Conversation and Change: Integrating Information Literacy to Support Learning in the New Zealand Tertiary Context.

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ABSTRACT

This thesis outlines a participatory action research (PAR) PhD project aimed at embedding information literacy development into a four-year Bachelor of Environmental Planning (BEP) at a New Zealand university. The research suggests enhancing information literacy is an effective strategy to support students' development of essential academic competencies over the full undergraduate programme. The research took an 'informed learning' (Bruce, 2008a) approach (using information to learn), shifting the focus of information literacy development from the library into the academic classroom. PAR allowed a dual focus on both action (to support staff to change pedagogy) and research (to understand the process of change).

The key purpose of this research was to support BEP instructors to identify ways they could embed IL development into their curriculum and assessment to support students' learning during the transition into and through tertiary study. This involved reconceptualising students' apparent lack of effective research and writing skills as a developmental concern. Prior to this research, existing information literacy support in the Bachelor of Environmental Planning had an information search and retrieval focus. Furthermore, product-focused assessment did not explicitly engage students in key aspects of the research and writing process.

Therefore, this research took a learner-focused, process-oriented view of learning, and developed a thread of reflective learning throughout the programme. To support quality source selection and use, library workshops were refocused and new formative assessments were created requiring students to justify source selection and reflect on learning. While the interventions proved successful in supporting learning, the research revealed that more in-depth conversation with academics, librarians and students on how information impacts on learning is needed to encourage students to make considered information choices and become informed learners.

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TABLE OF CONTENTS

CHAPTER THREE: Teaching to Support Learning of Information Literacy at University   47

SECTION II - METHODOLOGY 73

CHAPTER FOUR: Methodology – Participatory Action Research 75

SECTION III- EMBEDDING INFORMATION LITERACY IN THE BEP   111

CHAPTER FIVE: Contexts: Situating Information Literacy Development in NZ and the BEP   113

CHAPTER SIX: The Interventions   139

REFERENCES 295

APPENDICES 321

List of Tables

List of Figures

Abbreviations

ACRL	Association of College and Research Libraries
ALA	American Library Association
ANCIL	A New Curriculum for Information Literacy
ANZIL	Australia New Zealand Information Literacy (Framework)
AR	Action research
BI	Bibliographic instruction
COL	Course outline
CHO	Course hand-out
CWS	Course website
IIN	Interviews with all BEP instructors
IL	Information literacy
IMN	Instructor meeting notes
IRF	Instructor's reflective feedback
NZ	New Zealand
NZPI	New Zealand Planning Institute
PAR	Participatory action research
RSQ	Research sub-question
SFG	Student focus group
SJN	Student reflective journal
SSV	Student survey
UK	United Kingdom
US	United States of America

CHAPTER ONE:
Introduction

To respond effectively to an ever-changing environment … people need more than just a knowledge base, they also need techniques for exploring it, connecting it to other knowledge bases, and making practical use of it. In other words, the landscape upon which we used to stand has been transformed, and we are being forced to establish a new foundation called information literacy (American Library Association, 1989).

Change is a constant in universities: they are becoming economy-driven and competitive, and employers are demanding graduates with both theoretical knowledge and practical skills that will transfer immediately into the workplace. While universities are charged with improving student learning, numerous challenges for academics tend to impact negatively on teaching. These include: funding cuts, restructuring, short-term contractual employment, increased administrative demands, shifts to online and blended learning technologies, research output pressures, increased class sizes, and increasingly diverse student populations. Academics often feel they have no control over these changes, and tensions arise between the ideals of promoting change and the reality of constraints.

One context where academics do largely retain control is in the classroom; yet, here, where teacher-directed learning tends to remain the norm, change seems slow, particularly in approaches to explicitly supporting students' learning and information literacy development. Broadly defined, information literacy is the ability to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association Presidential Committee, 1989, para. 3). The importance of explicit information literacy instruction is largely unacknowledged outside the library: many academics seem unaware of the significance of information literacy for learning, and librarians, who recognise the valuable relationship between information literacy and learning, struggle to make their voices heard in the wider institution. Many librarians also seem to have become entrenched in the way they deliver information-skills-focused library sessions, feeling constrained by the limited time academics allow for library introductions.

Students are also unaware of the importance of information literacy for learning. Although information literacy competencies are essential in enabling university students to access and evaluate information and engage with that information to complete assessments, many students, especially at first year, struggle to exhibit such competencies. A recent study by Head and Eisenberg (2010) conclude that "research is one of the most difficult challenges facing students in the digital age" (p.2), and further research suggests high schools are failing to prepare students for the information literacy demands of university study (Angier & Palmer, 2006; Callahan & Chumney, 2009). Secker and Coonan (2013) observe that:

> in a world awash with information and knowledge, young people appear increasingly unable to carry out independent research, reluctant to argue and to challenge big ideas and take risks to discover new knowledge. (p. xvi).

The overabundance of electronic information, coupled with reports of ineffective search strategies (Secker, 2011), and lack of engagement with information (Biggs & Tang, 2011; Bruce, 2008a), indicates that, even though they may be passing, many students may be struggling to learn effectively at university.

Supporting students to develop information literacy has long been the role of university libraries, but, from the mid-1990s, shifts to more holistic views have recognised information literacy as encompassing a broader range of components including skills, behaviours, attitudes, knowledge and beliefs, and the connection between information literacy and learning, or informed learning (Bruce, 2008a) has been cemented.

In this thesis, I argue that developing information literacy in the disciplinary context is an essential part of the learning and research process, but it is also an aspect of learning that many tertiary instructors leave to chance. Furthermore, while a number of university services may be available to support students' academic literacy development, academics have greater responsibilities to explicitly contextualise and support students' information literacy development to promote effective learning (Brabazon, 2007; Grafstein, 2002). Therefore, supporting academics to explicitly embed its development into content courses is central to achieving change in students' information literacy.

As this research will show, one way to encourage explicit and focused change can be on-going deliberative and reflective conversation.

