so that the form teachers could group them accordingly. There was discussion around which dimension to begin with and when the strategy would get underway, with form times being busy with various assemblies and other events. The AFLM agreed to put the learning power ideas from each of the dimensions identified in the *Learning to Achieve Handbook* (Small, 2010, pp. 53-59) onto googledocs for students to access.

I also raised the question of developing symbols for each of the dimensions, a suggested strategy from the ELLI developers (Deakin Crick, 2006). This strategy had been found to be a particularly useful way of getting the abstract concepts of the seven dimensions across to a range of learners by engaging them in what they mean and how they can develop them in their learning (Small, 2010).

The other question I have is the symbols, I just thought that putting it to the kids just might, well I think if you can come up with a symbol it does help the kids relate to it and remember what that dimension is about, especially if the link is obvious as opposed to tenuous. But the kids have got to come up with their own, it has got to come from them for it to make sense, but it could be part of what the discussion is about. (Researcher: 29 May 2013)

There was discussion around possible symbols, including exploring images for the dimensions on line.

Agreement was reached to work with each dimension as a form class in mixed groups with googledocs set up with resources for the students to access and to record their ideas.

4.5.4 Action

I estimated all values for each dimension for all students in the form classes, ranked students on each dimension and forwarded the lists to each of the form

teachers. The Education Review Office (ERO) visited the school in June and teachers became preoccupied with preparing for the visit and did not carry out the agreed group discussions.

4.5.5 Planning meeting: 10 September 2013

A meeting was held with the two form teachers, the AFLM and I to plan how to use ELLI in the final weeks of school. This meeting occurred during the school examinations where senior students sit assessments, largely practice external examinations.

With only five weeks of school time before their final external examination period the focus was on preparing the students for these examinations.

AFLM: I could have a useful conversation around study, and what they did to prepare for exams and how aware they are for their areas for development in relation to the tool, and did it impact on their thinking. So it wouldn't be a particularly in-depth thing, it would be a bit of a snapshot around whether or not it made any difference basically.

Form Teacher One: I was thinking of doing a similar thing with my form group, just getting them into twos or threes and having some questions that they can reflect on as a group, just doing it as a discussion between themselves. So they could talk about, "What did you do? Great. What didn't you do? What will you do differently?" Have it so they can just talk to one another. So I didn't have to monitor everything, it wasn't with me. It's just about them having a bit of a think time. I might do that next week and repeat it perhaps the following week to see if it is any different once they have got their exam results back. Do they feel any different, and if seeing their exam results make them any more determined to do better? (AFLM, Form Teacher One: 10 September 2013)

As Form Teacher Two was going to be away the following week, the AFLM suggested having a similar discussion with Form Class two.

Why don't we plan to go into [Form Class Two] next week ... we could go in and do the discussion. They could do the discussion perhaps one form time and then the group discussion around the specifics of the tool. We just want to get them coming back to what the tool has indicated and what they need to think about in relation to themselves as learners, that's key. (AFLM: 10 September 2013)

It was suggested that the students first complete a brief questionnaire to get them thinking about their study skills and examination preparation in relation to their ELLI profiles. Form Teacher One had found that students in Form Class One were reluctant to write anything in form time. Writing was equated to work, and form time was not meant to be 'work' in their eyes.

If they have to write something down they won't do it. Mine really, really don't want to write things down during form time. They are happy to talk, but they don't want to write, because they don't want it to be like another lesson. We could get some flipcams, they don't have to be on their faces to hear what they are saying, just stick it in the middle of the table and listen to what they are saying...

...I have found that's been a real issue, writing. You know when we did that writing on the computer, they were like ooh, I don't want to do this, but they don't mind talking about it, they love talking and it just might be easier. We will try it, we'll see. I will give them the option, say if you want to note anything down, then do it, but if you just want to talk. (Form Teacher One: 10 September 2013)

It was suggested that strategies for each learning disposition would be copied onto laminated sheets for the students to access, either in groups of students focussing on a particular disposition, or if the whole class was focussing on one disposition, enough so that there would be one for each group.

Form Teacher Two: They would know already, because they have got their profile, they will know what they have improved in, and know what an area is that they want to work on, therefore you could have them strategically around the room, and they find the area they want to work on. (Form Teacher Two: 10 September 2013)

Discussion ensued around specific suggested strategies such as for resilience. Such as: "Ask your teacher in advance for the criteria by which your work will be judged. Try assessing your own work before it is marked, so you become gradually less dependent on external judgements" (Small, 2010, p. 57).

The AFLM pointed out that assessment criteria was an area for development in some faculties.

It is one of our areas for development in some faculties, that kind of thing. That the kids actually have explicit knowledge, I mean I think they are given the criteria, but they are not necessarily given the explicit unpacking of the criteria. (AFLM: 10 September 2013)

The AFLM was asked about the possible future of ELLI in the school.

Is this going to be something that we are going to implement for Year 9 and 10s? (Form Teacher Two: 10 September 2013)

Responses from the AFLM and I indicated that there was continuing interest even though there had been no significant results from the trial to date.

Because we talked about [ELLI] being a really useful thing for Year 9s and 10s. Basically, at the end of this, when we kind of finish, when this group goes off to do their exams, we will have finished this trial per se. Then we have to have a look at what we have accomplished and whether or not the tool has helped us to hone in on our conversations around learning. (AFLM: 10 September 2013)

And also, recognising all the weaknesses of the trial, taking all that out of it, is what you guys actually think of it, because that's a big

thing as to whether it [would be useful]. I sort of feel like the whole thing has been a disaster, so we haven't actually proved that it's going to be useful but I still come back to the basic premise that it's covering all of the areas that we really want kids to be focussing on. We want kids to leave school with these things, if they are strong in those things, they will automatically then come out with the qualification, if this comes first. And I think, as a school, as a philosophy, focussing on the learning dispositions instead of the qualification would actually be really, really productive. But I don't think anything about the trial is actually going to tell us that because we haven't done it in an effective way. So I actually think that the data that comes from you will be significant, because of the development of your thinking around it. Do you think it would be useful for Years 9 and 10? (Researcher: 10 September 2013)

The Form Teachers were positive about implementing ELLI into the school in the future. Form Teacher Two felt it important to move beyond the academic assessment focus; Form Teacher One recognised that strengthening the ELLI dispositions would lead to higher level thinking and therefore higher grades in assessments.

Form Teacher Two: Yeah, I do. I do, I think we have got to get away from the assessment focus. And they are driven by that by parents, and if we are going to be looking at Achieveds and Merits and Excellences at Year 9 and 10, you just put that at the forefront of their mind rather than some of this other stuff.

Form Teacher One: I guess it's a problem that is inherent in the exam system really.

Form Teacher Two: It's about things like resilience, willing to learn. School [and] parents suddenly become driven by that [exams], well, National Standards, clearly now in primary schools and Intermediates have changed that.

Researcher: But if you come back to all those criteria somebody had before of what employers want, that big long list of what employers want, it's all in there, there is one little bit towards the bottom which says a qualification in this area.

Form Teacher Two: I am with you, it was in the NZ Herald one holiday I read it: develop relationships, open to new ideas.

Form Teacher One: That's why kids get really frustrated when you say I can't actually teach you the excellence, in terms of the content, the knowledge of it, it's about how you apply it at excellence. So I can't teach you how to do that, but we can practice using some skills that will help you to be able to do those things. There is not one thing per se for you to be able to achieve excellence, this is the way to do it, this is the route, follow this route all the time and you will get excellence because it doesn't work like that, in any subject. And that's what we are trying to teach them some of these skills, to be able to go and apply them to get those excellence grades, the extended abstract thinking.

Form Teacher Two: I think this ties in very much with the key competencies, it's hand in hand isn't it. (Form Teacher One, Form Teacher Two, Researcher: 10 September 2013)

The likelihood of using ELLI in the school was further explained by the AFLM:

We are going to be renewing our Strategic Plan, we are going into a consultation phase, and we are getting ... an outside guy, to come in and get us thinking what it might look like and how we might do it. So we are going to be consulting everyone on the strategic plan and I think at that point some of the direction for the school needs to be, we need to be thinking really hard about where we want to be and what we want to be doing and focussing on it and some of that needs to come through in that strategic plan. ... at that point there

will be some opportunities to then advocate for things like this as a result of that renewal, that rejigging of the strategic plan. (AFLM: 10 September 2013)

4.5.6 Form Teacher One reflection: 23 September 2013

In September 2013 Form Teacher One reflected on her use of the students' ELLI profiles. She had used the information on students learning dispositions to help them reflect on their progress, trialled a googledoc to share strategies and to help students with their revision strategies. She raised a number of interesting observations, particularly, the difficulty of only working with the ideas in form time, trying to work with a large group in a limited time. She recommended introducing ELLI at Years 9 and 10, and extending the concepts to curriculum areas.

Most of the things I have been doing have related to reflecting on goals, tracking progress, and revision. Not so much whole class activities but more picking out specific students who I have been trying to keep an eye on. (Form Teacher One: 23 September 2013)

Form Teacher One recognised that the most useful aspect was reflecting on goals, and their ELLI profiles gave a useful overall picture of students' strengths and weaknesses.

I suppose the most beneficial part is when I have been looking at reflection on goals and talking to students about how their goals are going and what strategies they have tried to achieve, what hasn't worked and then trying to connect that back to their ELLI profiles. They do struggle to remember what is on their ELLI profile, what their strength is....

...Some of the questions I asked them recently after their recent exams were: "What sort of study have you done?" and, "Was that different for different subjects. Did you have a different approach?"

I also asked them things like, "What would you change now that you have done these exams, what would you do differently for your real exams at the end, for your finals? Will you change something? What feedback did you get? Was the feedback different for different subjects? What feedback did you value? What was useful from the feedback? Do you know what you are going to do next? Have you got a priority list?" I also talked to them: "Have they changed in their study habits? Have they changed themselves as a learner? Do they think they are different now compared to what they were at the beginning of the year?" "What are you aiming for?" and, "Is it achievable?" And I think one thing that has come out of those particular questions is that students now seem to be doing more planning, or at least they are claiming to be doing more planning. And they are trying different things, reading and writing out notes.

The other thing was about asking questions, so when they get their feedback, do they ask people for help, do they question the feedback. And that was quite interesting, so you get some students asking what should I do next from some of their teachers, but I think some students don't do that and I think it might be because they are just not confident enough, maybe. (Form Teacher One: 23 September 2013)

Form Teacher One trialled using googledocs but found it very difficult to motivate students to write things down in form time.

One of the things I did try was using google documents and looking at the different aspects, different learning tools within ELLI and asking students to look at those and to add to a googledoc about things that they have tried as part of their learning and their study over the year. That proved really, really hard to do. I think it was because it was a whole class activity, and also it was at form time....

...There is also the novelty factor of putting something on a googledoc and seeing somebody else type something as you are looking at the screen. I think that was a bit of a side-tracking issue. So that was a bit of a thing for them to try and deal with and for me to try and overcome as well, so, technology aside that was a bit of an issue. (Form Teacher One: 23 September 2013)

Form Teacher One suggested that one of the reasons students had trouble remembering their strengths and weaknesses is because the students were only exposed to them in form time.

It's quite interesting actually that they tend to remember their weakness, and I guess that's something we all focus on I suppose. I suppose we all focus on our vulnerabilities and the things that we are worried about. So maybe that's the reason why, but they do struggle a little bit to remember what's on their ELLI profiles and I think possibly part of that is due to [the fact that] we are not always referring to them. And using the language that surrounds the tool, it's just not a common language and it has so much potential to be a universal language really, but I guess because we are doing it on such a small scale and in such a limited way it's preventing that from happening. (Form Teacher One: 23 September 2013)

Form Teacher One recognised that students were passive in their learning and was concerned about their lack of higher level thinking skills which are needed to reach the merit and excellence level in assessments.

It's been quite interesting how still they're quite passive in their types of learning rather than the application style of learning. It's almost like, "I have got to take notes." "I have got to remember lots of facts and figures." ... I think that it is quite important to have your flash cards with all your facts and figures and things and so on, but how you use those facts and figures and how you use them to construct and answer or solve a problem, that, from the

conversations I have had, seems to be quite lacking. Maybe it's just the students I have spoken to, because obviously I am only speaking to small groups of students at the moment. I can't hear everybody's opinion, maybe it is different. But what I have picked up is that the application side of things is a thing that is challenging most, and I think that is because it's hard to apply your knowledge. And I think that's where the excellence aspect comes in a lot more as well, so that's probably why it's more difficult. Interesting....

...So for some students it has been quite a useful thing really, they have looked at it, they have taken it and thought, "Yeah, I am going to try this," and that's more about them having the get up and go to do that. There are other students who just see it as "something else I've got to do." And that's because they are quite passive learners in many ways and they want to try and do the easy option. But I think where some students have now discovered that actually learning isn't easy, it can be a mission and it does take that effort. And I think that's one of the things that can be difficult for some students to take on board with the ELLI, that actually the learning how to learn is also an obstacle to overcome. And it's almost like a new subject for them. But eventually, as they become better at it they start using it intuitively. (Form Teacher One: 23 September 2013)

Working with a whole form group in a short period of time was a key barrier.

This is a two-fold problem really. I think sometimes some of these reflection activities work much better on a smaller scale with small groups, and maybe just two or three students working together in a room. I think it's really, really hard to do a reflection when there are so many people in the room and some of them are motivated to have a go and others aren't....

...I think the reflections side of things is really, really hard for the students to do, particularly in a large group. I have found it so much

better to be in a smaller group or to talk one to one with students because you can target the questions or elaborate a bit more specifically on how the students are learning.

I think sometimes when it is done as a whole group it comes out as being a bit generic and I am not sure how that helps other students to learn from each other necessarily. When I have had a couple of students together and we have talked about, "How have you done and what have you done differently in terms of your study?" and, "Why did that work well for you?" and then other students listening to that because there is a focus for that group and somebody's leading that group and leading the discussion or chairing the discussion if you like, it's taken more seriously and it's more productive. So I am finding sometimes doing some of the ELLI things in form time not as productive. (Form Teacher One: 23 September 2013)

Year 11 is a challenging year with a focus on NCEA. In addition, no classes are shared with the form class as a whole and form times are particularly busy.

Now in Year 11, they are seeing [form time] as a time to just let off steam a little bit, [they] don't want to do anything too structured during this time because they are having such an intense time in lessons with their study. I think form time is that chance for them to go, "Oh, yeah, how are you doing?" and catching up with people in their form group, because they are quite a social bunch, my group. And with them all doing different options, that form time is important to have as a "let's just catch up a little bit," and sometimes thinking about their learning because they are thinking about learning all day. You know, it is a difficult one to get them to focus. So yeah, I have found it quite hard really....

...Again it's helping students understand it and reflect upon it. I think that's been the biggest barrier and having the time to do that and

developing the language. Form time has been really, really busy with lots of different things, with all the mentoring groups that are going on, and students being out for different reasons. And it's difficult to get that continuity going. It would be good if it was used within lessons and not just within form time. I think the form time perhaps is a great time to do some reflection with some students, not with all students because my form group is just too big for me to be able to fit that in, plus all the other demands that being a form tutor has on your time in that slot, especially with the administration. (Form Teacher One: 23 September 2013)

Form Teacher One acknowledged that it was difficult for students to relate to the dimensions in form time only without the links being made to curriculum subjects. She also felt that for ELLI to be successful the language and discussions should be coming from the curriculum teachers as well as the form teachers.

The background into the ELLI and how to understand it and make sense of it, that's still a very difficult thing for some students to understand because they see it as something else, aside to their other subjects that they are taking. Some of them, not all of them this is. I get the feeling that some of the kids find understanding it and the language of it quite tricky because it seems to be set apart. I think if it was within a subject and you could see how these different aspects related to different subjects or how they could be used in different ways. I think the students would see it integrating better, but they see it as an add-on, which is quite interesting...

...So I think maybe more people using within their teaching I guess, and their delivery making reference to it would then start imprinting it on people's brains and using it as that common universal language of learning...

...It would be good to pick out some of the learning techniques from each of the aspects of the tool and seeing them being used and referred to within subjects. I think that would be a really useful thing. Particularly as I am no expert in certain subjects and how I could make it work, and because I don't use it myself regularly, I use it within maths a little bit actually, but I don't see how other people use it within their subjects. So it would be great if other people from other subject areas have some sort of input on it, I guess, to be able to see how it could be used....

...I think it has the potential to create, I have said this before, a universal language of learning. But it just needs to be developed beyond this small group, really, and seen in different situations, seeing how it applies in different situations. So I can see the potential benefit of it, and I think it's a really good way of sharing information between people as well, as in between teachers and parents, or between students. I just think the visual of it is really, really good and the backup ideas are really, really interesting. They just need to be developed a little bit more and time given to work upon different things a little bit more. I think that's what needs to be changed. (Form Teacher One: 23 September 2013)

Form Teacher One felt she was lacking the expertise needed to lead the ELLI journey for her students and found it difficult to focus on the specific language around ELLI while also working with other strategies the school was using.

It may be needed to be more directed and taken into a particular area and personally I just don't think I had the expertise to be able to direct that enough because I was learning how to, I was learning the language of ELLI if you like, and what that was about and trying to make it apply to the things that I do in my lesson. I guess that's one way I've been learning.

*I have been trying to use some of the approaches within my lessons in terms of how students study and learn and how I teach and the things that I ask my students to do, to try and sort of demonstrate these skills, but obviously I haven't been using the language of ELLI within my lessons, because it's not something that's common to all my students.... It's a language I should really try and sort of share perhaps a bit more with my classes. But it's quite tricky with all the other things like the SOLO taxonomy and the Blooms and the Thinking Hats. There is so many different ways of describing things I guess, it makes it quite hard to know how to focus that language.
(Form Teacher One: 23 September 2013)*

Form Teacher One recommended using ELLI in the junior forms and with the mentoring groups.