1.1 Research Aims and Questions

The aim of this participatory action research project is to identify how to support students to develop effective information literacy in a specific professional degree in the New Zealand (NZ) tertiary context. The participating discipline for this research is Planning[1], an undergraduate professional degree accredited by the New Zealand Planning Institute (NZPI). Planning degrees are offered by four NZ universities (University of Auckland, Massey University, Lincoln University, and Waikato University). To prevent specifically identifying the institution where the research was conducted, the programme will be referred to as the Bachelor of Environmental Planning (BEP), an amalgamation of the common words in the names of the degrees. The staff and students will be referred to as 'Planning instructors' and 'Planning students' respectively[2]. Further detail on the programme and research participants is provided in subsequent chapters.

BEP instructors at the participating institution had identified a need to implement a change (within pedagogy and curriculum design) to support students' academic literacy development, although they didn't initially recognise information literacy as a central issue. This research explored whether explicit information literacy instruction embedded into the discipline would be an effective strategy to support student learning and promote the development of essential academic competencies over the full undergraduate programme. Central to the research was promoting a learner-focused approach to teaching, which recognises student learning in higher education as developmental and encourages students to reflect on their learning processes.

The key research question was:

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[1] Permission was given by the programme coordinator to name the discipline within this research.
[2] I have selected the generic term 'instructor' rather than 'lecturer' as not all participants had lecturer status. I have made a stylistic choice to capitalise 'Planning' to refer to the discipline, to distinguish from the verb 'planning' which is central to the 'plan, act, observe, reflect' action research process.

What factors impact on the successful embedding of information literacy across the four-year BEP programme to support students to be effective learners in higher education?

Three sub-questions were developed to gain a greater understanding of the perceptions of IL and how it could be developed to support learning within the BEP context.

1. *How is the development of information literacy currently situated within the BEP?*
2. *Which factors support or hinder the successful embedding of information literacy development into BEP content courses?*
3. *Do BEP instructors need support to embed information literacy development into their content courses, and if so, what form will this take?*

A key strength of action research methodology is that multiple questions emerge during the research process (Burns, 2005; McNiff, 2002). Some of these questions may remain peripheral and offer new avenues for research beyond the immediate project. Others become part of the investigation and can completely redirect the path the research is taking, becoming an unintentional, yet central, focus of the research. Three such sub-questions for this research were:

4. *What constitutes effective teaching and learning at the university?*
5. *How does assessment impact on the way students learn?*
6. *How can we change the focus of information literacy instruction to move beyond skills and promote informed learning?*

These questions tended to focus on the broader view of teaching and learning at the tertiary level, and the lack of recognition of the essential role information literacy plays in academic learning. As my engagement with information literacy developed, I shifted towards the more holistic views captured by Project Information Literacy (Head & Eisenberg, 2009a, 2009b, 2009c, 2010, 2011), the 'Informed Learning' agenda (Bruce, 2008a, 2008b; Bruce & Hughes, 2010; Lupton, 2008a) and 'A New Curriculum for Information Literacy' (ANCIL)

(Coonan, 2011; Secker, 2011, 2012; Secker & Coonan, 2011a) (Chapter Three).

1.2 The Significance of the Study

This research extends the conversation on embedding information literacy into the disciplines into the NZ tertiary context. At present, little is known about how IL is perceived by instructors at NZ universities, nor of the pedagogical practices surrounding its teaching. Through action research, this research addresses this gap by capturing unique insights into the instructors' lived experiences as they explored ways to adapt curriculum and assessments to support students' information literacy development and learning in the NZ university context. Like much of the post-2000 literature, this research is focused on making stronger connections between information literacy and learning, using learner-focused pedagogies that encourage reflective, experiential and collaborative learning. The research shifts information literacy beyond the library by drawing on a variety of literature from fields such as library research, writing across the curriculum, transition to tertiary study, socio-cultural and constructivist teaching theories and pedagogy, and research connecting information literacy to learning.

Another significant aspect of this research is that it explores information literacy development from an academic's perspective, and considers pedagogical and curriculum factors which both support and hinder effectively embedding information literacy across a full undergraduate degree. The participating BEP instructors brought a range of teaching approaches and experiences to the collaborative process, and were willing to explore ways to adapt curriculum and assessments to support information literacy development within their content courses. As the researcher, I brought to the project experience of teaching both content and academic writing courses, and played a central role in developing strategies to address students' challenges connected to information and academic literacy.

1.3 Taking a Moment to Reflect

This research raises themes of concern to tertiary educators in NZ today: the importance of information literacy in the research, writing and learning processes, considerations in tertiary teaching and student learning, and successes and challenges in collaborating with and supporting academics to embed skills development into content courses. Like every adventurous journey, there have been obstacles to overcome, successes to celebrate, assumptions challenged and knowledge gained.

As a researcher, I have had the opportunity to hear and share the voices of academics and students in an on-going conversation around what supports effective learning at the tertiary level. I have learned much from the instructors I worked with, the librarians and learning advisors we collaborated with, the students in the programme, and my dedicated supervisors. I have also learned about myself as a student, a teacher and a researcher, and have faced challenges to the assumptions I held about teaching and learning in tertiary education.

This thesis is not a recount of a solitary journey; instead, it depicts the story of a shared experience of a group of individual and diverse characters who collaborated for almost three years to discover ways to improve students' information literacy. This is my story, their story, our story – a messy process of discovery neatly bound into a nine chapter volume.

1.4 Thesis Organisation

The thesis is divided into three sections. Section I explores the literature connecting information literacy and learning in higher education (Chapter Two) and establishes the learner-focused pedagogical principles this research embraces for supporting students' IL development (Chapter Three). Section II then outlines the PAR methodology selected as the appropriate means for conducting this research, collecting data and facilitating the conversations that promoted change. Section III contains the four data chapters that report the findings of this research. It establishes the contexts for this research and situates IL in the BEP, by providing an overview of the instructor interview

themes (Chapter 5) and outlining and reflecting on the interventions developed for this research (Chapter 6). Then, the key factors and approaches to teaching revealed in working with participating instructors are identified (Chapter 7) and finally, the seven key determiners of students' IL acquisition within this research are outlined (Chapter 8). In Section IV, I conclude the thesis and outline the key lessons learned through six key themes that emerged as the research questions were explored. Each chapter concludes with a short reflection on knowledge gained, lessons learned, and decisions I made in this research. An overview of each chapter follows.