I think it's something that needs to be started much earlier, in Year 9 and in Year 10 and how it relates to perhaps homework and independent study and revision techniques and all these different things, it just needs to be incorporated a little bit more within that. So I would recommend its use in the future. I think there's a lot of benefits, there is a lot of ideas there for students to take away....

...I guess [it has potential] with some of the mentoring groups themselves, with the mentoring system that we have got in school, I can see how incorporating it into that would be a really useful thing. It might be something that mentors could use as their common theme, and helping them to help students to reflect on their learning and to try new things. And then talking to them and reporting back. That's probably the most ideal situation really, in terms of school, in terms of how we could incorporate it. And also, I guess with some of the peer mentors as well, and helping them to take some of these ideas forward and delivering it so it doesn't just come from teachers trying to teach students how to become better learners, but also

recognising that some of these things are what people do innately and so getting the peer mentors to share this and to perhaps develop the language so that they can work with others on it...

...I am a little bit concerned that by trialling it as we are, it's really hard to trial something because you then become in isolation. You haven't got all the rest of the staff talking about it and using the language. You never know who is actually going to hook onto it.

But it's something that is catching, you know, that if people start doing it, people start talking about it then people say, "What's that?" If it's only done by a small group, you don't have that infectious nature and it is not going to expand that fully. That's something I hadn't foreseen. I hadn't thought through properly beforehand. I believe in the concept of trialling something and can see how it works before you go ahead with it but I can see how it would be much more effective if the whole of Year 9 did it from the start rather than a bit of Year 9 and a bit of Year 10, do it across one year level and all of the teachers of Year 9 would be part of it and so on. (Form Teacher One: 23 September 2013)

Form Teacher One valued the information on the profiles but saw its use more with small groups.

I think it gives them a really nice overall picture of potentially of what it's about, where their strengths and weaknesses lie, and how they connect...

...I think that the hardest part of this whole ELLI process has been the fact it's been the time really, and the size of the group and I think that they needed a little bit more sort of small group feedback and direction and maybe a certain, rather than a whole class sort of approach to it. (Form Teacher One: 23 September 2013)

4.5.7 Interview/Meeting with the AFLM 18 October 2013:

This meeting was held two weeks before the students in the senior school, and the students involved in the trial, left for their final examinations.

The AFLM reflected on learning conversations she had been having with some of the students. She also discussed the coloured cards with the suggestions for activities for study that had gone out to the two form teachers and to other interested staff members. The Year 9 dean had used them in his blog and in his year level assembly. The AFLM was looking forward to presenting findings from the trial to a board meeting in the following year.

Go back to the board and say: "Well the kids who were part of the group that you mentored, like the kids in the moderate needs group, and/or the kids who were part of the trial, there's about eight of them, they have benefitted from using their learning profile in this way." If we can go and argue that and we can think about how that might have worked or might have worked had we kept the tool going a bit more consistently and had the tool work obviously as well. But we could also look at some of the data we gather from, if there has been any shifts in the kids as a whole, like if the two classes have actually shifted. And I anticipate there might be some shift just through maturation, but there may not be, and it may be because learning is what it is, it's an evolving beast that actually it changes for better or worse. (AFLM: 18 October 2013)

The AFLM reflected on possible uses of ELLI in the future.

In my head it fits in nicely for next year to start to think about how we frame up junior education in an electronic environment and I think it would work in that. But at the same time you would have to start changing your timetable for junior kids so they had at least one to two lessons a week where they are actually looking at how they are managing their device and then looking at how they are

managing their learning. And I see those two things coming really nicely together. (AFLM: 18 October 2013)

The AFLM discussed the teachers as drivers of change in the school.

At our school we have got some people who are drivers, we have got some people who make suggestions, who can, through the various areas of responsibility they have, ...drive what happens a bit.

Sometimes I feel like the school moves in a direction because the professional learning people have thought about it and wanted to move in that direction. Other times I think it comes from younger members of staff who have got really good ideas, who can see the way they would like it to be and they make proposals. ... And at other times it is the SMT who are trying to make decisions around what they see as being sort of pedagogically sound direction. (AFLM: 18 October 2013)

The AFLM saw professional learning in the school as in an evolutionary phase to a phase where teachers drive the direction of their professional development, and take ownership for their learning.

I think we are in a what I would call an evolutionary phase, where we are about to hand over responsibility, it might not happen next year, but it will happen soon, we are about to hand over responsibility for professional learning to teachers.

We are moving away from the model where I have the answers, and I give you all the answers and I tell you how to do your job, to you looking around at what you are doing in your practice and you are looking to improve yourself and you are looking to find people who can help you with that improvement and with that change in your teaching practice to improve the learning outcomes, then the school will provide ways for that to happen.

A school-wide focus still overrides it, but the actual, on the ground, driver of the learning needs to be the learner. I think at the moment we are in a phase where some people see themselves as a learner, and they take professional learning seriously, and some of our younger people in particular, are very efficient and effective at reflecting on their practice. What the rest of us do, I say the rest of us, I don't mean the older ones, I mean more experienced people perhaps who, there are still people on the staff who I think wait for someone to tell them what to do. You know and so professional learning becomes something that they are subject to, and I want them to be the one who is driving that professional learning far more.

Whilst I think the focus group phenomenon is a very healthy one, I think the cross-pollination that happens is something that's very healthy, and I do not want to return into a situation where people sit in their faculties and sort stuff out, because then I think then we get isolated pockets of people who make no progress with their learning, they spend time marking and moderating and thinking about administration stuff. But I do see it evolving possibly into a situation where I say, in my professional learning, I would like to involve [two specific people] and I would like them to be part of my learning community and I would like them to be part of my professional learning. And so we, the three of us, would sit down in a scheduled way and discuss what is happening for me in my practice and one or two of you might come in and look at what I am doing and we would have an ongoing dialogue.

I think that for us to actually change our practice and learn as individuals, we need to take ownership of it. So what I really want is to find a mechanism for people to take ownership, and I don't want it to just be compliance driven. I think that in a smaller group people

will be more conscious of their own learning because they will be forced to regularly face up to other people. (AFLM: 18 October 2013)

And the AFLM's vision for the future:

We are on the cusp of change in education and ELLI is part of the future of that education. By that I mean not just the tool, the tool is only a factor in it, it's like doing a PAT. Learning dimensions are going to be part of where education is heading. Because we are going to need young people who are active participants in their own learning. And if we don't have those students as active participants, what we are going to find is that we have a society where people are simply absorbers of information rather than being critical thinkers of information. And we want them to be in a situation where they can read and understand the world and life in general and be able to work and participate in it to be happy and active and healthy. And I think knowing and understanding yourself is an important part of that. (AFLM: 18 October 2013)

4.5.8 Student Profiles

At the end of October, just before the students left school to prepare for their external examinations, they had the opportunity to complete a final profile. It was not possible to organise school time to co-ordinate the students to complete the questionnaire, consequently students were asked to do the online questionnaire in their own time. 74% of students in the two form classes completed the final questionnaire in October. Sofia's spider diagrams are provided as examples.

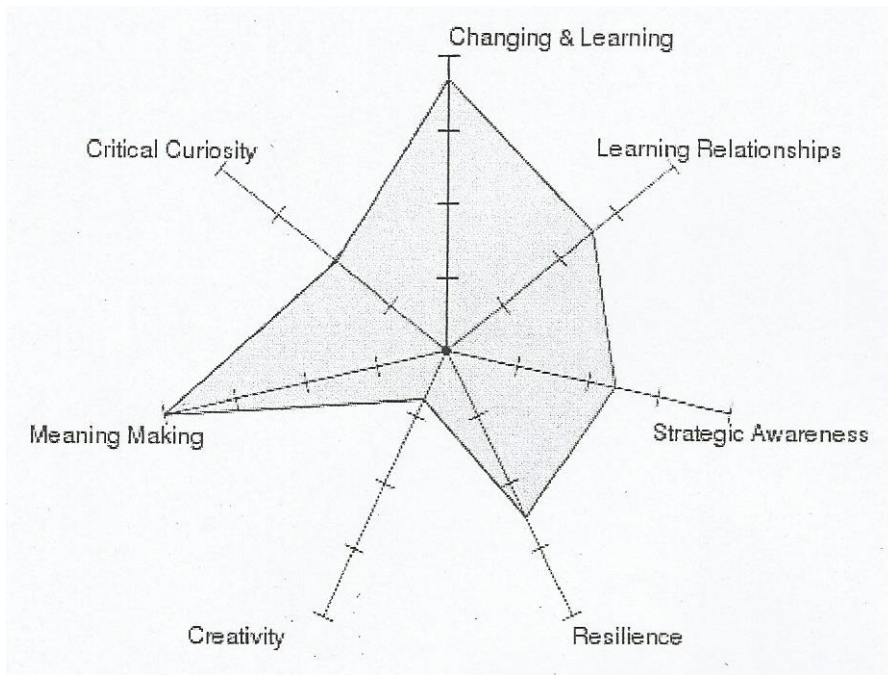


Figure 16: Sofia 17 April 2013



Figure 17: Sofia 17 April 2013 printed 2014

Note that the second spider diagram for Sofia's April 2013 profile indicated a near perfect score for meaning making, therefore there was very little difference between the two April 2013 profiles.



Figure 18: Sofia 29 October 2013

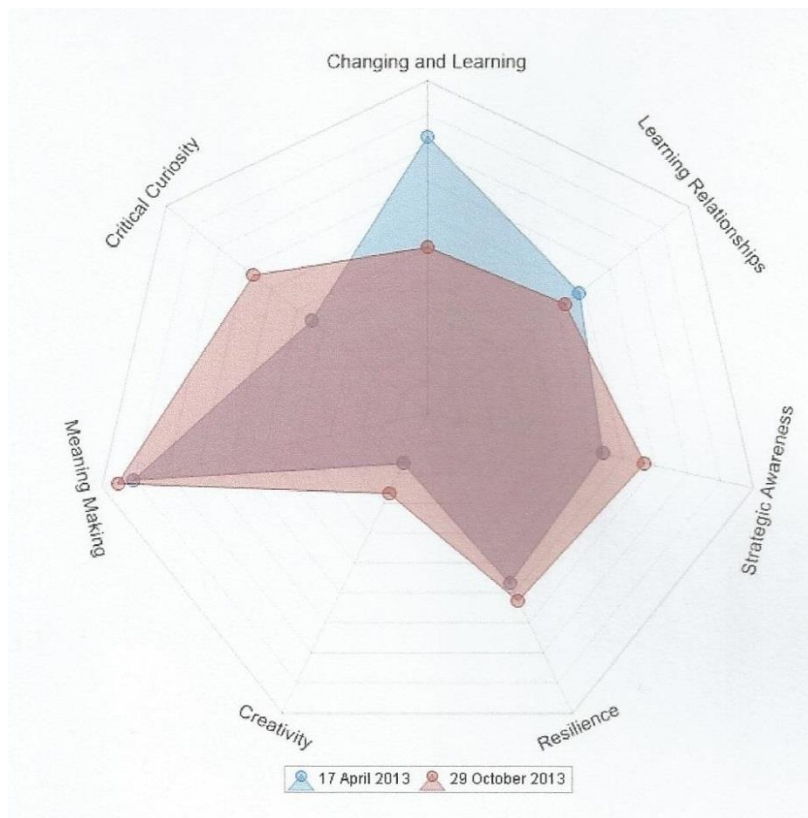


Figure 19: Sofia combined April and October 2013

These profiles provide the opportunity to see the profiles as the student's themselves and the teachers' saw them. As students look at their profiles they are given the opportunity to recognise the validity of the results, which means they will internalise their understanding of the learning dimensions and think about how they fit with them. Obviously the two profiles were snapshots of how the student related to the questions at the time. Their own reading of their profiles will take this into account. The final profile shows the two profiles from 2013 overlaid. This makes it very easy for users to clearly see any changes to the learning dispositions. For example, Sofia's profiles indicate that her changing and learning had weakened substantially, learning relationships slightly, but all other dispositions had strengthened, critical curiosity and strategic awareness significantly so. My interpretation of Sofia's profile was supported by interviews with Sofia. Her parents were immigrants to New Zealand and placed very high expectations on her academic achievement which she was determined to meet. However, she felt that she had little control over

her intended career which had affected her approach to changing and learning over time. Her goals had focussed on her creativity and critical curiosity and she had developed a number of strategies to support developing those dimensions. Of note also, is the fact that Form Class One has a seven percentage point drop in changing and learning from their November 2011 profiles to their October 2013 profiles, whereas all other dimensions had strengthened over the two year period. This change was not demonstrated in Form Class Two.

As the profiles were taken immediately prior to the students leaving for their examination leave for the year, no follow-up work was undertaken with the information the final profiles provided.

4.5.9 Principal's reflection: 8 October 2014

In a final meeting with the principal towards the end of 2014, he elaborated on his vision for the school, discussing school goals, student learning and priority learners.

For the principal there was a shift in thinking away from nationally referenced goals towards achievement goals targeted to the needs of students at the school.

It finally came to a head for me in our last ERO report, that when I was talking to them they said, "We all know that people do fuzzy stuff with their goals and things," and so when we start to set our goals from now on I want goals that are actually about our community of learners or kids if you like, as opposed to how they compare nationally.

So what we find is that our goal might be: "We want every student to write to level five by the time (they reach Year 11), so they can engage with NCEA." That's not a nationally ranked goal or anything, that's just a goal for us, for our kids. Or it might be that we want them to shift by two increments (in asTTle writing) per year when

we bring them in. It might be that we want to get all our kids through literacy and numeracy so they can at least have a crack at NCEA Level 1, because you can't get it without literacy and numeracy. That's not like saying, "Hey good job, we got 92% through and we were the top decile 9 school." It still means we've got 8% of kids we have got to work with. So there's a shift there that I am becoming more interested in. (Principal: 8 October 2014)

The principal recognised that it was more important to focus on broadening students' education to have the most impact on student learning rather than focussing on short term goals that may not be sustained.

They have found in the UK that a lot of people have been rewarded for turning schools around because they get very good results in the short term, but those that have abandoned all the high-stakes testing and taught kids properly, broadened their education, in the end of the day get the longest results that bring about the biggest shift. (Principal: 8 October 2014)

The principal was very aware of league tables published in newspapers and parents' perceptions of them.

At the end of the day you all know you are going to end up in the Dominion Post... You have got to shift parent thinking. (Principal: 8 October 2014)

The principal felt that teachers were effective learners, but felt that although students were improving, there was a tail of students lagging behind.

I think the staff, as learners, are highly engaged. I genuinely believe that there are whole bunches of people who are really engaging with their own personal learning...

... So the staff as learners, I think that's fine. Students as learners: how do you know whether they are learning or not without using the

traditional benchmarks of things like NCEA? On those things, I think we are still about where we have always been. But what we've started to find is (the AFLM) has been, all the work we've been doing with writing. There are clear shifts now that the kids are writing a lot better, they are better organised, they're using some words and vocab in context, and asTTle is picking all that up. (Principal: 8 October 2014)

The principal was pleased with NCEA results from the previous year, but recognised that boys were falling behind.

It was really exciting last year that for Level One, only six girls missed Level One and only six girls missed Level Two, I think that's pretty impressive. 25 boys missed Level One and 25 boys missed Level Two. And what will our goal be? I think ... there will be a shift to looking at boys' education. What motivates boys, how you get them engaged? Get them interested in their learning. (Principal: 8 October 2014)

The principal felt that poverty was the biggest barrier.

I think there's this kind of mountain (a Pacific Island group mentor) is pushing against.... Poverty. Years of kids slipping through the system. Years of different family values, that sort of stuff. ... I think poverty is poverty.

It is interesting, there was a slight shift in ERO. One of the questions now is: "How do you know who are your low socioeconomic students?" and you feel like saying, "What am I meant to do? Get them to tick an income band?" And that doesn't prove anything either because we have people on low incomes who are very proud of their children and still do really well with them. But I do think though, I don't think poverty is defined by ethnicity or culture.... However, I do think poverty is over-represented by priority learners

*such as PIs and Māori, I am not going to challenge that. But I think poverty is the issue, because we have also got some very smart, articulate Pasifika and Māori students in the school, but poverty is not an issue in those families.... but it is also parental aspirations.
(Principal: 8 October 2014)*

4.5.10 Summary of events for Phase III: A new start?

Table 9: Timeline for Phase III: A new start? 2013

	Date	Event	Who	Details
2013	April	ELLI profiles taken	5 students	Trial of 5 students who have successfully completed their profiles.
	5 April	Form teacher meeting	AFLM, two form teachers, researcher	If portal now working, where to from here?
	April/May	Profiles taken	Two form classes	New profiles were taken for the two form classes.
	29 May	Form teacher meeting	AFLM, two form teachers, researcher	Discussion on profiles, developing a new plan.
	10 September	Planning meeting	AFLM, form teachers x2, researcher	Brief plan. GAS goals established for ELLI process for the next 5 school weeks.
	11 September	Learning activity cards	AFLM, form teachers	A laminated copy of suggested learning activities for each learning dimension distributed to form teachers.
	7 June, 4 July, 10, 12, 13, 19 September, 1 November	Student voice	AFLM, eighteen students	Individual and small group learning conversation x8.
	23 September	Form class ELLI Survey x2	Two form classes	Questionnaire administered to form classes by KG on preparation for school exams and ELLI.
	23 September	Form teacher interview	Form teacher	Review of ELLI use.
	18 October	AFLM interview	AFLM, researcher	Planning, PL history, Process of change, future vision of ELLI.
11 November	Principal interview	Principal, researcher	Vision, PL, change.	
2014	23 January	Student interviews x5	Five students, researcher	Reflect on NCEA results and learning.
	8 October	Principal interview	Principal, researcher	Decision to trial ELLI, school culture.