SECTION I – CONNECTING INFORMATION LITERACY AND LEARNING IN HIGHER EDUCATION

Chapter Two: Exploring Information Literacy in Higher Education – This chapter draws on literature on information literacy in higher education to connect information literacy to learning within the research and writing process. This includes a discussion of the importance of critical and reflective learning opportunities to support student learning. It identifies both the perceived problems relating to information literacy acquisition and the collective responsibility of academic instructors, librarians, and learning advisors to prepare students adequately for tertiary study demands.

Chapter Three: Teaching to Support Information Literacy and Learning at University – A theme that emerged through discussions with instructors concerned what constitutes effective teaching and learning at university. This chapter explores how shifting the focus away from transmission teaching and towards learner-focused constructivist pedagogies may better support students' information literacy development and learning. Central to constructivist, learner-focused approaches to teaching and learning is the notion that what the student does in the classroom is more important than what the teacher does. A focus on reflection and experience through high-support, high-challenge tasks may encourage deeper student engagement in learning and facilitate information literacy development.

SECTION II – METHODOLOGY

Chapter Four: Participatory Action Research – This chapter outlines the Participatory Action Research (PAR) methodology selected for this research. It provides a background to action research in education and the key characteristics of the methodology that were relevant for this study. It also outlines the key data collection methods used and how the data was analysed, evaluated, and used to support the findings of the research.

SECTION III – EMBEDDING INFORMATION LITERACY IN THE BEP

Chapter Five: Contexts: Situating Information Literacy Development in NZ and the BEP – This chapter outlines the contexts for this research. It provides an overview of the NZ higher education context and explores how information literacy is situated in NZ universities, using data collected via interviews with librarians at all eight NZ universities. It then narrows to the specific BEP context and identifies themes from interviews with BEP instructors connected to information literacy development, assessment, and learning within the four-year programme.

Chapter Six: The Interventions – A key aspect of change in this study was developing interventions to support information literacy development in the BEP content courses. This chapter is divided into two parts: Part I outlines the library workshops integrated to support students' information literacy development, and Part II overviews the assessment changes that established formative learning support and created an explicit focus on the research process and reflection as part of effective learning.

Chapter Seven: The Participating Instructors – Throughout this research, the ideal of learner-focused pedagogy to support information literacy development was challenged by the constraints and realities of the university teaching and learning environment. This chapter explores the characteristics of each instructor, the implications of these on the interventions developed, and the support needed to make changes. A key aspect of PAR was building relationships with the participants and supporting them to promote information literacy within their content courses. Each participant had differing teaching

styles and views on both student independence and their own role in supporting student learning. Some were easily convinced change was needed, while others were reluctant to make change. The shifts in each instructor's approach to information literacy development and teaching emerged as a central factor in this research.

Chapter Eight: Key Factors Determining Students' Information Literacy Development – This chapter identifies seven key factors that determined students' information literacy acquisition in the BEP. An important aim of this research was to identify ways explicit instruction and discussion around information literacy would contribute to student learning. Student voices were central to understanding whether the interventions were benefitting their learning. Student data revealed interesting insights into the ways students view learning, understand lecturers' expectations, approach assignment completion, and understand the importance of information literacy in learning. Their focus on content and assessment was evident, and their lecturers' approaches to teaching had an impact on their understanding of how to learn at university.

<u>**SECTION IV** – **LESSONS LEARNED**</u>

Chapter Nine – Promising Outcomes and Lessons Learned – This concluding chapter identifies key themes emerging from this research and explores the implications for supporting students' information literacy development to enhance learning. This chapter also summarises learning gained from the participatory action research process, identifies the limitations of the research, and suggests directions for future research.

SECTION I

CONNECTING IL AND LEARNING IN HIGHER EDUCATION

CHAPTER TWO

Exploring Information Literacy in Higher Education

Information literacy (hereafter, IL) is a cornerstone of learning and research in higher education, yet is a concept that may be unfamiliar to academics as an aspect of teaching. As mentioned in Chapter One, holistic views of IL recognise a range of components (skills, behaviours, attitudes, knowledge and beliefs) that characterise an information literate individual. This chapter explores the connection between IL and learning in higher education, and defines what IL means for this research. It supports the notion that, rather than being a discrete set of skills students learn as they complete research-based written assessment tasks, IL is fundamental to critical thinking and learning itself, and it investigates why IL is not strongly promoted as an essential academic competency within university agendas.

To capture the shift in views of IL towards more holistic learning, and to connect to the idea of IL being central to informed, lifelong learning (Bruce, 2008a), this chapter draws primarily on post-2000 literature, with reference to widely-cited older works where necessary. The selected literature highlights the numerous challenges associated with promoting IL in the university. While much of the literature is derived from the library-based research, more recent research from literature that fundamentally connects IL to learning is a key focus, as it recognises the role academics play in supporting students' IL development and learning.

2.1 IL Definitions, Models and Standards

This history of IL is well-documented (Bruce, 2000; Markless & Streatfield, 2007; Moore, 2005; Webber & Johnston, 2000). IL as a concept originated in the library profession in the 1970s and was promoted by Paul Zurkowski in a proposal to the US National Commission on Libraries and Information Science (Bruce, 2000; Moore, 2005; Webber & Johnston, 2000). Since its introduction, the term 'information literacy' has been the focus of considerable debate concerning its meaning, application, and place within universities and society as

a whole. Its contribution to lifelong learning was widely discussed through the 80s and 90s (Snavely & Cooper, 1997).

The explosion in information available on the internet made the ability to access, retrieve and evaluate information a significant part of the definition of literacy itself and, therefore, the definition of IL has been constantly evolving alongside technological developments (Breivik & Gee, 1989). Four central elements in definitions of IL are largely consistent within the literature:

- identifying an information need
- finding appropriate information
- evaluating information
- using and synthesising information.

In a university academic context, the latter two stages are more closely linked to the disciplines than to the library, as the disciplines determine what information and knowledge is valued, and the academics set the curriculum and assessment that determines and controls the way the information will be used (Carless, Joughin & Liu, 2003).

The United States of America's (US) Association of College and Research Libraries (2000, hereafter, ACRL) recognised that being information literate requires fluency with information technology, and robust investigative methods, particularly critical engagement and awareness. Thus, information literate students are those who can critically engage with content, conduct extended research independently and collaboratively, and become reflective, self-directed learners (Bundy, 2004; Pope & Walton, 2006). To be successful learners who can critically evaluate information, students must develop an understanding of how knowledge is created within their discipline (Grafstein, 2002). Therefore, developing students' IL competencies is a critical concern for tertiary instructors.

2.1.1 Behavioural models and frameworks

A range of models for developing IL exist. Many models that were developed in the 1980s and 90s took a behavioural skills-focused stage approach to IL development. They included "variants of defining information needs, information

seeking, location and retrieval, organisation and analysis, synthesis, presentation, and evaluation of process and product" (Moore, 2002, as cited in Moore, 2005, p.8). The common IL frameworks tended to be "linear, rational and systematic processes, usually accompanied by a caveat recognising, or even advising that it is not necessary to follow the prescribed sequence" (Markless, 2009, p. 33). A key example of such models is the original SCONUL Seven Pillars Model (1999) (revised in 2011) designed to assess how students move from the basic skills (recognising need) to the most sophisticated skills (synthesising and creating) as they move from novice to expert researchers (Appendix 1c & 1g).

However, traditional IL models and frameworks have been criticised by proponents of more holistic views of IL because they focused on goals or outcomes over process. It has been argued that such stage models reduce the complexity of IL to a set of discrete 'tick-box' skills (Webber & Johnston, 2000) that limited its development to surface learning (Mokhtar, Majid & Foo, 2004; Willison & O'Regan, 2005), and offered a single route to teaching IL without consideration of the disciplinary context (Markless, 2009). Such a critique emphasises that IL encompasses more than skill-building frameworks, and that the models appeared to lack a critical element that would enable students to construct meaning from the information rather than just collecting it (Grafstein, 2002; Iannuzzi, 1999; Markless, 2009; Simmons, 2005; Webber & Johnston, 2000). Furthermore, Bruce (2008a) suggested that, while all the skills of IL (technological, library, and information) represented in the models are necessary, a perpetuating focus on skills alone detracts from a more important focus on using information to learn and "denies learners the rich potential which may be gained from the broader attention to the different ways of experiencing information use in the disciplines, professions and the community" (p. 3).

In a comprehensive review of three decades of IL instruction, Markless and Streatfield (2007) conclude that almost all skills-focused models and frameworks tend to be relatively generic and simplistic, and therefore create problems when applied. They suggested most models of IL:

- are not linked to the learning process, ignoring or underplaying reflection, iteration, trial and error, and different learning styles and strategies
- are grounded in a technical view of IL (depending on mechanistic processes such as citation and keyword searching), with limited emphasis on the cognitive and meta-cognitive elements
- use a language that does not resonate with academic staff and students, and that does not reflect the language of the disciplines

As a result, IL is often kept separate from the curriculum and is harder to embed in the curriculum.

2.1.2 Emerging holistic views of IL

By the mid-1990s, alternative, holistic views of IL began to appear. Several models were developed that captured a broader sense of IL as a way of learning through both the processes and ways people experience information use. Such models include:

- The Big6 Model (Eisenberg & Berkowitz, 1990) (Appendix 1a)
- Seven Faces of Information Literacy (Bruce, 1997) (Appendix 1b).

These models recognised both the process of information searching (rather than linear stages) and that there were multiple ways of viewing people's interaction with, and use of, information once it was accessed, depending on purpose and engagement with the information need. As one of the more often cited holistic models, Bruce's (1997) 'Seven Faces of Information Literacy' represented a relational model in which the information literate person experiences IL in a range of ways, and is able to use experiences to engage or work with information as required. By not stressing skills development, search processes or technology, the 'Seven Faces' relational model addressed key problems associated with the skills-based approach of the behavioural models, such as:

- the lack of context
- the ties to the library
- the decontextualisation of descriptions to make them universally applicable

16

- the focus on characteristics of individuals rather than the relations between people and their environment

- the linear nature of behavioural models which does not cater for the recursive and reflexive nature of information use (Bruce, 1997).

Post-2000 literature recognises the shift to a broader concept of IL as a group of skills, behaviours, attitudes, knowledge, and values) essential to academic success and, beyond that, to performance in the information society (Bruce, 2004; MacPherson 2004; Ward, 2001). Ward (2006) questions whether or not people can be information literate if they possess "the technical ability to find and evaluate information but not the human capacity to experience and value it" (p. 397). For Ward, thinking critically about information is not enough; he believes students must "learn how to be engaged and why to care" (p. 398). Engagement with information to enhance learning emerged as an important theme in this research.

The more holistic views recognise both the behavioural and cognitive demands of IL for tertiary level study (Bruce, 2004; Bruce, 2008a; Hepworth & Walton, 2009; Limberg, Sundin & Talja, 2012). While the behavioural skills needed for IL could be considered generic, discrete, and teachable in a library tutorial, the more cognitive demands (such as evaluation and reflection) are considered more challenging to novice learners (Bruce, 2004; Bruce & Hughes, 2010). Meszaros (2010) argues that undergraduates are often focused on accessibility and surface credibility evaluated by using checklists; therefore, they struggle to determine credibility or authority. To promote the cognitive development of IL, Meszaros suggested librarians collaborate with faculty "to focus less on issues of access and retrieval and more on students' attitudes and beliefs about knowledge, especially beliefs about expertise and cognitive authority" (2010, p.8).

2.1.3 IL standards

In 2000, the ACRL produced a set of five standards (Table 1), with guiding performance indicators and learning outcomes based on their IL definition. The standards aim to support students to develop a meta-cognitive approach to

learning. The ACRL identifies IL as "common to all disciplines, to all learning environments and to all levels of education" (ACRL, 2000 p. 2).

Table 1: ACRL Standards

	ACRL
Standard One	The information literate student determines the nature and extent of the information needed
Standard Two	The information literate student accesses needed information effectively and efficiently
Standard Three	The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system
Standard Four	The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose
Standard Five	The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally

Source: ACRL (2000)

Key weaknesses and strengths of the ACRL standards have been identified. Webber and Johnston (2000) still consider the ACRL standards a tick-box approach to IL, reflecting surface learning. Simmons (2005) argues that the ACRL standards placed the focus on finding information or facts, but meaning is created via "active engagement with the ideas and asking questions surrounding the information itself" (p. 308). Bruce, Hughes and Somerville (2012) recognise that instruction based on standards and skills does not extend students towards engaging with information through information use processes. In contrast, Andretta (2005b) identifies the focus on "the recursive knowledge-construction approach which provides a coherent framework for learning" (p. 53) as a key strength of the ACRL standards. McCartin and Feid (2001) recognise higher and lower-level skills and competencies inherent in the standards. They suggest that the lower-level skills (identifying key words, synonyms, related terms; assessing quantity, quality and relevance) could be addressed in library tutorials, while the higher-level skills (recognising cultural, physical or other context within which the information was created and understanding the impact of the context on understanding information; determining accuracy by questioning source of data) could not be taught in a few classes or tutorials. Such higher-level abilities require consistent practice of "applying lower level skills and being exposed to higher level IL concepts repeatedly in various contexts" (p. 7).