4.5.11 Student Comments: 2013

4.5.11.1 Learning Conversations with the AFLM:

Throughout the year the AFLM had a series of learning conversations with a number of students. These conversations centred around preparation for assessment and revision strategies for examinations. She asked the students about their learning and their strengths and weaknesses on the ELLI learning dimensions.

Students tended to approach revision with traditional methods such as looking over notes and doing practice assessments.

Just look over my notes and study guides.... For English I go to the tutoring. We have to write essays and the tutors mark us and say how we can improve.... I looked over the assessment schedule and I know what I need to do to get it.... I looked over the past examination, know what to do to trying to get higher grades.... I work with Nalith, Gem and William, in weekends [at the town library], do an internal, study for [assessments], it feels like it helps. (Kieran)

"I read over my notes, wrote down things about what I have been doing, sent some practice essays to my English teacher.... She helped me understand what parts.... I need to do better in and what parts I was doing all right in.... Look at my books and read over what the notes, and write down notes out of my book. In a couple of my classes I have Facebook pages, so the teachers have been putting things in there, so I look at that and write down the notes from that.... I ask the teacher for help, she's told me what things to do and I have got a revision book at home and it's got all these different activities in it and so I just do that.... I ask questions in science.... I find science the hardest. (Sullivan)

I read it through and then I covered it up and then I remembered and I repeated it and I checked if I was right.... For English, I looked through the texts that we had studied and I watched the movies again and I looked through all the quotes and all the connections.... Brainstorms of what I need to do... what is going to be in the exams... to cover all the bases. (Honor)

Mainly I made flash cards for the things that I might need to remember, and then I practised myself and then sometimes I would write out my notes ...for important things.... I try to highlight important words in my flash cards. (Sofia)

Looking towards the approaching external examinations, preparation involved studying longer and using flash cards.

Start studying, like longer. (Sofia)

Better time management... Probably different ways to study, like I might try flash cards or something. (Honor)

When asked about how their learning dispositions had changed, most students knew they had developed in some areas but others only remembered their areas for development and could not remember their strengths.

Mine was pretty wide except for resilience.... I think I have improved my resilience since then. (Sharon)

It was like everything [was strong] except for group working. (Emma)

I have increased in some areas that I wanted to work on, but I have gone lower in some other areas.... I was a bit lower in resilience, but not by much. (Honor)

Can't really remember them [strengths] but the weaknesses, I think it was the group activity.... Try to work better with people and

groups.... I have tried... it points out your weakness and you trying to improve it. (Kieran)

I don't think I remember my strength, but I remember my weaknesses like curiosity.... I think I revised too much in one specific little area and should have done more in other things. (Sofia)

Sullivan couldn't remember his strengths but thought one of his areas for development was "critical curiosity." When asked if he had made links between his profile and his study for examinations, he was aware that "asking questions in class" was something he could be doing but "probably not as much as I could have." (Sullivan)

4.5.11.2 Questionnaire to form classes:

Both form classes completed a questionnaire administered by the AFLM in September 2013. Students discussed their vision of a successful learner and talked about their ELLI dispositions.

Students had a range of ideas about what a successful learner was. Many referred indirectly to ELLI dispositions, others focussed on 'good behaviour' such as listening to the teacher.

Someone who listens to instructions. Someone who tries to improve. Does homework and classwork.

Someone who has prepared well for all of their tests and is always organised and has good time management.

Someone that tries hard in their education.

Someone who is organised and prepared to learn.

A person who successfully has the ability to learn.

A very successful learner is someone who achieves their goals.

Many students referred to their attitude to learning.

Someone who embraces learning on a day to day basis.

Someone who is unafraid to obtain new information.

Somebody who is constantly seeking new information and interested in doing it efficiently and effectively whether or not, but particularly if it is related to their career/subjects.

Someone who is mostly focussed and finds it easy to ignore distractions and pays attention both visually and mentally.

A successful learner is somebody who is well prepared and does study even if they don't want to. They are also somebody who pays attention to the teacher.

A successful learner is someone who is able to effectively learn (using time management, skills etc.).

Someone who is able to pursue whatever they want.

Some referred to taking responsibility for their learning.

Someone who takes responsibility for their learning.

Someone who takes responsibility for their own learning, makes an effort to learn.

Resilience was a common learning disposition discussed.

Someone who learns from their mistakes and persists to get better and get the benefits of their mistakes to help them later on.

Someone who is resilient and strives to improve themselves.

Some students focussed on academic grades.

Gets E in most subjects.

Good grades.

Many students referred to working hard or making an effort

Someone who works hard to be successful.

When you study, someone who puts effort into their work.

A number of students showed an increasing level of depth in their responses.

Someone who is able to recall information and is able to solve things using that information. They can also use higher level thinking in solving them. They also put effort into all work. They ask questions if they don't understand.

I think a successful learner is someone who is always actively thinking.

Someone who is wanting to learn something new every day.

Someone who enjoys learning. Someone who would go the extra mile to find something out.

A successful learner is when you have several different styles of learning/studying.

It varies. Two people could be at the same level but one person could be someone who is intelligent and doesn't try, the other is dumber but tries hard. How are you supposed to tell?

I can imagine a very successful learner as being someone who can be focussed and know what and why they are doing specific things in their life. They are understanding.

Someone who is constantly learning new things, or a successful person with a good job.

Students described how they had changed as a learner in the last year. Most referred specifically to their learning dispositions

Many students referred to their resilience.

Resilience, I usually become discouraged when the teacher gives the class a good growl.

I have been more resilient. I need to develop my critical curiosity.

I've got a bit better with resilience, I am trying to keep trying once I'm not successful.

Other students described negative change or dispositions they still needed to develop

I still need to develop my creativity.

I'm still bad with resilience.

A number of students referred directly to their ELLI learning dispositions.

Things I think I've gotten better at strategic awareness. I want to develop my resilience.

I have been asking the teacher more questions and repeating them to understand 100%. Creativity.

I have more creative learning/studying habits/styles like changing up how I study.

4.5.12 Student Comments: 2014

At the beginning of 2014 after students had received their NCEA results and they came to school to confirm their courses for the year, they reflected on their learning in the light of their results.

Sofia referred to the goals she would set for the new year.

Do better on my internals...prepare better...like when you go home it would help if you did extra research at home,... and get some more

notes down.... I like to have a routine, but if sometimes I don't feel like doing work because I have had a long day I might not do it, and I would probably do it later in the evening.... I feel good I tried hard, ... and when it shows, like I was really happy with my maths results because I tried really hard and I got an excellence for one of them, and I got excellence for algebra and geometry, and those were the two I tried really hard on, and I did a lot of work on them and the results showed and so I was really happy about that. (Sofia)

Jazmine and Kieran talked about revision methods.

Maybe plan it better, planning the study time.... Look over the notes and do past exam papers, which is what I did.... check the schedules they have on the websites.... Look up more tips or ask the teacher a bit more, communicate more about how to actually answer the questions, as how they ask what from you.... [this year] spend more time studying, put more time into it . (Kieran)

I just looked at my notes, that's all.... This year I will just study harder, just look at my notes, and then give myself a quick five minute thinking, just close the book and then write down anything I can remember. (Jazmine)

Students talked about how their learning dispositions had affected their results.

I think area for development? It was like changing and learning, I don't remember my strengths though..... I am not really willing to try new things, which probably says something.... I am not really willing to try, if I do try, I do really little things.... I just like to stay in my box. I think I would rather be stable. (Sofia).

I think it might have been critical curiosity, asking questions in class, I started to, towards the end of the year I started to more.... If I don't understand something then there is a point in doing it, but if I understand it I don't really need to do too much, but if I don't

understand the subject or I am having trouble with it then there is more help in asking questions.... Asking the teacher for help and staying after class as well helped as well. (Sullivan)

Students reflected on their NCEA results.

When I care about some things more I do more work on it and then some things that I did do more work on I didn't do as well on anyway which kind of puts me down... Like physical science I know I revised a lot on it and so I kind of really want to see my papers because I only got Achieveds on them, and I really want to see what I did wrong because I did care about it a lot and I did try, so I wanted to see where I went wrong.... I plan to do a lot of things differently, but it doesn't always turn out.... I think I might try and make my notes easier to reference in my books, and use workbooks more. (Sofia)

I miss out all my, pretty much most of my externals. Cos I got three exams in a row, like Monday, Tuesday, Wednesday and I don't have that much time to study for it... if I study one and then I study a second one, that will pretty much screw everything up, like mix everything up.... I should have studied like one thing each day, and then like going back to like the three subjects, so not happy. [This year] to be honest I am going to study like early, i.e. before term four probably, so I can prepare, because every time I walk into the exam room I will get real nervous, that feeling like scary. (Kieran)

I did pretty well I think, I passed, 97 credits.... I did some study for it. Just writing out notes and reading over my notes, like looking at school work and going in for some of the tutorials and stuff.... Probably have to work a bit harder [this year], more preparation, spend more time on revision and stuff, try to concentrate more in class, not muck around as much... remember that I need to pass this year and, cos it's going to be harder. (Sullivan)

4.5.13 NCEA Results

Table 10: Average number of NCEA credits Year 11 2013

Year 11	Form Class One	Form Class Two
99.65	100.83	100.21

Table 11: Endorsements at Year 11 as a percentage of the group

	Not Achieved	Achieved	Merit	Excellence	n
Year 11	22	33	32	12	162
Form Class One	17	38	28	17	29
Form Class Two	21	31	31	17	29

Both Form Class One and Form Class Two in Year 11 had 29 students whereas the average form class size was 27 for the year level.

Both Form Class One and Form Class Two were very similar to the whole form level in their total number of credits at around 100 credits. There is a higher proportion of higher endorsements for both form classes than the form average.

4.5.14 Learning Dispositions

The ELLI programme allows for two profiles to be undertaken within a twelve-month period. To enable a comparison between the two profiles it is important to ensure that conditions are similar, such as the time of year or whether they are carried out before or after examinations. In 2013, the students undertook their first profile in April, after the first term school holidays. The students were not under pressure at this time, and would have been reasonably relaxed, with

most of the year in front of them. The students undertook their second profile in October, just before examinations, while they were feeling the pressure of external examinations looming. They would feel quite differently in those circumstances than if they were relaxed with no immediate pressure. This point makes comparisons between the two 2013 profiles difficult to interpret.

A summary of the average percentage of each learning disposition for each class is below. Only students who had completed all three profiles were included: 15 students from Form Class One and 12 students from Form Class Two. There were a number of reasons students did not complete all three assessments: some were absent on the day of the test in 2011 and the technology failed before there was a catch-up opportunity; students may have left the form class; the last test was done close to final examinations and students who were absent on the day were asked to complete the test in their own time with their own device but not all did so.

At the point of completion of this research it was still not possible to retrieve the 2011 numerical data from the provider. I calculated all values attributed to the 2011 assessment by measuring the spider diagrams manually and using a conversion scale that is estimated to be accurate to $\pm 3\%$.

Some interesting comparisons can be made, although it is important to treat this summary cautiously because of the small sample size and the fact that each of the profiles was taken at different times of year.

There are a number of similarities and differences between the two form classes. Changing and Learning and Meaning Making are high for both classes, with average class percentages between 64% and 79%. Although for Form Class One Meaning Making appears to have increased appreciably (14%), Form Class Two's has dropped (7%) over the two years from November 2011 to October 2013.

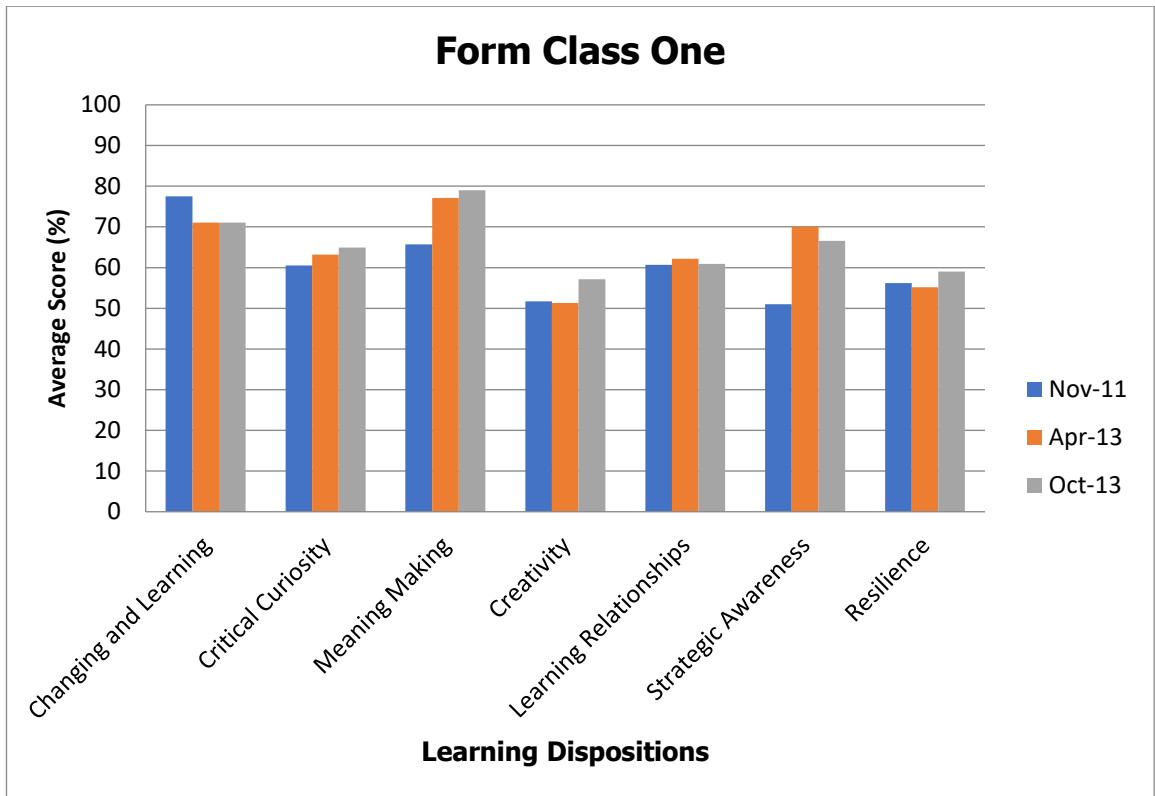


Figure 20: Form Class One's average score (%) for the learning dispositions

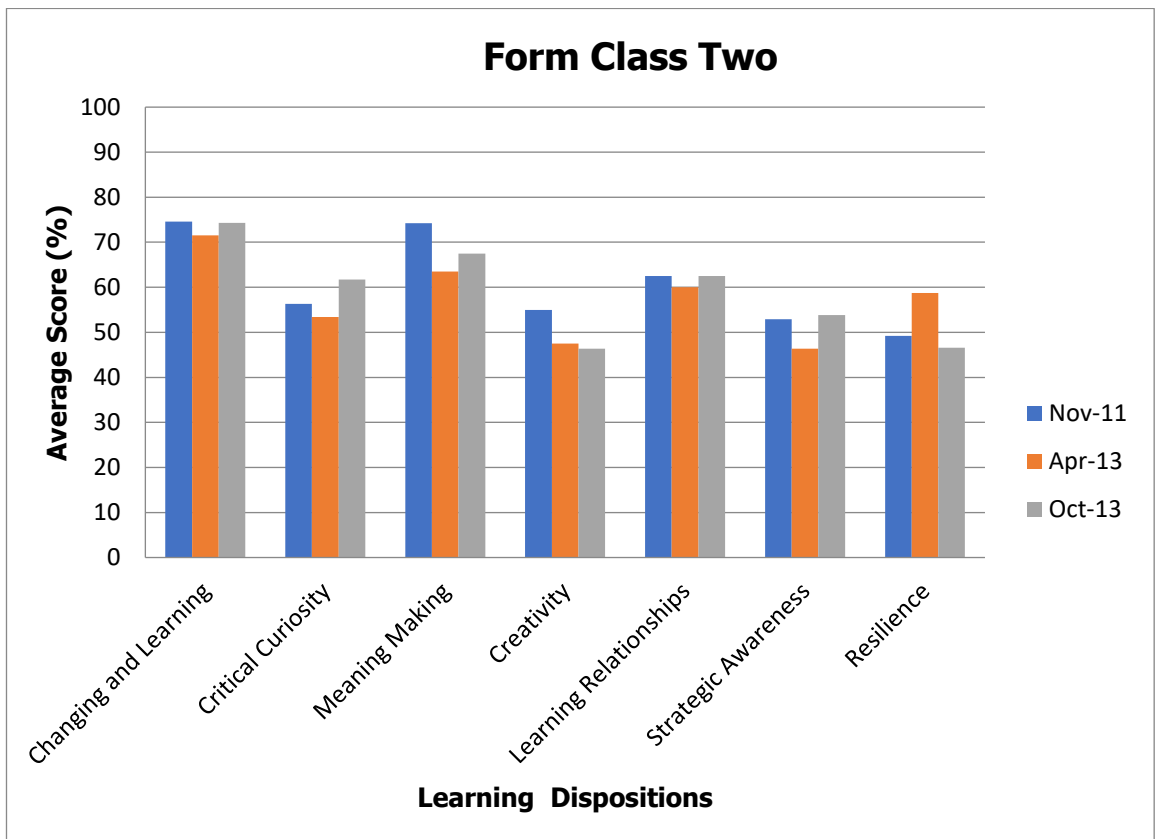


Figure 21: Form Class Two's average score (%) for the learning dispositions

Creativity was the lowest learning disposition for both classes with class averages around 50%. Strategic Awareness and Resilience were similarly low for Form Class Two at about 50%, where both of these dispositions were higher for Form Class One at around 60%.

For Form Class Two the April 2013 test showed all dispositions weaker than in November 2011 except for Resilience. And although there appears to be an increase from April to October in 2013, learning dispositions were largely still stronger in 2011, except for Critical Curiosity. Both Meaning Making and Creativity were weaker at 7% and 9% respectively over the two year period.

Form Class One, however, achieved gains in all areas except Changing and Learning, which decreased slightly. High increases included an increase of 14% for Meaning Making and 15% for Strategic Awareness over the two year period.

4.6 Summary of key findings

The data selected for presentation in this chapter were presented in chronological order as the trial progressed through three distinct phases. ELLI was introduced to the school at the end of 2011 following the training of two teachers as ELLI champions in 2010. The trial began with an introductory session introducing the ideas and the plan to the key players in the school. Students from four form classes began taking their profiles in November 2011, but the technology failed before all students had completed their profiles. During 2012, the platform remained unstable and the trial was held in abeyance. During this time, the form teachers of the two classes that had largely completed their profiles worked with their classes in a number of ways. In 2013. With the technology stable, a smaller trial was initiated with these two form classes.

Research Question One: Why did the school trail the use of ELLI? involved interviews with key staff members, particularly the principal and examination of school documentation. Content analysis of the transcriptions identified key

points behind the school's decision to implement ELLI. The same themes emerged in the interviews of staff members which concurred with school plans.

Data were also collected through interviews of the teachers and students involved, as well through observation of the introductory presentations and planning meetings to address Question Two: How did the school trial the use of ELLI? These findings will be analysed in Chapter 5 using the GPISEO framework. Quotes used were a representative sample of what was said in the interviews, and observations of meetings.

Research Question Three: What was the impact of the ELLI trial process on students? was addressed through consideration of interviews with students and analysis of the ELLI data. Students' NCEA results were also examined. The multiple methods used provided triangulation of the data and also offered a high level of trustworthiness of the findings.

The key findings for each research question are set out in the table below. Findings for Research question 1: Why did the school trial the use of ELLI? are based around the professional learning programme in the school and the principals vision. Research Question 2: How did the school trial the use of ELLI? is summarised under the headings from the GPISEO model (Bishop, 2008): goals, pedagogy, institutions and structures, leadership, spread, evidence and ownership. Research Question 3: What was the impact on students? examined student comments, ELLI data and NCEA results for possible changes. These findings will be explored further in Chapter 5: The Discussion chapter.

Table 12: Summary of key findings

	RQ1: Why did the school trial the use of ELLI?	RQ2: How did the school trial the use of ELLI?	RQ3: What was the impact of the ELLI trial process on students?
Key findings	<p>I was introduced to ELLI and thought it would be a good fit for the school</p> <p>The principal's made a decision to invest, he</p> <ul style="list-style-type: none"> - Saw the need for 21C learners - was familiar with Claxton's Building Power approach - was supportive of staff initiatives <p>Professional Learning history in the school was relevant to ELLI</p> <ul style="list-style-type: none"> - Building Learning Power - Key Competencies - Assessment for learning 	<p>Goals Trial goals were to increase student's self-awareness as learners and then their learning ability School goals centred around improving student's academic results by improving mentoring systems and using data supported by Professional Learning Student's personal goals were set annually</p> <p>Pedagogy A supportive learning environment was valued Students were encouraged to reflect on the skills learnt and the way they learnt Connections to students' experiences and prior learning were valued Shared learning encouraged by collaborative work and peer assessment The trial failed to effectively use ELLI in the classroom</p> <p>Institutions and Structures There was an established supportive working environment for staff with a culture of collaboration and trust Mentoring of students was an established structure in the school, but it was not given the time or support necessary to be effective</p> <p>Leadership After his decision to invest, the principal was not involved in the running of the programme The AFLM was initially very effective leading the programme As problems were encountered the AFLM lost enthusiasm/focus/drive Form teachers had some impact leading the programme with their classes</p> <p>Spread Initially ideas were effectively shared with the school leadership team, parents and students The programme failed to extend the ideas beyond the form room to curriculum classes or life situations</p> <p>Evidence Although assessment for learning was a focus of the school, the drive remained on academic results</p> <p>Ownership Ownership of the programme and the ideas behind it was initially well established but was dissipated as the technology became unreliable</p>	<p>Any results drawn are very tentative</p> <p>NCEA results showed a slightly higher proportion of students achieving higher grades possibly indicating higher level thinking skills</p> <p>Form Class One showed increases in the learning dispositions of critical curiosity, creativity, meaning making and strategic awareness</p> <p>Student comments showed understanding of the language around the learning dimensions and indicated a level of self-awareness</p>

5 Discussion

The forming of values, attitudes and dispositions is a central part of personal development. Personal development is an important part of the purpose of education and it includes the spiritual, moral, social and cultural development of students, the development of the dispositions and attitudes and values for citizenship, for enterprise and for the realisation of a person's full potential as a human being in the community (Deakin Crick, 2006, p. 3).

5.1 Introduction

This chapter examines the research questions in view of the findings in the previous chapter. Research question one asked: Why did the school trial the use of ELLI? It will be examined by tracing the history of the school goals and professional learning in the school and linking the various foci to ELLI. Research Question two asked: How did the school trial the use of ELLI? That question will be examined using the GPILSEO framework established by Bishop, O'Sullivan, and Berryman (2010) discussed in chapter two. The third research question asked: What was the impact of the ELLI trial process on students? The discussion will look at changes to the students and their learning dispositions over the two year period together with comments made by the students and teachers.

5.2 Research Question One: Why did the school trial the use of ELLI?

A key factor in the introduction of ELLI was the close alignment between ELLI and the foci of the professional learning in the school in the three years preceding the ELLI trial. As Trinick (2005) has documented in his study on the Te Poutama Tau initiative, success often results from an alignment between the

school goals and the goals on an initiative. In Trinick's (2005) research the philosophy of Te Poutama Tau was closely aligned with the school's focus on co-operative learning. In this research on ELLI, there was a close alignment between the school goals and the goals of the trial. Teachers would not have perceived ELLI as a new programme imposed on them but a means of supporting previous and continuing work at the school on building learning power, the key competencies and assessment for learning.

In the beginning, interest in the Effective Lifelong Learning Inventory (ELLI) came when I was looking for a way to measure the key competencies. I discovered ELLI and recognised that it would be a useful tool to support the learning culture of the school by encouraging students to become more self-aware and independent learners.

The decision to trial the use of ELLI in the school was made by the principal. His decision was based on a number of interrelated factors including: the culture of learning in the school; his interest in Building Learning Power (Claxton, 2002); his awareness of work on learning power the neighbouring intermediate school was involved in; the relevance of the ideas behind ELLI with the school goals; and the work that had been undertaken in professional learning in the school on building learning power and on the key competencies, and assessment for learning.

Leadership to achieve cultural change includes vision, courage and commitment to shared values, as well as strategic foundation-building for consistency and coherence (Small, 2010). Senior staff are crucially important for the success of a new programme. Trinick (2005) found that a significant factor in the success of the Te Poutama Tau programme was the hands-on involvement of the two principals who both attended professional learning sessions and progress meetings on the programme and worked directly alongside teachers.

The principal's vision for the school was to prepare students for a society of the future with characteristics such as: flexibility in their thinking, being able to

work co-operatively and share ideas, be resilient, be adaptable and have the ability to embrace a changing world of technology and a world of change.

This vision was closely aligned with the philosophy of learning underpinning work in the school, focussed on student responsibility for their own learning and on self-reflective practice. This work had been supported by a strong teaching and learning culture and school professional learning and development programme. In a project involving three schools, McClain and Cobb (2004) documented the critical role the school leadership team played supporting teachers by making release time available, resourcing personnel, providing equipment and space and supporting teachers with planning, reflection and assessment.

In this research on ELLI, the principal indicated there was a strong learning culture amongst staff and he perceived staff as highly engaged with their own personal learning. He believed in supporting teachers' passions because they would ultimately contribute to the school. Professional learning and development resulted in the development of a culture of collaborative community of practice in which staff shared ideas and best practice. Alongside the change in structure had been an alignment of professional learning with the school goals.

The history of professional learning of the school had moved from something that was presented to staff to something that all staff, including the senior management team, were involved in and contributed to. The principal became aware of the benefits of school wide professional learning where staff committed to a common goal that became part of the culture of the school. Consequently, professional learning in the school had evolved in the preceding years from an externally based, subject specific, one-off course type structure to whole school professional learning focussed on the school goals. The principal also recognised the school's responsibility to provide teachers with the knowledge skills and expertise to contribute to the continuing improvement of

the school. The whole school structure of professional learning was an important mechanism to facilitate change in the school.

Hipkins (2004) found that tasks associated with the implementation of a new assessment system became more manageable when schools set aside school time for professional discussion and course development. Additionally, Trinick (2005) highlighted the key role culture played and the importance of whole-school partnerships for successful uptake of an initiative. Teachers' enthusiasm for the project and their experience of successful outcomes resulted in a willingness to change and a desire to improve teaching practice; a workload that allowed adequate time for teachers to focus on the programme; and good classroom management skills (Trinick, 1998). Teachers were less likely to engage with the intent of the reform if school-wide support was not available. The principal in the current research was unable to provide such support. For example, after the initial meetings he distanced himself from the project and had no direct involvement. When the new trial began in 2013, he was not visible and no time for teacher or student mentoring was made available.

Focus groups were initiated in 2007 where members of the professional learning team led groups on areas of interest determined by the staff. The focus groups became a key feature of professional learning at the school and gradually became more centred on specific school-wide goals. In 2009 all groups focussed on developing students' learning power (Claxton, 2002) by strengthening the 'learning muscles' of resilience, reciprocity, reflection and resourcefulness. In 2010 the focus was on the key competencies, particularly managing self and thinking, and involved engagement with strategies such as Blooms taxonomy, De Bono's hats, Ryan's thinkers keys, and Structure of Observed Learning Outcomes (SOLO). In 2011 the focus was on assessment for learning, using data to inform practice.

5.2.1 Building Learning Power 2009

Following a principals' conference where Guy Claxton was a presenter, the principal became interested in the idea of building learning power (Claxton,

2002). He recognised a direct link between improving the learning muscle of resilience and improving student learning, and recognised the usefulness of being able to measure students' levels of resilience.

The principal followed up his initial interest in learning power (Claxton, 2002) through his own professional reading which he shared with the principal of the neighbouring intermediate school. The intermediate principal then initiated a Building Learning Power programme. The principal of the research school recognised the importance of building on the skills the students had developed at the intermediate and recognised that these skills were necessary to develop good learners. He saw that there were real weaknesses in students' learning that the current curriculum did not address.

The ideas around learning power (Claxton, 2002) were further developed by Claxton's colleagues which led to the development of ELLI and the Learning Futures project (Deakin Crick et al., 2010).

5.2.2 The key competencies 2010

The key competencies became the focus of professional learning and development in the school in 2010. The key competencies of thinking, managing self, relating to others, participating and contributing and using language symbols and text had become part of the New Zealand Curriculum in 2007 (New Zealand Ministry of Education, 2007) and schools were required to include them in their teaching programme. There is a close alignment with the key competencies in the New Zealand Curriculum and the learning dispositions in the Effective Lifelong Learning Inventory, see Table 2. ELLI can be seen as a way of measuring the key competencies.

5.2.3 Assessment for learning 2011

Following advice from the Education Review Office (ERO) to use data to inform practice at the junior level the principal had initiated a focus on assessment for learning and using data to inform practice. As part of this initiative he had

created the position of Assessment for Learning Manager to co-ordinate the data collection and to explore ways the data could be used to inform teaching practice in the school. Before the assessment for learning focus, the principal felt that although testing such as PATs and asTTle were undertaken, the information was not flowing into informing practice.

The principal supported the need for traditional assessment measures such as asTTle, PAT and NCEA to determine whether students were improving their ability to learn. He considered that the higher achieving students were embracing their learning and striving for excellence, but that those at the lower end were not motivated to learn.

ELLI aligned with the assessment for learning focus of the school by providing the mechanism for measuring students' learning dispositions. Data on students' learning dispositions of relating to strategic awareness, learning relationships, resilience, creativity, critical curiosity, changing and learning and meaning making sat alongside asTTle and PAT data to provide a more holistic picture of the student.

5.2.4 Summary

An increasing number of expansive educators are recognising that 'game one' - raising attainment in examinations – can best be achieved by focusing on 'game two' – realising the true objectives of an education in the 21st century, which centre around those learning dispositions that stand children and young people in good stead in the real world. (Lucas et al., 2013, p. 165)

While the principal espoused the point argued by Lucas et al. (2013), he did not enact.

Why did the school invest in the trial if it was not going to support it with the resources needed? Despite the apparent foci of the school around assessment for learning, student centred learning and the importance of student voice, the

hidden messages from the school were all about assessment for credits. This was, in part, driven by ERO recommendations.

Recommendations to use data to inform practice and developing measurable goals became a focus on testing and improving results both with asTTle writing in the junior school and NCEA in the senior school. Once a goal is formed the process of attaining it changes. Even if it is recognised that student centred learning is important, if the goal is focussed on credits both teachers and students will direct their efforts to credit gaining without focussing on the process. There was no confidence that if you took the focus off the credentialing and put it onto learning and learning to learn, the credits would follow. The leadership of the school, and of the trial, were not sufficiently resolute to trust what it espoused.

5.3 Research Question Two: How did the school trial the use of Effective Lifelong Learning Inventory?

Bishop's (2008) model for sustainability of educational change provides a useful framework to evaluate the trial of ELLI in the school. Bishop, O'Sullivan, and Berryman (2010) developed the GPILSEO framework as a means to design and implement educational reform. The framework identifies a number of dimensions needed from the beginning of the change process for pedagogic interventions to be embedded and sustained. This section will examine the process of trialling the Effective Lifelong Learning Inventory by examining each element of the GPILSEO framework, specifically: Goals focussing on improving students participation and achievement; developing a new Pedagogy of relations; new Institutions and structures; Leadership that is responsive and proactive; Spreading the initiative to include the wider community; Evidence used to inform and improve the initiative; and Ownership of the initiative being retained by the school (Bishop et al., 2014).

This analysis recognises the fact that the methodology of the trial changed throughout each of the three phases as people involved shifted from fully

motivated, organised and excited about the trial, to waiting in frustration for something to happen, to making an effort to start again without the initial enthusiasm, drive, time or confidence to sustain the change.

5.3.1 Goals

Effective goal setting has been found to have a significant effect on student achievement (Bishop et al., 2010; Fullan, 2009, 2010; Hargreaves & Shirley, 2009; Hattie, 2009; Hattie & Timperley, 2007; Lucas et al., 2013; Robinson et al., 2009). Goal setting is an integral part of the school programme in a number of ways. Students set goals each year as they reflect on past progress and look to the future. Goals are set at the school level which are then reflected in both the professional learning programme and the teachers' individual goals. The goals of the trial were closely aligned with the school goals.

5.3.1.1 Trial goals

Goal setting is a key element of any school change programme. Bishop, O'Sullivan, and Berryman (2010) point out the need for setting specific, measurable goals for improving student participation and achievement. Bishop et al. (2010) emphasise the importance of establishing clear goals from the inception of the planned change to ensure the ideas become embedded.

The goal for the trial was to use the ELLI tool to assess students' learning dispositions and then to use the information to increase students' self-awareness as learners and consequently their ability to improve their own learning ability. The original intention was for a core group of teachers - form teachers, deans, the AFLM and the researcher - to decide collectively the best use of the ELLI profiles in the school and to determine collectively the specifics of the programme following the guidelines in Small's "Learning to Achieve: A handbook of strategies for increasing learning power" (Small, 2010). This was intended to give the teachers ownership of the trial and place the focus on the specific needs of their students.

Initial suggestions were made such as brainstorming ideas on what good learning is and then getting students to compare them to the learning dispositions in ELLI. Another suggestion was to relate the learning dispositions to examinations and identify how the dispositions might support the students' exam revision or individual goals.

Although specific goals for the trial were not clearly defined or easily measurable, in spite of what Bishop et al. (2010) advocate, it was hoped that students would show both an improvement in their learning dispositions when their second profile was taken and also an improvement in their academic results in comparison with other classes in the year level. There was also an expectation that students would be able to talk about their dispositions and have an in depth understanding of their own learning dispositions, what they meant for their learning, and how they had improved or could improve their learning abilities as outlined by Small (2010).

5.3.1.2 School goal setting:

Fullan (2009) has argued that whole system change happens when all parts of the whole system contribute towards a collective purpose. The trial goals aligned with the school goal of embedding assessment for learning into the culture of the college. The school targets for measuring this were based on academic improvements.

One of the school's targets in the Strategic Plan of 2013, was to achieve: "NCEA Level 1, 2, 3 in excess of our comparison schools based on participation data (State, co-ed, Decile 9) for merits and excellences." An additional goal was for: "All students to improve by two increments for asTTle writing aggregated for each junior year level." These goals were to be supported by "quality teacher professional learning and development to support the continuous improvement of teaching and learning" which "focuses on improving skills for mentoring and being able to use data, particularly in the junior school to improve outcomes for students." These goals and the goals of the ELLI trial align closely.

The school asked teachers to set one of their individual goals in line with the school and faculty goals. This request is supported by Bishop et al.'s (2010) suggestion that there must be an alignment of teacher goals with the philosophy of the initiative and that teachers need to set personal goals that relate to the initiative and work towards them.

5.3.1.3 Student goals

The school had a clearly defined process of student goal setting that was part of the culture of the school. The intention was to encourage students to reflect on their progress over the previous year and set goals for the coming year, plan steps to achieving the goals and to regularly review them throughout the year. The process was scaffolded to help students achieve their goals by recognising their existing support network and by providing ongoing opportunities for mentoring and reviewing of their goals.