The ACRL standards continue to be actively promoted to inform IL curriculum designs in university libraries internationally, as they help make IL measurable (Jacobs, 2008) and support libraries to map IL curriculum. They were drawn on extensively for the Australia, New Zealand Information Literacy (ANZIL) framework (Bundy, 2004). The ANZIL standards (Table 2) are derived from the ACRL principles and standards, but have been adapted and updated to reflect the developing understandings of IL as a concept within education, specifically for the Australian and NZ context (Bundy, 2004; Proctor, Wartho & Anderson, 2005). The ANZIL standards emphasise IL as an intellectual framework and contend that communicating ideas and information within a context and content domain is integral for IL development.

Table 2: ANZIL Standards

Standard One	The information literate person recognises the need for information and determines the nature and extent of the information needed
Standard Two	The information literate person finds needed information effectively and efficiently
Standard Three	The information literate person critically evaluates information and the information-seeking process
Standard Four	The information literate person manages information collected or generated
Standard Five	The information literate person applies prior and new information to construct new concepts or create new understandings
Standard Six	The information literate person uses information with understanding and acknowledges cultural, ethical, economic, legal, and social issues surrounding the use of information

Source: Bundy, (2004)

The ACRL standards identify lifelong learning as a key goal and promote the 'learn-how-to-learn' approach to developing independent learning skills (Andretta, 2005a). Within the ANZIL framework, information literacy contributes to problem-solving, decision-making, independent learning, and professional development (Bundy, 2004). The framework is viewed as being non-prescriptive and a 'living document' which will continue to reflect new understandings of IL (Bundy, 2004).

2.2 Rethinking IL as Fundamental to Learning

Into the new millennium, the holistic views of IL continued to be extended to the point where IL has become recognised as fundamental to academic learning (learning how to learn) (Bruce, 2008a; Lupton, 2008b; Martin, 2013; Proctor et

al., 2005; Snavely, 2008). Martin (2013) reviews four holistic IL frameworks[3] and recognises that, to best support IL development, the models promote lifelong and continuous refinement as an explicit part of the learning experience. Martin's study highlights the importance of collaboration and clear learning outcomes to support IL development. It recognises the information landscape as a central focus of IL frameworks, and the multi-dimensional aspects of learning, including behavioural, cognitive, meta-cognitive, and affective domains (Appendix 2).

For this research, a range of holistic models were reviewed which encapsulated the idea of IL as central to learning. Each example connected IL closely with critical thinking and learning and captured the impact on learning more than the earlier behavioural stage models. Various aspects of these models were considered when developing the focus of IL and the interventions for this research. These models included:

- Information Literacy Continuum (Willison & O'Regan, (2005) (Appendix 1d)

- Information and Critical Literacies Model (Markless & Streatfield, 2007) (Appendix 1e)

- Colvin-Keene Model (Keene, Colvin, & Sissons, 2010) (Appendix 1f)

- Revised SCONUL Model (SCONUL Working Group on Information Literacy, 2011) (Appendix 1g)

The two key models central to informing this research were Bruce's (2008a) 'Six Frames of Informed Learning', and Secker and Coonan's (2011a, 2011b) 'A New Curriculum for Information Literacy' (ANCIL). A brief outline of these two models follows.

2.2.1 Six Frames of Informed Learning

Christine Bruce has been researching IL in Australia since the late 1990s. Bruce's (2008a) more recent research on the holistic concept of 'informed learning' strongly influenced my views of IL in education. This framework emphasises interaction with, and use of, information in learning. Through

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[3] A New Curriculum for IL (2011), the revised SCONUL model (2011), the National IL Framework Scotland (2009), and the IL Framework for Wales (2011).

informed learning, effective engagement with information is evolving and transferable, and information use and learning are inseparable (Bruce, 2008a, 2008b; Bruce et al., 2012). Bruce recognises the limitation of IL as a concept (Bruce, 2008a; Lupton, 2008b) and describes informed learning as "both an approach to learning and the experience of learning through information use" (Bruce, 2008a, p. 183). The framework encompasses the learner-focused, reflective and experiential approaches to learning that were key foci of this research.

The concept of informed learning is supported by the 'Six Frames of Informed Learning' (Table 3) and the 'Seven Faces of Informed Learning' (Bruce, 2008a), which extended the 'Seven Faces of Information Literacy' (Bruce, 1997). The six frames are: Content, Competency, Learning to Learn, Personal Relevance, Social Impact, and Relational. The 'Content' and 'Competency' frames tend to focus on the skills and tools used for information searching, which are often the focus of library bibliographic instruction (BI) sessions. The frames of particular importance to this research were the 'Learning to Learn', 'Personal Relevance' and 'Relational' frames, which take a more constructivist approach to teaching and learning, foster critical and reflective thinking, and encourage students to see the world differently (Bruce, 2008a; Bruce, Edwards & Lupton, 2007; Bruce & Hughes, 2010; Bruce et al., 2012).

Bruce (2008a) argues that IL makes informed learning possible. She differentiates between IL and informed learning, with the former referring to "being able to draw on different ways of experiencing different ways of using information to learn", while the latter was simply "using information to learn" (p.6). The subtle difference is highlighted by comparing the idea of problem-solving ability (being able to draw on different ways of experiencing problem solving) and problem-based learning (solving problems to learn).

Through informed learning, students engage in reflection to experience information in different ways (Bruce & Hughes, 2010). However, it is likely students will be unaware of IL processes; therefore supporting students towards informed learning requires embedding IL practices into the curriculum and encouraging regular, deep reflection on them.