This process is in line with Robinson et al.'s (2009) recommendation that people have to believe they have the ability to meet their goals and that people need to be committed to goals. A recommendation such as this requires that people understand and value the goals. The goals need to be specific so that it is possible to judge progress and readjust performance (McMillan, 2013).

Both Form Teacher One and Form Teacher Two encouraged students to use the information from their ELLI profiles with their goal setting in 2012. They used it as a basis for discussion with parents and caregivers at Progress Conference day. However, later in the year some students had difficulty remembering their strengths and weaker dispositions. Despite the wide range of suggestions Small (2010) has put forward to develop an understanding of the abstract concepts of the seven dimensions, to engage students in what they mean and what they can do for their learning the concepts, an important point to emphasise is that in this ELLI project there was minimal development of understanding or application of the dimensions in their learning situations.

Although students had developed both academic goals and personal goals they tended to remember the academic goals more than the personal goals.

Academic goals tended to focus on grades in assessments such as “getting one excellence”.

5.3.2 Pedagogy

Bishop, O’Sullivan, and Berryman (2010) emphasise the importance of embedding reform to ensure a deep understanding of the underlying theory. For a change to be sustained it must be reinforced and become part of the culture of the organisation (Fullan, 2010). Anthony and Walshaw (2007) describe one school’s effective school-wide approach where pedagogical change became part of the culture of the school. There was ongoing professional support for teachers; expert facilitators were on hand; feedback was provided immediately; and extensive collegial support was available. Teachers felt in control over their professional development. They felt part of the mission and valued as professionals.

Bishop et al. (2010) also emphasise an understanding of the requisite ability to implement the change in practice and to respond to new challenges and situations in ways that will deepen and maintain the change over time. These recommendations are given clear expression in the Curriculum Policy of the school that states that the curriculum shall: “inculcate attitudes, skills, and values for life-long learning and achieving.”

These recommendations (Bishop et al., 2010) also align with the New Zealand Curriculum (2007) which outlines teaching approaches that have consistently had a positive impact on student learning. Specifically:

Students learn best when teachers:

- create a supportive learning environment;
- encourage reflective thought and action;
- enhance the relevance of new learning;
- facilitate shared learning;
- make connections to prior learning and experience;

- provide sufficient opportunities to learn;
- inquire into the teaching-learning relationship. (New Zealand Ministry of Education, 2007, p. 34)

A number of examples of these practices were evident in the school during the trial:

5.3.2.1 A supportive learning environment

Providing a supportive learning environment was a key feature of the school vision which strives to “promote a caring, safe and tolerant environment” and is recognised as of significant importance by a number of researchers (Alton-Lee, 2003; Hattie, 2009; Robinson et al., 2009). Form Teacher One placed a high value on establishing a safe learning environment in her classes. She worked to establish trust with students by taking an interest in the students and getting to know them. Having established trust, she then was able to push students out of their comfort zone and challenge them to achieve in different ways.

5.3.2.2 Encouragement of reflective thought and action

The inherent purpose of ELLI is to encourage learners to reflect on their existing learning dispositions and consciously work on strategies to enhance their learning abilities (Deakin Crick, 2006; Small, 2010).

Form Teacher One encouraged students to use MyPortfolio to record their goals and achievements so as to provide themselves with feedback and encourage them to reflect regularly on their own progress. She also encouraged students to reflect on their work, reflecting on the skills they learnt as well as the way they learnt in class using different methods such as thinking hats.

5.3.2.3 The relevance of new learning enhanced

Establishing students’ prior learning and making links to the new learning is an important pedagogical tool (Alton-Lee, 2003; Anthony & Walshaw, 2007; Hattie, 2012). Form Teacher One’s pedagogical approach was to start with students’ existing understanding and help students build knowledge from there. When students had difficulty with a problem, she would get them to frame the

question very specifically so that she could establish exactly what the student was asking and what they already knew. At that point she was able to enhance their understanding. Anthony and Walshaw (2007) found that students of teachers who were able to make connections between aspects of curriculum knowledge experienced the highest academic gains.

5.3.2.4 Shared learning facilitated

Form Teacher One valued students' collaborations and the use of peer assessment. She used peer assessment regularly, getting students to work in pairs with someone they trusted for honest feedback.

A number of strategies were used to introduce the learning dispositions to the students in Form Class One, specifically, class discussions, the top tips discussion and posters, journaling on MyPortfolio. However, very little work with the learning dispositions in ELLI was undertaken in classroom teaching. Although Form Teacher One discussed her intention to extend her work with ELLI to her teaching classes it did not appear to take place in any significant way. This is the inherent failure of the trial process, namely, a lack of mechanism to spread the discussions, ideas and strategies from words in the form room to action in the classroom. The Learning Futures Project (Deakin Crick et al., 2010) has emphasised the importance of enquiry based learning and the co-construction of the curriculum with students. To that end, Small (2010) outlined a number of ways to create space in the curriculum for ELLI and enquiry-based learning. These suggestions were not utilised.

Pedagogical change is inherent in any school reform. Bishop et al. (2010) and Timperley et al. (2007) point out that many factors combine to enable change to happen in the classroom. A significant failure of the ELLI trial was in expanding the discussion around the learning dimensions and students' specific abilities into classroom practice. Although the failure of the technology limited the spread of the ideas after *Phase I: a good start*, the design of the programme would likely have been a limiting factor even if the technology had not failed. Because the trial was only intended to cover two form classes at

each year level there was no structure in place to bring classroom teachers on board into the programme. Although students at the junior level studied science, social studies and physical education with their form class cohort, all other subjects involved a mix of students across the year level. Although plans were in place during Phase I to talk to the classroom teachers of the form classes in the trial, with only a few students in their classes with profiles taken, the information at best, would have merely been relevant to a small number of students.

From my observations, it might have been more useful for the trial to have focussed on a whole year level. Involving *all* classroom teachers of the year level would increase the buy-in from teachers. It would also have increased the opportunities for students to encounter and engage with the concepts and to work with their learning dimensions across their whole learning programme.

5.3.3 Institutions

The research consistently emphasises the point that a supportive environment is essential for teacher change and improved learning outcomes (Fullan, 2010; Hargreaves & Shirley, 2009; Timperley et al., 2007). In expanding on that point, Bishop, O'Sullivan, and Berryman (2010) stipulate that, from the start, a reform must contain the means to support institutionalising the initiative within school structures and organisational arrangements. At the beginning of this trial in *Phase I: A good start*, there were a number of structures in place to support the initiative, including the culture of the staff learning environment and the allocation of time and resources. Lucas et al. (2013) argue that expansive and enquiring teachers produce better educational outcomes. The principal spoke of the staff as highly motivated and engaging with their own personal learning.

Bishop, O'Sullivan, and Berryman (2010) found that successful change reforms involved responsive institutions and structures that evolved in response to changing need. In this trial however, the institutions of the school did not act responsively. For example, in *Phase III: The new start?* many of these structures no longer supported the trial. In particular, there were restrictions

around the timetable where it was difficult for form teachers to find the time to work with the ELLI concepts. A lack of confidence in the technology affected the teachers' commitment to the programme. The students were in their first year of external assessments which meant that the focus was on assessment for credits rather than the new initiative.

5.3.3.1 Collective collaboration/supportive working environment

Hargreaves and Shirley (2009) advocate for lively learning communities where teachers learn and improve together in a culture of collaboration trust and responsibility. Timperley et al. (2007) highlight the need for effective professional communities that support teachers through systemic changes. A community such as this was reflected in the trial where the intention was to work with the form teachers and the deans to collectively plan the change. The meetings held with the staff involved were always collaborative, professional, productive, and positive towards the trial and its associated philosophy.

The capacity for collaboration is an important component of Fullan's (2010) whole system change philosophy. Collective capacity "enables ordinary people to accomplish extraordinary things" (Fullan, 2010, p. 72) because knowledge about effective practice becomes widely available and because working together generates commitment.

There was an established collaborative culture among the staff at the school as evidenced by the professional reading group and their work together in focus groups for professional learning which engendered communication between staff members across the school. Generally, teachers worked in a collaborative way both within faculties and between faculties and were interested in sharing ideas and resources. But in a large system, a number of factors must come together to sustain change (Bishop et al., 2010; Fullan, 2010; Hargreaves & Shirley, 2009).

5.3.3.2 Mentoring

Mentoring was a key factor in the success of a schools implementation of the numeracy project that led to teachers feeling supported and appreciated (Anthony & Walshaw, 2007). Mentoring was also one of the key themes identified in the Learning Futures Project (Deakin Crick et al., 2010). Co-construction of the curriculum with students, expanding locations and partners to include students learning experiences in a range of contexts, and enquiry based learning were other themes. The scope of this trial did not extend to the latter three themes. However, mentoring was an aspect the school had been working on developing.

The plan to implement the programme was first to develop in students an understanding of the concepts of the learning dimensions and internalise how their own strengths and weaknesses affected their learning and ability to learn. Second, the process was designed to include ongoing mentoring conversations with a mentor to facilitate this process. This mentoring concept fitted in with the schools mentoring programme that mentored students in specific groups specifically: Māori, Pacific Island and High Achievers. If students did not fall into one of these categories they were mentored by their form teacher. However the form teachers still had approximately 20 students in their form group that did not receive mentoring elsewhere. They were expected to mentor those students in form time, along with all the other expectations of form time. Teacher workload is an ongoing issue (Gage et al., 2013; Hargreaves & Fullan, 2009; J. Hill & K. Hawk, 2000; Snook & O'Neill, 2010). Failure to adequately resource the time needed to mentor the students was a significant factor in the lack of success of the programme. In another study, Anthony and Walshaw (2007) have found that principals believed lack of time was a barrier to both the planning and implementation of new programmes.

Form Teacher One worked with her form class on numerous occasions to convey the importance and understanding of the ELLI dimensions, but experienced frustration with having to work continually with large groups of students. Mentoring in any influential sense would have required a commitment

to working with students individually, on a regular basis (Small, 2010). Such an arrangement would have needed considerably more commitment to resources to provide time for teachers to undertake the role.

5.3.3.3 Time

Timperley, Wilson, Barrar, and Fung (2007) found time to be a critical factor. Introducing new ideas and a consequent change in practice takes time to fully understand the concepts, try out the ideas in a number of ways and embed them into successful practice.

Adequate resourcing of time is a critical factor to the success of a new programme (Anthony & Walshaw, 2007; Deakin Crick et al., 2010; Small, 2010). However, the time allocated to the trial was limited. From the start it was expected that ELLI ideas would be explored and developed in form time. Form time consists of 20 minutes four days a week after lunch. Although form time is an ideal time to discuss students' learning it is also the time when a number of other activities need to take place. Students are preparing for the final lesson of the day, and form teachers are carrying out a number of administrative tasks such as working with students who have been late or absent from school. Further, students feedback information from student council meetings and ask for ideas to pass on to further meetings. Those requirements had the effect of limiting opportunities to expand learning around the learning dimensions.

In Phase III there was very limited time allocated to the trial. There was no class time used except for a few occasions when there was a slight run over when students were completing the test.

Throughout the trial, no classroom teaching time was allocated or built into the programme. Consequently the ELLI trial was treated as an add-on and not seen as an integral part of the teaching programme. The structure of the secondary timetable was a limiting factor. To integrate the programme into the teaching programme would have involved all the teachers of the students in the form classes which would have taken a much greater commitment by the school and

teachers involved. However, to be successful the students needed to meet the ELLI learning dispositions from a number of directions throughout their learning programme.

5.3.3.4 Technology

The technology failure was key to the loss of focus of the trial. It was not possible to begin the intended programme until all students had completed their online assessments and seen their profiles. This failure of the technology was completely beyond the power of the school. This disempowerment of the school was in complete contrast to the intention of the programme which was to empower students to take control of their own learning. Even after the technology was apparently working well, trust in the stability of the technology was lacking to the end: the expectation was that the technology would fail again. This point was reinforced by continuing issues with the reliability of the graphs, the shifting of the scale, the difficulty in communication where there appeared to be no straight answers to the issues experienced.

5.3.4 Leadership

Strong, effective leadership is essential for successful change in education (Robinson et al., 2009). The AFLM had been appointed to her position in the lead up to the trial in 2010. In her role as Assessment for Learning Manager she was interested in exploring different ways to use data to inform practice. She saw the potential benefits of the tool for improving student learning through developing students' understandings of their learning dispositions and of themselves as learners.

The school leadership team is a key driver of curriculum development. Robinson, Hohepa, and Lloyd (2009) pointed out that effective leaders have a thorough understanding of the relationship between knowledge, skills and dispositions. The school ensured that the AFLM and the researcher had the necessary skills to lead the trial by investing in the "Champions workshop" which qualified them to introduce the programme to the school.

As the trial progressed through the three phases, leadership by the AFLM reflected sound leadership through the events of the phases. In *Phase I: A Good Start*, the AFLM was enthusiastic about the opportunity to lead the trial and displayed effective organisational and planning skills. Her leadership of the introductory sessions with the senior staff, parents and teachers inspired discussion and enthusiasm amongst those present and developed strong relationships with stake holders. Initial planning meetings with the form teachers and deans established a constructive collaborative environment for the group.

In *Phase II: Waiting for the Platform*, the AFLM persevered behind the scenes with administrative communications, seeking a solution to the technical difficulties. When it became apparent that the difficulties were beyond the influence of the school, the trial was effectively held in abeyance. At this point it may have been possible to act earlier with the reduction of the trial group from four form classes to two form classes. However, throughout this phase there was always the expectation that platform functionality was imminent.

By the beginning of 2013 and *Phase III: A New Start?* and given the apparent functioning of the platform, the pressures of time and of NCEA were experienced. As a result, the scope of the trial was reduced. The AFLM was, however, determined to make effective use of the ELLI information. During this stage her leadership style became less collaborative and more prescriptive. However, as Robinson et al. (2009) has argued, this style may provide clear instruction but does not ensure a deep understanding of the process or “buy-in” from staff. The AFLM wanted to see the trial through to conclusion, but priorities shifted as the trial became more simplified and confidence in the technology and its provider diminished. As the trial reduced so did the drive to spread the ideas.

As leader of the school the principal was ultimately responsible for the trial. He supported the background philosophy of the programme, approved the funding, attended the initial introductory session and the parents evening but was not

directly involved in the running of the trial. He had confidence in the AFLM to run the programme whilst keeping in touch with how the trial progressed.

All teachers have the power and potential to lead. "All teachers can and should lead in some way... teacher leadership is a matter of opportunity, training, and desire (Hess, 2008, p. 5). In many ways, the form teachers were the leaders of the trial, and certainly when the formal trial did not gain traction, it was the informal leadership of the form teachers that made practical use of the information the ELLI profiles provided. The form teachers led their form classes to their understandings around the ELLI concepts.

5.3.5 Spread

A key facet of successful educational change is the spread of the change and the philosophy behind the change, both within a school and to the wider community (Bishop et al., 2010; Hargreaves & Shirley, 2009; Lucas et al., 2013; Robinson et al., 2009). Bishop, O'Sullivan, and Berryman (2010) point out the necessity of having a means in place to spread the initiative within classrooms, to the whole school, to other schools and to the community from the beginning of a school change programme. In *Phase I: A Good Start*, the ideas, concepts and philosophy were spread through a variety of means including presentations, meetings and casual conversations that established a network of interested and involved parties.

The introductory session on 5 September 2011 brought together the senior management team, the professional learning team, deans and, form teachers involved in the trial as well as the senior management team of the neighbouring intermediate school and involved them in discussions around the philosophy of learning power and how the ELLI profiles might be used. This established a solid base of interested parties with an understanding of the purpose of the trial and how it tied in with the school's goals and its teaching and learning philosophy at the time. Including the intermediate school SMT in the introductory session extended the links to the local educational community.

Robinson, Hohepa, and Lloyd (2009) identified the importance of powerful relationships with families, whanau and communities. Epstein (2002) has argued that students at all levels do better academic work and have a more positive attitude to school, and higher aspirations when their parents are aware, knowledgeable, encouraging and involved in their work. The parents' evening worked to spread the links to the school community and brought them on board with the philosophy behind learning power and how the learning profiles may be used to improve the learning of their children.

The parents' evening was considered very successful with approximately 30 people attending including students, parents and caregivers. The parents were involved in the discussions and had their own ELLI profiles taken. They were interested in what their own learning profiles indicated and were keen to see their child's profile and come to grips with how they might support their learning. The AFLM felt the evening was really powerful. Although a very good turnout was experienced and the parents attending were positive about the programme and interested in working with it, they only represented approximately 20% of the parents of the students involved. This means that for approximately 80% of parents, a letter home was the only direct communication with the school about the programme until the Progress Conference the next year.

Existing school structures such as Progress Conference Day, which brought parents and caregivers into the school and involved them in the learning aspirations of their child, were used by form teachers to communicate the information about students' learning dispositions from their learning profiles and how developing their learning dispositions could help improve their students' learning ability. Using the ELLI profiles in discussions with student and parents on Conference Day was a logical extension of an existing school structure to spread information about ELLI and how it may be used to enhance student learning.

Lucas, Claxton, and Spencer (2013) have also identified the need to expand the learning beyond the school gates. There are rich learning opportunities in student lives out of school in their music, sport, community and family activities. The introductory session explored ways for students to engage their life stories, life worlds and communities into their learning. Part of the philosophy of the programme was lifelong learning, learning for life, developing their abilities to be a better learner in any situation.

Robinson, Hohepa, and Lloyd (2009) found that the creation of educationally powerful connections between individuals, organisations, and cultures directly impacts on student learning. Although the intention was to involve students' whole lives when they considered their learning dispositions, the opportunities to bring students' lives into the discussions were rarely created. Effective leaders encourage these connections by ensuring a link between students' lived experiences and their classroom experiences. Powerful connections are created by: ensuring continuity between students' identities and school practices; having coherence across learning programmes; and having effective transitions between different educational settings (Bishop et al., 2010). Students did not take the ideas on board sufficiently to allow those ideas to impact beyond the form room. This was an area that was completely underdeveloped by the trial in all phases.

5.3.6 Evidence

Evidence is a core factor in school change. Evidence from a range of sources is needed to initiate and sustain appropriate initiatives, inform the learning process and gauge progress (Alton-Lee, 2003; Fullan, 2010; New Zealand Ministry of Education, 2007).

Bishop, O'Sullivan, and Berryman (2010) argue that collecting different types of evidence is useful to build a clear picture of an issue. The school was continually gathering evidence as part of its day to day monitoring of itself, and as part of its assessment for learning focus. Junior data included PAT tests, asTTle reading and writing assessments, which all sat alongside classroom

assessments in many forms. In the senior school, data collected was focussed around credits for NCEA assessments. The trial provided another type of assessment data focussing on the dispositions needed to learn effectively.

Assessment data has become a formative tool for enhancing learning. The New Zealand Curriculum (2007) states that “the primary purpose of assessment is to improve students’ learning and teachers’ teaching as both student and teacher respond to the information that it provides” (New Zealand Ministry of Education, 2007, p. 39). In the trial, the programme itself provided learners with evidence, in their spider diagrams, of their own strengths and areas for development. Form Teacher One used MyPortfolio as a means for students to collect evidence of their successes, both in and out of school.

5.3.6.1 Assessment for learning

Assessment for Learning is a valuable tool to support student learning (P. J. Black, 2003; Broadfoot et al., 2001). Assessment for learning was in the process of becoming part of the culture of the learning of the school, with different types of data and different ways of interpreting data being explored by the school, particularly PAT tests and, asTTle tests, as well as NCEA data. Although the school was hoping an improvement in academic results would be an outcome of the trial, ultimately it was the focus on academic results that became a limiting factor. In the third phase of the trial when the new mini-trial was initiated the students were in the first year of their external examinations which became the focus of everything the students did throughout the year. There was no longer any priority given either by the students or the teachers to any consideration that was not directly related to credits.

As assessment for learning was a focus of the school in 2011, a number of learning strategies were an integral part of the pedagogy in the school before the trial. Assessment strategies that would strengthen the qualities and characteristics of a successful learner were identified in the introductory session. These included: knowing the criteria to judge yourself against;

feedback from teachers; self and peers; language; using SOLO taxonomy; and looking past pen and paper assessments to practical/skills based assessments.

The school maintained a focus on NCEA rather than whole person learning. Goals set by students, the school and, professional learning focussed on the academic. The understanding was that if a person has learnability they will be successful. The focus on the minutiae of individual credit-achieving assessments tended to limit learning that prepares students for life.

Lucas, Claxton, and Spencer (2013) see the need to expand the goals of education. Traditionally schools have measured themselves in terms of examination results whereas expansive educators extend the traditional measures to include "the extent to which young people's horizons have been broadened so that they have really been prepared to face the tests of life" (Lucas et al., 2013, p. 4).

5.3.7 Ownership

Bishop, O'Sullivan, and Wearmouth (2014) point out that ownership of a school reform must lie with the stakeholders in the school and that for reform to be sustained it must become part of the culture of the school. From the beginning of the trial the values inherent in the initiative coincided with the learning culture in the school and many of the school structures supported the concept of the trial.

For the key philosophy of the initiative to be *encultured* into the school there must ultimately be buy-in from all parts of the school community from senior management, to staff, to students to parents to the community (Bishop et al., 2014). In the initial phase of the trial the stage was set for all members of the school community to understand the philosophy of the programme and to highlight the links between the values of the programme and the evolving culture of learning in the school.

Form Teacher One initially felt that ELLI would fit well with the learning culture in the school, that it would help people become more reflective of the learning process. She saw that reflecting on learning could become part of the natural course of events.

Bishop, O'Sullivan, and Berryman argue that *sustainability* of an initiative partly depends of the willingness of the teacher to seriously engage in ongoing development of the new knowledge (2010). The AFLM recognised that to change practice and learn as individuals it is necessary for individuals to take ownership of it. She recognised that compliance-driven achievements are unlikely to be sustained without ownership.

When the technology failed to deliver in Phase II, the trial faltered, resulting in: reduced ownership by teachers; the planning meetings no longer included the deans; those directly involved were not as committed; those not directly involved lost interest; and the trial became something that was happening in isolation from other school discussions.

In *Phase III: A New Start?* though the technology was seemingly functional, it was still treated as unreliable. As a result there was less discussion outside of meetings, the form teachers were less proactive and any interest from the rest of the staff tended to be minimised for fear of further technology failure.

Taking ownership of an initiative means that schools need to be prepared to reorganise their institutional framework to establish the school as a professional learning community. This will allow teachers to reflect collaboratively on the data gathered and support teachers to ask hard questions of themselves for the reform to become self-generative (Bishop et al., 2010).

The focus of the programme was about students taking ownership of their own learning, as a lifelong skill. If this was achieved, the learner would sustain changes and continue to learn and grow.

5.4 Research Question Three: What was the impact of the ELLI trial process on students?

The impact of the ELLI trial process on students is difficult to determine conclusively. The trial covered a two-year period and interventions due to the trial were limited. There would have been a number of influences on students that were not ELLI related such as natural maturation processes, life experiences, and teachers. Consequently, any indications of the effect of ELLI on students are only tentative.

Form classes at the school are of mixed ability, and the form classes in the trial reflect the range of academic, social, and cognitive abilities and the ethnic background of the school. Results from school PAT mathematics and listening and asTTle reading tests indicate that both form classes are generally above the national average but similar to the rest of the year group. (See Appendix A)

5.4.1 NCEA results

Results from NCEA show very little difference between the classes for the total number of credits achieved, see Table 10: Average number of NCEA credits Year 11 2013. Both Form Class One and Form Class Two had a higher proportion of higher endorsement levels than the whole Year group with 5% more excellences, see Table 11: Endorsements at Year 11 as a percentage of the group. This interesting outcome could indicate a possible higher level of deeper thinking skills in these form classes. However, it is recognised that the sample size is too small to substantiate the claim.

5.4.2 Changes to learning dispositions

Changes to the students' learning dispositions were indicated in Figure 20: Form Class One's average score (%) for the learning dispositions and Figure 21: Form Class Two's average score (%) for the learning dispositions (Figure 21). The sample size was small: 15 students in Form Class One and 12 students in Form Class Two completed all three profiles. These results are therefore not

statistically significantly. However, the differences shown raise questions that could be explored further.

Overall, Form Class One appears to have made an average improvement of over 5% in their learning dispositions over the two-year period. Form Class Two appears to have remained relatively static with an average slight decrease of 2% overall in their learning dispositions.

Students typically experience a 'reality check' during Year 11. They start the year with high expectations, but by the end of the year they have faced the reality of the pressure of internal assessments and upcoming external assessments and their expectations are redefined.

Both classes are strong in both changing and learning and meaning making. They are able to recognise that they have control over their own learning and can work to change aspects of their learning that may improve their learning outcomes.

Critical curiosity appears to have increased approximately 5% in both classes. Critical curiosity is about the learner wanting to go beyond surface understanding and delve into the reasons behind a concept, to ask questions and challenge existing understanding. These deeper thinking skills are particularly important life skills for solving problems and also to achieve higher grades in assessments.

There is a close alignment between the learning dimensions measured by ELLI and life skills. Form Teacher Two was acutely aware that learning dimensions such as creativity and resilience are the qualities that get you through, that it is important to have skills such as being able to think outside the square, to problem solve, come up with new, or different ideas, recognise all the possibilities and stick at something even when it is hard. "You have to actually find resilience in your learning so that you can actually keep pushing your boundaries, keep challenging yourself" (Form Teacher Two: 31 August 2012).

Student reflection - both on their learning and how they learn - are key aspects of improving learning outcomes (Bronson, 2007; Hipkins & Vaughan, 2002; Hook & Mills, 2011; McMillan, 2013). Form Teacher One created many opportunities for students to reflect on their learning dispositions and use the language to describe their learning. These opportunities helped students become more confident by understanding themselves and their learning better. In 2012 *Phase II: Waiting for the platform*, the students in Form Class One worked with their learning dispositions in a number of ways. They were used in their goal setting, where they worked with their weakest disposition in groups and compiled strategies to strengthen them such as a top tips poster, and they also recorded their thoughts and learning processes on myPortolio. The students in this class developed some understanding of their strengths and weaknesses and were able to discuss them.

5.4.3 Student Comments

Students' engagement with school is closely linked to success (Hopkins, 2008). Engagement is a changeable state that is influenced by a range of internal and external factors including the extent to which learning is valued or seen as relevant and whether or not there are opportunities for students to experience challenge and success in their learning (Gibbs & Poskitt, 2010). Students' level of engagement in the trial is reflected in their comments.

There were a number of factors impacting on these students in the two-year period between November 2011 and November 2013. They moved into adolescence, progressed through two years of school, were faced with the stress and pressure of national examinations and had a range of life experiences that will have impacted on them all in different ways, thus it is not possible to say that any changes indicated here are necessarily due to the trial. However, comments made by students throughout the trial indicated an awareness of the meaning behind the learning dispositions, and an ability to relate the learning dispositions to their own learning.

Students talked about specific strategies they had used to develop their learning dispositions. For example, Sofia talked about using colours in her work to identify main points and to help her remember them. Sullivan worked on asking more questions in class to develop his critical curiosity. Kieran knew that to develop his learning relationships he needed to work more with people and in group work: "communicate more, probably discussing things or just get involved."

Many responses in the student questionnaire in 2012 referred directly to the students' ELLI dispositions and related these to their areas for development. Resilience was a common disposition students focussed on. Students were aware of their behaviours that showed a lack of resilience: "I always go off task and always give up when it's hard" and "I tend to give up easily."

When asked about how their learning dispositions had changed, some students were aware of developments they had made. Some only remembered the areas for development but could not remember their strengths. For example, Honor was able to talk to people, and was more confident both in and out of school. Sullivan could not remember his strengths but thought one of his areas for development was critical curiosity. When asked if he had made links between his profile and his study for examinations, he was aware that "asking questions in class" was something he could have done but "probably not as much as I could have."

Student comments showed some knowledge of the language of the learning dimensions. Some of the students were able to say what their strengths and weaknesses were and explain how they had tried to develop their weaker dispositions. Without the trial these students would not have had this information nor have had the language to discuss their learning in these terms.

5.5 Positive outcomes and barriers to the effectiveness of the trial

Overall, there were a number of positive outcomes of the trial. As a result of the trial the students involved learnt about themselves and their learning dispositions and, to varying levels, were able to use them to reflect on their learning. Collegiality between staff members, between school and home and between schools was enhanced by the trial.

5.5.1 Positive outcomes of the trial

5.5.1.1 Student understanding of the concepts

By the end of the trial most students were able to articulate their understanding of the concepts involved in the ELLI learning dispositions. They did not merely repeat the terms, but were able to show that they understood what the terms meant and how they related to their lives.

5.5.1.2 Student reflection on their learning

The most useful aspect of the trial was using their ELLI profiles to give the students a useful picture of their strengths and weaknesses and help them reflect on their goals. Form Teacher One felt that some students found the discussions around ELLI useful and were interested in trying things out and reflecting on their progress. She also recognised that there were some students who just saw it as something else they had to do, because they were passive learners in many ways and they were used to taking the easy option. Form Teacher One could see that students found learning how to learn problematic, which was a difficult obstacle to overcome, but some became better at it and started using it intuitively as time went on.

5.5.1.3 Form teachers

The two form teachers benefitted from exposure to the thinking behind developing the ELLI dimensions. The underlying thinking behind ELLI was in line with the thinking of both form teachers before the trial. However, the trial

gave them the opportunity to explore the learning dimensions further and to see different ways they could be incorporated into students' learning.

5.5.1.4 Community of practice enhancement

The trial process enhanced the collegiality within the school. The collegiality of teachers in the school was an existing strength of the school before the trial began. However, the trial strengthened the links between teachers involved and other staff members.

5.5.1.5 Enhancing home-school links

Links between the school and home were enhanced by the trial. The parents evening invited parents into the school and involved them in the process of the trial by informing them of the purpose and function of the ELLI tool and, by doing the assessment for themselves, gave them an insight into how it might be used and how they could support their students' learning.

5.5.1.6 Enhancement between sectors

The relationship between the school and the neighbouring intermediate school was strengthened through the trial. First, the inclusion of the senior management team from the intermediate in the introductory session was both collegial and informative of the direction the school was taking. Second, the links between the principals of the schools were strengthened by their discussions around building learning power and work they were doing in their schools.

5.6 Meta-level summary

A number of factors, in their complex interactions, served to undermine the success of the trial of ELLI at the school. These factors include:

- Dependence on technology
- Continual focus on academic assessment
- Lack of curriculum integration
- Alignment of goals
- Lack of mentoring
- Resilience
- Lack of resilient leadership

5.6.1 Technology

5.6.1.1 Dependence on technology

The failure of the technology to provide the profiles at the start of the trial was the major limiting factor. This meant that the formal trial as planned, did not take place. The ongoing reliability issues with the various platforms resulted in a loss of confidence, not only with the technology, but with the programme itself.

There is an increasing dependence on technology throughout the education system. As an example, Bring Your Own Device (BYOD) is becoming the common practice in many schools (Song, 2014), with many students using their devices throughout the day for a range of functions. Throughout the trial technology was used in many ways, and in particular, to administer the ELLI questionnaire, to access MyPortfolio, and for the use googledocs. In *all* these applications, students experienced difficulties with technology in the school. Indeed, it sometimes took 15 minutes to log on and to access MyPortfolio or googledocs. More importantly, the ELLI platform failed.

5.6.1.2 Technology and feedback

One of the great advantages of technology is that it provides instant and precise feedback. Feedback is most useful when it is immediate and specific. In this trial, the lack of critical learning conversations following the feedback from the profiles meant that this opportunity was largely lost.

In 2013 – A New Start, after the profiles were taken almost no progress was made with the trial. With the profiles taken there was no need for further technology. The final profiles would only provide data indicating what changes had taken place with student learning dispositions, so full use of the information from the profiles could have been made by the school.

5.6.2 Student centred learning versus/and academic achievement

There was a distinct contradiction between the espoused belief in student centred learning and recognition of the importance of learning power with the ethos of the school and its focus on academic assessment. This discrepancy occurred despite knowledge amongst staff that placing the focus on formal assessments depresses students' motivation for learning (Deakin Crick, Broadfoot, & Claxton, 2002).

5.6.2.1 School measured by results

There is considerable pressure on schools to be seen as successful. Schools are measured by information that is readily available, particularly their ERO reports and their NCEA results. The community, prospective parents, and the students look at this information and make judgements on how "good" the school is. Such perceptions place significant pressure on the school leaders to focus on NCEA results: results that their future depends from positive evaluations. Despite the espoused belief in learning to learn by the principal and school vision, the key message was one of gaining credits and high endorsements.

5.6.2.2 Students culture of learning assessment focussed

The culture of learning was a significant strength among the staff. However, students did not share this culture. They resisted the goal setting process, even though it superficially appeared to be embedded in the ethos of the school. Schools need to develop students learning cultures if they are to successfully work to develop 21 Century citizens.

The principal clearly shared a belief in the learning to learn concepts, but was not willing to stand by that belief when confronted with the dilemma between focussing directly on credit accumulation and the educational theory he espoused which recognised that better learners will achieve better academic results.

5.6.2.3 School focus on assessment results

There was an assessment focus rather than learning focus in the school. This focus emerged alongside a recognition by the principal and the form teachers that improving students' dispositions to learning would lead to academic success. The principal was aware of research indicating that schools that abandoned high stakes testing and broadened students' education achieved the best results and brought about the biggest shift. Form Teacher One recognised that developing learning dispositions would lead to the higher-level thinking skills that were required for the higher grades in the senior school. Form Teacher Two recognised the need to "get away from the assessment focus" that is driving parents and the school.

5.6.2.4 Academic focus in learning conversations

The focus on academic assessment drove the learning conversations and dominated them. This meant that even though the intention was to develop student learning dispositions, the focus was not on their development but on using their strengths to improve their examination preparation.

The focus on academic assessments regulated the time available for the ELLI trial. Particularly in *Phase III: A New Start?* the organisation of the whole year was centred on academic assessments; all class time was jealously guarded. This perspective was passed on to the students who were reluctant to engage in activities that were not directly credit related. The students did not see ELLI as important, at least in part, because it was not treated as a priority.

5.6.2.5 Curriculum integration needed

Form Teacher One acknowledged that it was difficult for students to relate to the dimensions while meeting them in form time only, without the links being made to curriculum subjects. She also felt that for ELLI to be successful the language and discussions should be coming from the curriculum teachers as well as the form teachers. Because the students were not meeting the ELLI learning dimensions in their subject classes it meant that they saw ELLI as something aside from the “real” learning of curriculum subjects. Form Teacher One found that some students found the language difficult because it was not used within subject areas and they were unable to see how the different aspects related to different subjects or how they could be used in different ways. Because the concepts were only developed in form time it was not integrated with their learning and was seen as an extra activity.

All teachers need to be involved in the process of implementing change to integrate the ideas across the curriculum. At the secondary school level, commonly subjects are separate entities, disjointed from other learning areas into separate time periods. ELLI could help bring about coherence across curriculum subjects, helping students see links between different curriculum areas and with activities outside school.

5.6.2.6 Trial was limited to two form classes

There were only two form classes in the trial. Although initially it was intended that four form classes would participate in the trial, there would still have been

only two form classes at each year level. The school timetable structure saw students taught in their form classes at the junior level for Science, Social Studies and Physical Education. This meant that there were limited opportunities to use the ideas across the curriculum. Even if the trial had gone according to plan it would have been difficult to include the curriculum teachers in the programme. Students ultimately only met the ideas in their form classes so there was no buy-in from staff members other than the form teachers.