Table 3: Six Frames of Informed Learning

CONTENT FRAME		
View of IL	IL is knowledge about the world of information	Users of the Content Frame usually adopt a discipline orientation. Their focus is on what learners should know about IL. Assessment of IL typically quantifies how much has been learned. A typical example in relation to IL education might be teaching IL sessions within a discipline based subject and providing lectures on a key set of information tools and techniques. This might be followed by a test of recall.
View of Information	Information exists apart from the user, can be transmitted	
Curriculum focus	What should learners know about the subject, about IL?	
View of teaching and learning	Teacher is an expert – transmits knowledge. Learning is a change in how much is known	
View of content	What needs to be known has primacy. All relevant content must be covered	
View of assessment	Assessment is objective. Measures how much has been learned, ranks students via exams.	
COMPETENCY FRAME		
View of IL	IL is a set of competencies or skills	Users of the Competency Frame usually adopt a behavioural or performance orientation. They ask what learners should be able to do, and at what level of competence? A program of instruction is usually followed to acquire the required competencies. Assessment of IL typically seeks to specify what level of skill has been achieved. A typical example in IL education might be the design of sequenced instruction to teach the use of an electronic tool; supplemented by testing to determine the level of skill that has been attained by the learner at specified points in the learning process.
View of Information	Information contributes to the performance of the relevant capability	
Curriculum focus	What should learners be able to do?	
View of teaching and learning	Teachers analyse tasks into knowledge and skills; learners become competent by following pre-determined pathways	
View of content	Content is derived from observation of skilful practitioners	
View of assessment	Assessment determines what level of skill has been achieved.	
LEARNING TO LEARN FRAME		
View of IL	IL is a way of learning	Users of the Learning-to-Learn Frame usually adopt a constructivist orientation. They ask what it means to think like an information literate professional, for example an architect, engineer, journalist or landscape designer. They are also interested in what will help learners construct knowledge appropriately, and develop learning processes that foster the development of professional thinking patterns. Assessment of IL seeks to determine how information processes have informed learning or learners' approach to the problem at hand. A typical example might be setting a real life problem in which the need to access, evaluate and use information from a range of sources is central and appropriately supported.
View of Information	Information is subjective – internalised and constructed by learners	
Curriculum focus	What does it mean to think like an (IL) professional in the relevant field?	
View of teaching and learning	Teachers facilitate collaborative learning. Learners develop conceptual structure and ways of thinking and reasoning	
View of content	Content is chosen for mastering important concepts and fostering reflective practice	
View of assessment	Complex, contextual problems are proposed. Self or peer assessment is encouraged.	
PERSONAL RELEVANCE FRAME		
View of IL	IL is learned in context and is different for different people/groups.	Users of the Personal Relevance Frame usually adopt an experiential orientation. In relation to IL education they need learners to develop a sense of what IL can do for them. They are interested in the kinds of experiences that are required to enable learners to engage with the subject matter. Assessment is typically portfolio based and learners self-assess. A typical example might be participating in a community project that required engagement with relevant information services and providers; then subsequently reflecting on the experience and what was learned about both the subject and information use in that context.
View of Information	Valuable information is useful to the learners.	
Curriculum focus	What good is IL to me?	
View of teaching and learning	Teaching focuses on helping learners find motivation. Learning is about finding personal relevance and meaning	
View of content	Problems, cases, scenarios selected to reveal relevance and meaning	
View of assessment	Typically portfolio-based –learners self assess.	
SOCIAL IMPACT FRAME		
View of IL	IL issues are important to society	Users of this Social Impact Frame usually adopt a social reform orientation. Their interest is in how IL impacts society, in how it may help communities inform significant problems. A typical example might involve focussing learners' attention on various issues and values associated with problems surrounding the Digital Divide, and proposing tasks related to policy, technology or training designed to assist in bridging that divide. Learners would be assessed in terms of their understanding of how IL could influence the social problem.
View of Information	Information is viewed within social constructs	
Curriculum focus	How does IL impact society?	
View of teaching and learning	Teachers' role is to challenge the status quo. Learning is about adopting perspectives that will encourage social change	
View of content	Reveals how IL can inform widespread or important social issues or problems	
View of assessment	Designed to encourage experience of the impact of IL	
RELATIONAL FRAME		
View of IL	IL is a complex of different ways of interacting with information	Users of the Relational Frame are oriented towards the ways in which learners are aware of IL or specific relevant phenomena associated with IL. They are interested in designing experiences that help learners discern more powerful ways of seeing the phenomena in question. Assessment is designed to identify which ways of seeing IL, or other relevant phenomenon, students have learned to discern. Reflection is one strategy to encourage students to discern more complex forms of the phenomenon. A typical example might involve helping students learn to search the internet by designing experiences that focus their attention on previously undiscerned aspects of the experience.
View of Information	Information may be experienced as objective, subjective or transformational	
Curriculum focus	Bringing about awareness of the critical ways of seeing or experiencing	
View of teaching and learning	Teachers bring about particular ways of seeing specific phenomena. Learning is coming to see the world differently.	
View of content	Examples selected to help students discover new ways of seeing. Critical phenomena for learning must be identified	
View of assessment	Designed to reveal ways of experiencing	

Reproduced from: Bruce et al., (2007) Six Frames for IL Education p 40-42

As a critical, creative, ethical and reflective practice, the three critical elements in learning to be an informed learner are:

- Coming to experience the different ways of using information to learn (learning)

- Reflecting on the experience (be aware of learning)

- Applying the experience to novel contexts (transfer of learning) (Bruce, 2002, as cited in Bruce, 2008a, p. 79).

When considering the challenges of becoming fully information literate, informed learning – using information to learn – is perhaps a more accessible goal for students progressing through higher education.

2.2.2 A New Curriculum for Information Literacy (ANCIL)

A second model that informed this research was the ANCIL model (Figure 1) and curriculum, created by UK IL researchers Jane Secker and Emma Coonan. It was designed as a practical IL curriculum to meet the needs of undergraduate students entering higher education and positioned IL as an essential, holistic aspect of academic teaching and learning (Secker, 2011; Secker & Coonan, 2013).

This research draws on ANCIL's holistic definition of IL which extends it beyond library skills and towards key competencies fundamental to learning:

> Information literacy is a continuum of skills, behaviours, approaches and values that is so deeply entwined with the uses of information as to be a fundamental element of learning, scholarship and research. (Secker & Coonan, 2013, p. xxii)

Secker (2012) explains how the ANCIL model works:

> The four learning bands radiate outwards from the learner at the centre. Starting with the development of practical skills, they expand through increasingly complex processes – establishing an evolving subject context within which to deploy the skills; high-level cognitive operations including critical evaluation, synthesis, and creating new knowledge – and culminate in the conscious, reflective framework that is key to managing one's own learning. (para. 2)

Figure 1: ANCIL 'Learning Pizza'

Social dimension of information

Learning to learn

Transition to higher education

Synthesis and knowledge creation

Advanced information-handling

Becoming an independent learner

Subject context

Key skills

Presenting and communicating

LEARNER

Academic literacies

Ethical dimension of information

Mapping the information landscape

Managing information

Resource discovery in your discipline

Source: Secker (2012)

The ANCIL model captures the broader view of IL that this research promotes. It offers a way to reconceptualise IL as a central part of any academic discipline (Secker & Coonan, 2011a, 2013) and, thus, supports IL development within the disciplinary context. It also identifies the importance of extending IL beyond information retrieval and towards supporting students to use information to learn. Situating the learner at the centre of the model ensures that efforts to support IL development are learner-focused. The model recognises the learner's engagement with key competencies. Central and unique to the model is transition, both into and out of university and into the workplace, and from dependent to independent learning (Martin, 2013; Secker & Coonan, 2011a, 2011b).

The ANCIL curriculum recognises the value of justifying source selection and reflecting on the research process to extend IL competencies, two key elements built into the interventions designed for participating courses in this research.

2.3 Emerging Theme: IL and Critical Awareness to Support Independent Lifelong Learning

A key commonality within the holistic models of IL is the connection between IL and critical thinking within the learning process to support independent, lifelong learning (Andretta, 2006; Bruce, 2008; Bundy, 2004; D'Angelo, 2002; Godwin, 2006; Lupton, 2004; Martin, 2013; Phillips & Bond, 2004; Secker & Coonan, 2011a). Critical thinking is recognised as purposeful, reasoned, and goal-directed learning to support problem-solving, reasoning, and decision-making (Phillips & Bond, 2004). In making the connection between IL and critical thinking, Weiler (2005) argued that "critical thinking is crucial to the learning process, to cognitive development and to effective information seeking" (p. 47). Because critical thinking is essential for determining the value of information and using it effectively (D'Angelo, 2002; Godwin, 2006; Phillips & Bond, 2004), it is a primary concern for university students and instructors.

The increased focus on evaluation and critical awareness through IL to support the research and learning process is a key theme emerging in the new millennium (Bird, McInerney & Mohr, 2011; Bruce, 2008; Bundy, 2004; Coonan, 2011; Ladbrook & Probert 2011; Snavely, 2008). Effective source selection is determined by understanding the relevance of a source for a particular task and knowing what to reject (Head & Eisenberg, 2010). Yet, evaluating sources and synthesising them into written assessments seems to create challenges for university students (Asher, Duke, & Wilson, 2012). This can often be seen in first-year students' reference lists with heavy reliance on websites as a major reference source (Middle States Commission on Higher Education, 2003).

The need to develop an awareness of effective ways to evaluate information is especially important in light of the complexity and abundance of information available through the internet, and the difficulty students have in determining the validity and credibility of electronic sources (Brabazon, 2006b; Coonan, 2011). Students often struggle to distinguish popular from scholarly information on the internet (McCartin & Feid, 2001) and the diversity and breadth of online material inevitably creates issues of quality (Dalgleish & Hall, 2000, p. 112). Brabazon (2006b) argues that universities need to (re)teach how to evaluate quality to

limit unquestioning selection and acceptance of information sourced via Google. She stresses that "finding information is not synonymous with understanding information" (p. 163) and increased access to information does not necessarily promote high quality research and writing. As the volume of information available online continues to increase, random internet searching for sources and selection based on accessibility will remain key concerns for tertiary instructors.

Ladbrook and Probert's (2011) study in NZ secondary schools suggest students' lack of critical evaluation may stem from secondary education. Ladbrook and Probert's study investigated current IL practice in three NZ schools and cited the Education Review Office (2004) findings that IL was under-developed in schools, particularly secondary schools. While the NZ School Curriculum (2007) seeks to create effective users of communication tools, critical and creative thinkers, and active seekers, users and creators of knowledge, evidence in this study suggested few schools were explicitly and systematically implementing an IL process model across the curriculum. Hipkins (2005, as cited in Ladbrook & Probert, 2011) found students understood research to be no more than "information retrieval and repackaging" (p. 27). Therefore, Ladbrook and Probert argue that current pedagogy in NZ high schools they observed seems to be failing to support students towards critical IL competencies.

Another key concern connected to evaluation and critical awareness of information is that tertiary students use scholarly information because instructors demand it (Latham & Gross, 2012), and not because they see the inherent value in such sources. To increase the use of quality information sources, some instructors specify the types of sources students should access, with the aim of helping students identify relevant scholarly sources in their discipline (Davis, 2003, as cited in Middle States Commission for Higher Education, 2003). However, Fister (2012) argues that demanding students use a prescribed number of scholarly sources reduces the complexity of IL:

> We are instructing students to do what comes easily – use books and you are safe, limit database searches to scholarly articles. We aren't

teaching students to think, we are teaching them to judge books by their covers. (para. 4)

Librarians may struggle to shift the focus to source evaluation because selecting quality, relevant sources depends on purpose and context (Secker, Price & Boden, 2007). Students, too, may lack the strategies and disciplinary knowledge to make considered choices based on critical evaluation of sources. Coonan (2011) acknowledges that:

> expert researchers have gained an understanding of practical, theoretical and epistemological issues in their field, rely on multiple vehicles of current awareness, including networks of other experts – known both personally and virtually – to maintain and develop their expertise in the field. In contrast, beginning students have no expert networks, no experience base in the field and have yet to build an understanding of their discipline and its structures. (p. 10)

A dominant method of instruction on evaluating sources in traditional university library sessions is asking students to consider key criteria commonly found in checklists indicating quality and relevance (Meola, 2004; Metzger, 2007), with the common criteria including currency, authority, evidence, reliability, bias, and coverage. Various evaluation checklists are easily accessible on the internet, for example, the CARS Checklist[4] (Credibility, Accuracy, Reasonableness, Support) (Harris, 2010), or are provided through university learning support centres or libraries. The key problem with such checklists is that they focus on author, authority and currency over the context in which the information was created, and pose questions students may lack the background knowledge to answer (Meola, 2004), or which students approach as a 'yes or no' response. So, for example, students may reject an older source because it is not current, even if the source remains valued, relevant and widely cited in the discipline (Meola, 2004).