To be successful the trial would have needed to extend to a whole year group and to include all of the teachers of the year level. Form Teacher One recognised that limiting the trial discussions to form time was the biggest barrier. She pointed out that with a wide range of matters to attend to during form time there was not sufficient time to develop the ELLI dimensions, to help students understand the concepts and reflect on their learning. She found it very difficult to ensure continuity in such a short time space intermittently.

5.6.2.7 Fragmented nature of NCEA

The structure of NCEA, which breaks learning areas down into discrete sections of learning, does not encourage students to make links across prior knowledge and develop a broad understanding of the knowledge and skills which the learning dimensions support. NCEA does not lend itself to expansive learning.

5.6.3 Goals

5.6.3.1 The goals of the trial

The goals of the trial were based around improvement in student learning. Such improvement would be evidenced by students becoming more aware of themselves as learners and working to improve their dispositions to learning. Precise goals are a double-edged sword. If the goal is too precisely defined, the focus becomes on the specifics of the goal without necessarily exploring the best way to achieve it. It is important to plan the process around the needs of

the people undertaking the programme. With the focus on academic achievements, the process, more precisely, understanding how we learn and improving our dispositions to learn may be lost. Having an end goal focussed on academic achievement is short sighted. The usefulness of the academic achievement is only useful in specific situations such as entry requirements to a course, or as a qualification needed for a specific career. However, being able to learn and improve dispositions to learning are likely to be beneficial in all life and future learning situations.

5.6.3.2 Failure to develop understanding of concepts

ELLI's efficacy as an empowerment tool for change "works best when used to inspire creative, personal, tailored, local solutions and strategies, not 'off-the-shelf' ones" (Small, 2010, p. 11). What would have contributed to a successful implementation of the programme was a more clearly defined process. After taking the students' profiles, the next step should have been to plan a programme based on the needs of the students as highlighted in the profiles. This might have seen students choosing symbols for the dispositions that were relevant to them. Kiwi icons, or characters from a relevant popular TV show, as modelled by the Simpsons, New Zealand native birds are all potential symbols as suggested in Small (2010). Students would then debate with each other the specific characteristics of the disposition and the relevance of choices of symbols. Such activity would likely have developed their understanding of the characteristics of the dispositions, how those dispositions applied to themselves, and how they might be useful for their learning.

5.6.3.3 Disconnect between personal and academic goals

Students appear to remember their academic goals more easily than their personal ones. This finding may result from the more obvious measurability of academic outcomes. However, the measurability of outcomes does not provide the means or the pathway to achieve the goals. If the academic goals and the personal goals are split they become understood as separate and distinct. A key

point about improving one's disposition to learn is that such improvement is a precursor, or means to improving academic goals. For ELLI to be a useful part of the goal setting process the learner needs to see it as part of their learning journey. There needs to be coherence between the person as a learner and the curriculum. They are inseparably linked. In this trial, the divide between personal and academic goals was magnified by the lack of integration of the ELLI dispositions across the curriculum. They were, for all intents and purposes, invisible to the students in classrooms.

5.6.3.4 Measuring student goals

One way to measure the goals is to assess whether or not students' use of the language around their learning has increased. If so, students would have had a deeper understanding of each of the dispositions and how they could be used and developed. Such language would have been heard in all learning spaces. However, the student comments were very telling in that they spoke very little about their ELLI dispositions towards the end, indicating that they had not developed deep understandings from the discussions around ELLI. Early on however, while they were familiar with the learning dispositions and had a superficial understanding, there was no clear indication of deeper thinking around them and their purposes.

Students were not using the language because the people around them were not using it. The language was not used anywhere else in the school than in the form room. The ideas were not reinforced in any other forum. In isolation, the language, and students' understanding of the concepts withered.

5.6.3.5 Resilience

A significant finding from Deakin Crick et al. (2015), in their research on the internal structure of learning power and the relationships between the scales was that people who reported as not fragile and dependent were not necessarily resilient. A low score on fragility and dependence could not be read

as resilience – as the ELLI programme had assumed - but rather a cognitive closure used as a defence mechanism and indicating a barrier to deep learning. A student would ideally score in the middle of the resilience band, being neither fragile nor closed to learning. This knowledge may have affected learners in different ways had they been aware. Students who were learning stuck, with apparent high resilience would have felt that they had resilience as a strength when, in reality, it was a reflection of their closedness to learning. Students who scored in the middle of the band would have seen resilience as an area to develop when, rather, it would have been a strength. Students commonly found that resilience was their weakest dimension and was the dimension identified by more students to develop.

The Principal placed weight on resilience as a key factor for success from his own experience of students yet displayed a significant lack of resilience in his lack of support for the trial. The AFLM and principal lacked resilience themselves when confronted by the technology failure.

5.6.4 Mentoring

5.6.4.1 Lack of student mentoring

The school mentoring programme was an existing structure in the school that it was hoped would support the ELLI programme. With a number of students mentored outside the form group, form mentor groups were reduced in size. However, both form classes in the trial still had mentor groups of 20 students.

Form Teacher One found it difficult to facilitate student reflection with a large number of people in the room, particularly when some of them were motivated and some of them were not. She found it much more effective to work with a small group or to talk one to one with students because she could target the questions more specifically to how the students were learning. She found that when it was undertaken as a whole group the reflection became too generic, which she felt did not necessarily help students learn from one another. In a

small group, it was possible to target the questions and elaborate more specifically on how the students were learning. When working with students in small groups Form Teacher One found that she could ask one student to lead the discussion around their learning and the other students would listen because if one student was leading the discussion it was taken more seriously and became more productive.

There was no facilitation for the form teachers to mentor students on an individual basis. A group of 20 students cannot realistically be called a mentored group.

5.6.4.2 Lack of teacher mentoring

Despite the initial introduction to the ideas and a number of planning meetings, the ideas and concepts were not fully developed with those directly implementing them. The form teachers had no mentoring around the concepts themselves. They were expected to develop their understanding of the learning dispositions from a brief introduction and reading relevant material. Each had a copy of Small's (2004) *Learning to achieve: A handbook of strategies for increasing learning power*, which was expected to act as a proxy for mentoring. However, there were limited opportunities for collegial discussion and development of a deeper understanding of those ideas for themselves.

5.6.5 Leadership

The essential requirement of a learning leader, as Small (2010) implies is "a commitment to the life narrative of their learning community' rather than merely to a set of outcomes devised by the State, or the 'system'" (p. 95).

The basic tenet of the professional learning in the school, the school goals and vision was the understanding that better learners will ultimately achieve more academically. Yet the school leaders, in this case the principal and the AFLM, were not prepared to invest sufficient time for learning to learn. Rather, they

perceived it as taking valuable time from assessment for credits. It was the responsibility of the school, through the principal and the AFLM, to invest in the time needed to adequately resource the training and mentoring required to give the trial a chance of success.

On the surface, inaction appeared due to loss of faith in the programme. While the profiles had been taken, allocation of time for teachers to plan was not provided. The potential of the programme to improve learning outcomes for students was much greater than the preparation of documents for ERO. At a deeper level of analysis, it can be claimed that it was the credentialing of the school via ERO that became a major influencing factor, at the specific time when the focus should have been on student learning, via the trial. The principal was in a position of leadership that might have demanded that the trial be given a fair try. For her part, the AFLM could also have placed priority on the trial. In short, lack of resilience in the leadership team was a key aspect in the failure of the trial.

6 Conclusion

6.1 Broad summary of the research

The purpose of education is to prepare learners for the world they are going to live in. Twenty first century education should actively support learners develop the capabilities they need to engage productively with the difficult and challenging problems that are part of today's world. The capabilities people will need in the future will have a knowledge base, but will more importantly be about how to use that knowledge to solve wide ranging problems. The 21st century needs learners with a wide range of capabilities, who are aware of their own strengths and weaknesses, and in control of their own learning. The challenge is how schools might develop these competencies, and how they might sustain the momentum for change.

This thesis has investigated the trial of the Effective Lifelong Learning Inventory, a programme designed to assist in the development and measurement of the learning dispositions of strategic awareness, changing and learning, meaning making, creativity, critical curiosity, learning relationships and resilience. A case study approach has been taken to explore the process of the trial of ELLI within two classes at the year 9 level and two classes at the year 10 level at one large urban secondary school, over a period between the end of 2011 and the end of 2013. The introduction of the tool actively supported the developing learning culture of the students and the learning culture of the staff. Drawing on the perspectives of both staff and students and unpacking the difficulties associated with the implementation, this thesis has analysed the process involved in trialling the tool.

In 2011, the trial began with a carefully co-ordinated and well executed series of meetings and presentations to introduce the concepts and the programme to key staff members, parents and students. In November 2011 two year 9 form

classes largely completed their online ELLI learning profiles. Mid way through the third class the ELLI platform crashed.

In 2012, the formal trial was held in abeyance as the school waited for the technology to become reliable. Throughout this year, the form teachers made ad hoc use of the information in the profiles. Both form teachers used the information on the students' learning profiles to help the students write their goals for the year. The students' goals were then shared with their parents and caregivers at Progress Conference day. Form Teacher One worked to develop students understanding of both the concepts of the learning dispositions and the students' knowledge of their own learning strengths and areas for development. Students explored their weakest dimension in groups and developed a 'top-tips' poster which they presented to other students in the class. A record of the goals that were set and other achievements were recorded on MyPortfolio.

With the technology again functional in 2013, an effort was made to restart the trial. The new initiative was restricted to the two form classes, who had largely completed their profiles in 2011. New profiles were taken in April 2013. Meetings were held with their form teachers to plan how to use the information, however very little happened. The school was visited by personnel from the Education Review Office, which meant teachers were preoccupied for a period of time and impetus was lost due to the pressures of the students being in their first year of formal assessments. Students did retake their profiles in October 2013, they had learning conversations with their form teachers or the AFLM, but in reality, there was little perceived value in the exercise.

To document the trial process, data were collected from a range of sources. All presentations were observed, all meetings were recorded and transcribed and a range of interviews were carried out with both the teachers and students involved in the trial. The observations and transcripts formed the basis of the analysis. The reasons the school began the trial were explored by examining

the culture of learning and the professional learning history in the school through interviews with the principal and teachers. The GPILSEO model for sustainability was used to examine how the school used ELLI. That analysis explored the key factors effecting sustained change in the school. These were the goals, pedagogy, institutions, leadership, spread, evidence and ownership of the trial. The impact of the trial process on students was explored by examining their academic results, their ELLI profiles and listening to the students.

The GPILSEO analysis revealed a number of positive aspects of the trial. Students were able to reflect on their learning and had some understanding of their learning dimensions. The form teachers developed their understanding of the learning dimensions and the collegiality of the teachers in the school was strengthened. Links between home and school, and between schools, were enhanced. The analysis has also revealed some factors that provide evidence as to why the programme was not going to be sustainable. There was inadequate resourcing available throughout the trial, particularly time to work with the students both as a group and in a mentoring situation. The programme did not extend into the curriculum and include enough staff to ensure that the ideas and strategies were commonly shared and discussed. The fragmented nature of NCEA and the focus on academic assessments, particularly in the final year of the trial, diminished the importance of the programme and failed to establish the link between improved learning dispositions and academic outcomes.

6.2 Implications

At the school-wide level as a result of what has been found from this research there are several issues schools might consider before undertaking the implementation of a similar programme.

6.2.1 School wide initiatives not dependent on technology

In an ideal situation, where technology reliability throughout implementation could be guaranteed, greater success of the programme would be evident. At the start of the implementation there was no reason for the school to consider that the technology might fail. The programme had been used with tens of thousands of people in many countries from the United Kingdom to Malaysia and Australia, and with learners from primary school to business organisations and in prisons. Whilst technology is an integral part of any school organisation in the 21st century its reliability is never totally assured.

6.2.2 Group size

The effectiveness of the programme's trial was limited by the size of the group. The number of participants in a programme needs to be sufficiently large to enable comprehensive 'take-up'. It is necessary to involve the whole staff to facilitate the sharing of ideas, extend the learning conversations and expose the learners to the concepts in as many learning situations as possible.

In the research school, the minimum size to undertake a trial using the ELLI tool would be a whole year level. A whole year group in the school would be approximately 200 students. This would require that all the teachers of that year group would participate in the programme. As a consequence, the students would be exposed to the ideas and use the notions of learning dispositions in all of their classes.

Year 9 would be an appropriate year level to begin using the programme in a secondary school. Working with Year 9 would give students time to develop their learning dispositions before the pressure of assessment for credits. In addition, the school would be more likely to make time available in the teaching programme for the concepts to be developed.

Moreover, if the trial had been undertaken with a whole year group then it may have been possible to explore gender or ethnicity trends.

6.2.3 Time to develop concepts

It is important to allocate sufficient time for learners to fully come to grips with the concepts. A suggested strategy for this is to develop symbols for the learning dispositions that would embody the meaning of the specific learning dimensions. Ensuring discussion and debate around the concepts will strengthen understanding of the dimensions.

In introducing the ELLI programme into a school adequate time needs to be allocated for the programme to be introduced to the students. Just as there was a half-day introductory session with the leaders in the school, there would need to be a significant period of time for students to initially come to grips with the meaning of the concepts surrounding the learning dispositions. A whole-day programme where students analysed their profiles with workshops on each of the dispositions would allow the learners to relate their developing understanding of the learning dispositions to their own level of each disposition. During that time opportunities would arise for the development of symbols for the learning dispositions based on the students' understandings that were relevant to the culture of the school and their position within it.

The training should involve as many of the teachers of the year level as possible so they are fully cognisant of where the students are in their understanding. That knowledge will allow them to use the language and provide opportunities at the appropriate time to develop the learning dispositions in their teaching programme. Ideally, the language would then become a universal language within the school.

It is important to allocate sufficient time for learning conversations with students. Students need to understand how their learning profiles relate to their

learning. They need to reflect on the strategies used and gauge their progress. Adequate resources are needed to enable mentoring of students on a regular basis.

6.2.4 Leadership

The principal and the senior management team need to actively support the programme. Without their support individual teachers would find it difficult to sustain interest or to request necessary resourcing.

It is important to focus on developing the teachers' understanding of the learning dispositions. Teachers as well as students need to have an understanding of their own learning dispositions to enable them to facilitate student learning. For teachers to teach differently, as is the case with a new programme such as ELLI, they need sufficient support.

Strong leadership at the school does not in itself determine the success of a new programme. All parts of the school system, personnel and resourcing (e.g., technology), need to be synchronised.

6.2.5 When to reframe an initiative after a serious setback

The failure of the ELLI technology could not reasonably have been foreseen, nor avoided. The other issues identified in this research would probably have been mitigated to some extent if the full trial had gone ahead. The difficulty in involving only form teachers would have been addressed if the core teachers had been involved in some way to allow them to become part of the programme.

There were a number of opportunities during the trial when the implementation could have been reframed. In 2012, when it became clear that the functioning of the technology was not imminent, a plan to make use of the existing information could have been initiated across the two classes. In 2013 when the

technology was again functional, there was the option of starting a new trial with the Year 9 of that year. This would have avoided the conflict with the assessment priorities of Year 11 students, but would have left incomplete the trial with the existing students.

6.2.6 Trial versus committed programme

Given that the ELLI programme was trialled rather than an implemented initiative, it meant less commitment from staff. A trial is something that can be carried out in isolation. There is no commitment needed from anyone not directly involved. Commitment to a programme would have ensured the scope of the programme was sufficiently large to give the programme a greater chance of success.

6.3 Limitations of the study

The research was based on the experience of one particular school at one particular time. A number of features were specific to this setting, such as the particular school was decile 9 in a suburban setting, and there was a strong culture of collaboration among the teachers. Thus, the findings of this research are not generalisable beyond this specific setting.

It is possible the time frame of the research affected the trial. The research was limited to the years 2011 to 2013. If the trial had been carried out at another time the findings may have been different. In addition, at another time the technology may not have failed.

6.4 Significance of the study

Although ELLI has been used successfully with a range of learners from primary schools to businesses across the world, I am not aware of any research in New Zealand documenting the use of ELLI.

Programmes in New Zealand such as the Te Kotahitanga Programme (Bishop et al., 2014) have had significant impact on raising student achievement for Māori students. However, the focus was largely on teacher development.

Many teachers in secondary schools in New Zealand have worked hard to devise teaching programmes designed to develop students' key competencies. ELLI could provide a means to support these programmes by measuring students' competencies and gauging their progress, and to provide a structure for further developing their learning dispositions.

6.5 Further research

It would be interesting to explore the implementation of ELLI at the primary or intermediate level. It may be easier for teachers and students because these schools are organised differently, with a single teacher for most of the teaching programme. This would make it possible to work with a single class that has one core teacher. Using ELLI in a primary school or using a primary school structure would enable a trial to take place with a small group of learners. This would enable one teacher with one class to explore the use of ELLI without whole school involvement.

ELLI could also be utilised where there is an integrated teaching type programme, where students have fewer teachers and some subjects are taught by the same teacher.

The possibility of undertaking research in a school fully committed to a programme rather than trialling a programme would be interesting to investigate. If the school had been committed to fully implementing the use of the ELLI programme in the school, the school's response when the technology failed may have been different. When confidence in the programme was lost or lowered, there was less determination from the teachers involved to ensure its success.

Learning is a complex process. Deakin Crick, Huang, Ahmed Shafi, and Goldspink's (2015) new research explores the deep structure of learning power. The new understanding of resilience may provide new insights to support students' self-awareness and reflection on their learning power. It would be interesting to use the new model developed by Deakin Crick, Huang, Ahmed Shafi, and Goldspink (2015) to explore students' learning dimensions with greater understanding of the interrelationships between them.

6.6 Final words

Ma te huruhuru ka rere te manu
(With feathers a bird can fly)

Every system is made up of many components. The components fit together, sometimes in multiple ways, with each impacting on the other, and together they comprise a whole. School systems are like this. Individual learners are like this. This thesis has explored a number of components of a school system that impact on student learning. It has also explored a number of aspects of the individual learner that impacts on their capacity to learn and develop.

The Effective Lifelong Learning Inventory (ELLI) has the potential to support the development of learners with the skills needed for the challenges of the 21st century.

When I started this project, I anticipated the process would proceed in a linear, orderly manner. This did not eventuate for a number of reasons. While this presented challenges, the learning process continued through perseverance. Through that perseverance the focus changed somewhat. The process had to accommodate change and grapple with it all along.

The process of change is sometimes not as easy as one would like. This research has demonstrated one school's attempt to initiate change to improve

students' lives for the better. However, the trial met obstacles beyond the school's control and the leaders of the trial failed to persevere.

There is much to be learnt through a process that has been unpredictable and took a different trajectory to the intended pathway. Learning comes through being adaptable and persevering; learning comes through facing challenge. Those same dispositions apply as much to students as to the conduct of research.

Although the path of the trial did not run smoothly, valuable lessons were learnt through the process, about change, about resilience, about schools, about assessment. Sometimes the most important learning opportunities come through facing challenges. The journey has been a valuable process for those involved. The students are more aware of themselves as learners and at least the seeds of being in control of their own learning have been set. The teachers involved have all developed their understanding of their students and the ways they learn, and about themselves and their own learning power. The concept is sound, but as Bishop, O'Sullivan, and Berryman (2010) have argued, all of the components of GPILSEO need to be present to sustain change in a school.

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Appendices

Appendix A: Junior data

Table 13: PAT mathematics results 2011 Year 9

2011	Mean scale score	n
National	60.6	
Year 9	62.6	157
9 Form Class One	61.1	27
9 Form Class Two	63.1	25

Table 14: AsTTle reading and PAT Listening 2011 Year 9

2011	asTTle reading	Listening comprehension mean PAT stanine	n
Year 9	11.75 – 4A	4.56	157
9 Form Class One	11.87 – 4A	4.65	27
9 Form Class Two	11.61 – 4A	4.61	25

Table 15: PAT mathematics results 2012 Year 10

2012	Mean scale score	n
National	65.4	~1500
Year 10	68.1	152
10 Form Class One	66.5	26
10 Form Class Two	65.8	26

Table 16: asTTle reading and PAT Listening 2012 Year 10

2012	asTTle reading	Listening comprehension mean PAT stanine	n
Year 10	12.29 – 4A	4.90	152
10 Form Class One	12.22 – 4A	4.63	26
10 Form Class Two	12.04 – 4A	5.52	26

Appendix B: Student Information Sheet



SCHOOL OF CURRICULUM & PEDAGOGY
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Implementing the Effective Lifelong Learning Inventory: A case study

Information Sheet for Students

I am Maureen Hyett and as part of my study towards an EdD I am conducting a research project entitled "Implementing the Effective Lifelong Learning Inventory: A case study". This purpose of this case study is to observe and document the introduction and use of the Effective Lifelong Learning Inventory (ELLI) at XXXXXXXXX College.

ELLI measures students' learning dispositions in seven dimensions. It will provide you with immediate feedback on your learning power which will provide the start of a mentoring conversation with your teacher. Your ELLI profile will be taken two times over the next twelve months so any changes to your learning dispositions can be measured.

ELLI is being trialled at XXXXXXXXX College with four form classes, their teachers and 50 senior students who are mentoring younger students. In this case study I will document the process of its introduction, the ways it is used in the school and how effective they have been. The process will involve training for staff, continuing discussion and planning for the teachers involved in introducing ELLI to the students, the introduction and using of ELLI with you and the evaluation of any changes that take place with your learning. I will be seeking access to existing assessment data that is held on the school data base, this would include Assessment Tools for Teaching and Learning (asTTle) and Progressive Achievement Test (PAT) results, subject assessment data and your ELLI profiles.

You are in one of the form classes involved. Your form teacher will be telling you more about ELLI over the next few weeks and you will have your learning profile taken. I will be observing your form class while this happens. With your permission I will make notes on any comments made and discussion that follows. If you do not agree to participate, I will ignore anything you say. The Assessment for Learning Manager will be meeting with a group from your class to find out what you think about the profile and how it affects how you think about your learning. These discussions will be recorded and I will be observing them. I will also be meeting with some students individually to discuss this process. My request is to observe the implementation process and record your responses. You may consent to one or all of the phases separately. Your involvement would be greatly appreciated. If you agree to participate in this research, any information recorded as part of the project will remain confidential to me. No information

directly relevant to you will be passed on to any other person apart from my university supervisors. While I will make every effort to ensure confidentiality, it cannot be guaranteed. Data relevant to you will be made available to you on completion of the study or, if you wish, will be disposed of after five years. If you wish I will give you a summary of the findings on completion of the project. Please indicate on the consent form if you would like a copy.

Participation is entirely voluntary. If you do participate you will have the right to;

- Withdraw from the study at any time by contacting either the Guidance Counsellor or the Assessment for Learning Manager.
- Ask any questions about the study at any time during the research process.
- Provide information on the understanding that your name will not be used and that you will not be identifiable in any material produced from this study.
- Ask for the recorder to be turned off at any time.
- Once a meeting is finished I will write a summary and give it to you to read. You will be able to correct or update any information you have given.

If you wish to contact anyone with regard to this project, please feel free to contact either myself or my supervisor:

Maureen Hyett
Researcher
XXXXXXXXXX College
mhyett@xxxxxxxxxxx.school.nz
xxxxxxxxxxxxxxxxxxxx

Professor Margaret Walshaw
Supervisor
Massey University
m.a.walshaw@massey.ac.nz
06 356 9099 ext 8782

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 11/43. If you have any concerns about the conduct of this research, please contact Dr Nathan Matthews, Acting Chair, Massey University Human Ethics Committee: Southern B, telephone 06 350 5799 ext 8729, email humanethicsouthb@massey.ac.nz.

Appendix E: Student consent form



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Implementing the Effective Lifelong Learning Inventory: A case study

STUDENT CONSENT FORM

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

Class Observation:

- I agree to participate in this study under the conditions set out in the Information Sheet.
- I agree to having my class contributions noted

Group Discussion

- I agree to participate in a group discussion
- I agree to the group discussion being sound recorded

Individual Interview

- I agree to participate in an individual interview
- I agree to the interview being sound recorded.
- I wish to have my recordings returned to me.
- I wish to have data placed in an official archive.

Summary of Findings

- I wish to receive a summary of the findings at the end of the project

Signature: _____ **Date:** _____

Full Name - printed _____

Appendix C: Information sheet for parents



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Implementing the Effective Lifelong Learning Inventory: A case study

Information Sheet for Parents

I am Maureen Hyett and as part of my study towards an EdD I am conducting a research project entitled "Implementing the Effective Lifelong Learning Inventory: A case study". This purpose of this case study is to observe and document the introduction and use of the Effective Lifelong Learning Inventory (ELLI) at XXXXXXXXXX College.

ELLI measures students' learning dispositions in seven dimensions. It will provide your son/daughter with immediate feedback on their learning power which will provide the start of a mentoring conversation with their teacher. Their ELLI profile will be taken two times over the next twelve months so any changes to their learning dispositions can be measured.

ELLI is being trialled at XXXXXXXXXX College with four form classes, their teachers and 50 senior students who are mentoring younger students. This case study will document the process of its introduction, the ways it is used in the school and how effective they have been. The process will involve training for staff, continuing discussion and planning for the teachers involved in introducing ELLI to the students, the introduction and using of ELLI with the students and the evaluation of any changes that take place with the students learning. I will be seeking access to existing assessment data that is held on the school data base, this would include Assessment Tools for Teaching and Learning (asTTle) and Progressive Achievement Test (PAT) results, subject assessment data and ELLI profiles.

Your son or daughter is in one of the form classes involved. Their form teacher will be telling them about ELLI over the next few weeks and they will have their learning profile taken. I will be observing their form class while this happens. With your permission I will make notes on any comments made and discussion that follows. If you do not agree that your son/daughter participate, I will ignore anything they say. The Assessment for Learning Manager will be meeting with a group from the class to find out what they think about the profile and how it affects their learning. These discussions will be recorded and I will be observing them. I will also be meeting with some students individually to discuss this process. My request is to observe the implementation process and record their responses. You may consent to one or all of the phases separately. Their involvement would be greatly appreciated. I am happy to meet and discuss any concerns you may have. If you agree for your son or daughter to participate in this research, any information recorded as part of the project will remain confidential to me. No

information directly relevant to them will be passed on to any other person apart from my university supervisors. While I will make every effort to ensure confidentiality, it cannot be guaranteed. Data relevant to them will be made available to them on completion of the study or, if they wish, will be disposed of after five years. If you wish I will give you a summary of the findings on completion of the project. Please indicate on the consent form if you would like a copy.

Participation is entirely voluntary. If your son or daughter does participate they will have the right to;

- Withdraw from the study at any time by contacting either the Guidance Counsellor or the Assessment for Learning Manager.
- Ask any questions about the study at any time during the research process.
- Provide information on the understanding that their name will not be used and that they will not be identifiable in any material produced from this study.
- Ask for the recorder to be turned off at any time.
- Once a meeting is finished I will write a summary and give it to them to read. They will be able to correct or update any information they have given.

If you wish to contact anyone with regard to this project, please feel free to contact either myself or my supervisor:

Maureen Hyett
Researcher
XXXXXXXXXX College
mhyett@xxxxxxxxxx.school.nz
XXXXXXXXXXXXXXXXXXXX

Professor Margaret Walshaw
Supervisor
Massey University
m.a.walshaw@massey.ac.nz
06 356 9099 ext 8782

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 11/43. If you have any concerns about the conduct of this research, please contact Dr Nathan Matthews, Acting Chair, Massey University Human Ethics Committee: Southern B, telephone 06 350 5799 ext 8729, email humanethicsouthb@massey.ac.nz.

Appendix D: Information sheet for teachers



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Implementing the Effective Lifelong Learning Inventory: A case study

Information Sheet for Teachers

I am Maureen Hyett and as part of my study towards an EdD I am conducting a research project entitled "Implementing the Effective Lifelong Learning Inventory: A case study". This purpose of this case study is to observe and document the introduction and use of the Effective Lifelong Learning Inventory (ELLI) at XXXXXXXXXXXX College.

ELLI is a measure of students' learning dispositions on the seven dimensions of learning power. It provides students and teachers immediate feedback on the students learning power and is designed to both measure learning power and to provide a basis for a mentoring conversation between the teacher and the students. Two profiles are taken within a twelve month period so any changes to learning dispositions can be measured.

ELLI is being trialled at XXXXXXXXXXXX College with four form classes, their teachers and 50 senior students who are mentoring younger students. This case study will document the process of its introduction, the ways it is used in the school and how effective they have been. The process will involve training for staff, continuing discussion and planning for the teachers involved in introducing ELLI to the students, the introduction and using of ELLI with the students and the evaluation of any changes that take place with the students learning. I will be seeking access to existing assessment data that is held on the school data base, this would include aSTtle and PAT results, subject assessment data and ELLI profiles.

You are one of the form teachers involved. You will learn more about ELLI over the next few weeks and you will have your learning profile taken. The Assessment for Learning Manager will be meeting with a group of students from the class to find out what they think about the profile and how it affects their learning. I will be meeting with some students individually to discuss this process. My request is to observe the implementation process and record your responses. Your involvement would be greatly appreciated. If you agree to participate in this research, any information recorded as part of the project will remain confidential to me. No information directly relevant to you will be passed on to any other person apart from my university supervisors. Data relevant to you will be made available to you on completion of the study or, if you wish, will be disposed of after five years. If you wish I will give you a summary of the findings on completion of the project.

Participation is entirely voluntary. If you do participate you will have the right to;

- Withdraw from the study at any time by contacting either the Guidance Counsellor or the Assessment for Learning Manager.
- Ask any questions about the study at any time during the research process.
- Provide information on the understanding that your name will not be used and that you will not be identifiable in any material produced from this study.
- Ask for the recorder to be turned off at any time.
- Once a meeting is finished I will write a summary and give it to you to read. You will be able to correct or update any information you have given.

If you wish to contact anyone with regard to this project, please feel free to contact either myself or my supervisor:

Maureen Hyett
Researcher
XXXXXXXXXX College
mhyett@xxxxxxxxxx.school.nz
xxxxxxxxxxxxxxxxxxxx

Professor Margaret Walshaw
Supervisor
Massey University
m.a.walshaw@massey.ac.nz
06 356 9099 ext 8782

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 11/43. If you have any concerns about the conduct of this research, please contact Dr Nathan Matthews, Acting Chair, Massey University Human Ethics Committee: Southern B, telephone 06 350 5799 ext 8729, email humanethicssouthb@massey.ac.nz.

Appendix F: Parent consent form



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Implementing the Effective Lifelong Learning Inventory: A case study

PARENT CONSENT FORM

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

Class Observation:

- I agree for my son/daughter to participate in this study under the conditions set out in the Information Sheet.
- I agree to having my son/daughter's class contributions noted

Group Discussion

- I agree for my son/daughter to participate in a group discussion
- I agree to the group discussion being sound recorded

Individual Interview

- I agree for my son/daughter to participate in an individual interview
- I agree to the interview being sound recorded.
- I wish to have my son/daughters recordings returned him/her.
- I wish to have the data placed in an official archive.

Summary of Findings

- I wish to receive a summary of the findings at the end of the project

Signature: _____ Date: _____

Full Name - printed _____

Appendix G: Teacher consent form



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Implementing the Effective Lifelong Learning Inventory: A case study

TEACHER CONSENT FORM

I have read the Information Sheet and have had the details of the study explained to me.
My questions have been answered to my satisfaction, and I understand that I may ask
further questions at any time.

I agree/do not agree to the interview being sound recorded.

I wish/do not wish to have my recordings returned to me.

I wish/do not wish to have data placed in an official archive.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: _____ **Date:** _____

Full Name - printed _____

Appendix H: Ethics approval



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

29 August 2011

Maureen Hyett
[Redacted]

Dear Maureen

**Re: HEC: Southern B Application – 11/43
Implementing the Effective Lifelong Learning Inventory (ELLI): A case study**

Thank you for your letter dated 29 August 2011.

On behalf of the Massey University Human Ethics Committee: Southern B I am pleased to advise you that the ethics of your application are now approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

A handwritten signature in black ink, appearing to read 'N. Matthews'.

Dr Nathan Matthews, Acting Chair
Massey University Human Ethics Committee: Southern B

cc Prof Margaret Walshaw School of Curriculum & Pedagogy PN900	Dr Rowena Taylor School of Educational Studies PN900
Dr Alison Kearney, HoS School of Curriculum & Pedagogy PN900	Mrs Roseanne MacGillivray Graduate School of Education PN900

Massey University Human Ethics Committee
Accredited by the Health Research Council

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Appendix I: The Key Competencies

The key competencies, with clear descriptions of the concepts and the learner characteristics, as identified in the New Zealand Curriculum (New Zealand Ministry of Education, 2007) are:

Thinking

Thinking is about using creative, critical, and metacognitive processes to make sense of information, experiences, and ideas. These processes can be applied to purposes such as developing understanding, making decisions, shaping actions, or constructing knowledge. Intellectual curiosity is at the heart of this competency.

Students who are competent thinkers and problemsolvers actively seek, use, and create knowledge. They reflect on their own learning, draw on personal knowledge and intuitions, ask questions, and challenge the basis of assumptions and perceptions.

Using language, symbols, and texts

Using language, symbols, and texts is about working with and making meaning of the codes in which knowledge is expressed. Languages and symbols are systems for representing and communicating information, experiences, and ideas. People use languages and symbols to produce texts of all kinds: written, oral/aural, and visual; informative and imaginative; informal and formal; mathematical, scientific, and technological.

Students who are competent users of language, symbols, and texts can interpret and use words, number, images, movement, metaphor, and technologies in a range of contexts. They recognise how choices of language, symbol, or text affect people's understanding and the

ways in which they respond to communications. They confidently use ICT (including, where appropriate, assistive technologies) to access and provide information and to communicate with others.

Managing self

This competency is associated with self-motivation, a “can-do” attitude, and with students seeing themselves as capable learners. It is integral to self-assessment.

Students who manage themselves are enterprising, resourceful, reliable, and resilient. They establish personal goals, make plans, manage projects, and set high standards. They have strategies for meeting challenges. They know when to lead, when to follow, and when and how to act independently.

Relating to others

Relating to others is about interacting effectively with a diverse range of people in a variety of contexts. This competency includes the ability to listen actively, recognise different points of view, negotiate, and share ideas.

Students who relate well to others are open to new learning and able to take different roles in different situations. They are aware of how their words and actions affect others. They know when it is appropriate to compete and when it is appropriate to co-operate. By working effectively together, they can come up with new approaches, ideas, and ways of thinking.

Participating and contributing

This competency is about being actively involved in communities. Communities include family, whanau, and school and those based,

for example, on a common interest or culture. They may be drawn together for purposes such as learning, work, celebration, or recreation. They may be local, national, or global. This competency includes a capacity to contribute appropriately as a group member, to make connections with others, and to create opportunities for others in the group.

Students who participate and contribute in communities have a sense of belonging and the confidence to participate within new contexts. They understand the importance of balancing rights, roles, and responsibilities and of contributing to the quality and sustainability of social, cultural, physical, and economic environments. (New Zealand Ministry of Education, 2007, pp. 14-15)