An important factor connecting to how much effort students put into evaluating information, particularly from the internet, is motivation to select quality information (Meola, 2004, Metzger, 2007; Thompson, 2003). Meola suggests that students are not as gullible as librarians and educators believe, and they are capable of judging bias and dubious website but "will choose the easy way

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[4] http://www.mhhe.com/socscience/english/allwrite3/seyler/ssite/seyler/se03/cars.mhtml

out if their grade does not suffer" (p. 335). Despite the expectation of quality source use, students may remain focused on content or getting the required number of sources (Thompson, 2003), rather than on credibility or reliability, if educators do not penalise the use of poor quality sources (Metzger, 2007).

2.4 Situating IL in Higher Education

A strong theme emerging from the literature in the US, UK, Australia and NZ is that IL is a crucial – not optional – aspect of education (ACRL, 2000; Bruce, 2008; Proctor et al., 2005; Secker & Coonan, 2011a, 2011b; Ward, 2001). Yet, it seems to remain on the periphery in university instruction, housed in the library and viewed as an extension of BI or library skills (Markless & Streatfield, 2007; Webber & Johnston, 2000). Coonan (2011) argues for the need to extend understanding of IL towards a "continuum that starts with skills and competencies and ascends towards high-level intellectual and meta-cognitive behaviours and approaches" (p. 20). Becoming information literate is akin to learning the norms, behaviours, values, and knowledge of a new culture, and it is a profound educational issue in the era of globalisation, technological advancement, consumerism and democratisation supported by a knowledge-based economy (Hepworth, 2007).

Understanding how IL is situated within higher education institutions will determine approaches taken to ensure students become information literate. This section considers why observers believe IL is invisible in universities, and examines how IL connects to other recognised academic literacies and to the idea of 'research as conversation'.

2.4.1 Invisibility of IL in undergraduate teaching

Despite the recognition in the literature that IL is essential to learning, it remains undervalued in undergraduate programmes. Coonan (2011) poses a question of significance to this research: "if information literacy is fundamental to learning in all contexts, why does IL not form a significant element in the mainstream academic curriculum?" (p. 7). Badke (2010) suggests IL "is invisible because so few people recognise that there is a problem to address" (p. 437) and he, and other observers, identify several key reasons for this.

Instructors' attitudes towards ways students are expected to learn impact on the promotion of IL. A common assumption held by academics is that undergraduate students will develop transferable IL processes and skills automatically as they progress through their undergraduate studies (Badke, 2010; Leckie, 1996; McCartin & Feid 2001). Badke (2010) suggests that academics believe students should learn research strategies the same way they did: by trial and error. However, he argues that many academics may not have developed effective and efficient IL skills themselves. For longer-serving instructors, research practices in the information age are vastly different from those they may have employed in their research pre-2000. However, as the abilities of academics improve over time through extended research opportunities and personal connections, the myth that IL competencies can be developed successfully by doing research, rather than through explicit instruction, is maintained. This perception does not adequately recognise that the content knowledge and disciplinary expertise undergraduates lack is a key barrier to becoming information literate during an undergraduate degree (Badke, 2010; Webber & Johnston, 2006).

A further assumption that IL can be developed through a single 50-minute library introduction demonstrates that academics hold a narrow definition of IL, and maintains the focus of IL instruction as remedial, rather than as "a whole way of thinking about information and its use" (Badke, 2010, p. 132). The lack of recognition of the importance of IL in policy (Webber & Johnston, 2006) and curriculum may stem from the confusion between IL and BI due to a "failure to establish a common framework of terminology and understanding around what IL is and what it is intended to achieve" (Coonan, 2011, p. 5). The separation of the functional skills from the more cognitive, intellectual demands of IL in earlier behavioural models has meant it has "become reductively aligned with low-level, functional or basic skills" (p. 8). This means instructors may not 'sacrifice' time for skills development within a curriculum strongly focused on delivering content (Badke, 2010; Secker & Coonan, 2011b).

The value of explicitly developing IL is also masked by some academics' general assumption that Google Scholar and discovery search tools are easier to use than databases and, therefore, make information easier to access

(Badke, 2010; Secker et al., 2007). However, several observers recognise that the simplicity of Google tools[5] is merely an illusion, because they find information with much less precision than library search tools (Badke, 2010; Brabazon, 2006b; Waller, 2009). Waller (2009) warns that what Google deems are the most relevant results are not likely to be the most relevant at all. Although search tools like Google and Google Scholar may have been designed to simplify the search process (Badke 2010; Ettinger, 2008), the large volume and dubious quality of results is a concern (Badke 2010; Brabazon, 2006a).

Confusion between being information literate and being fluent in IT also renders IL invisible (Badke, 2010; Bruce, 2002; Coonan, 2011; Jenson, 2004; Stubbings & Franklin, 2007). Badke (2010) states that the "myth that technological ability equals information and research ability seems to have convinced the best minds in education" (p. 437). Students' familiarity with computers creates a false sense that they have sufficient skills to find and use information without explicit instruction. In reality, "today's highly technological students continue to fail miserably at most aspects of sophisticated information handling" (p. 437).

Finally, much of the research into IL remains within library journals and thus remains on the periphery of what is considered important in higher education (Badke, 2010; Fister, 2011b). Badke (2010) argues that IL is not a topic of discussion in more than half of the most highly regarded journals for teaching in higher education. Much IL research focuses on improving the practice of teaching it within the library or through library-instigated collaboration to embed its development within programmes or process-focused composition courses, which means that it may not be read by academics, even those interested in the literature on higher education. Badke (2010, p.113) cites Bruce's (2001) observation that "the transformation of the IL agenda from a library-centred issue to a mainstream educational issue is only beginning" (p. 133), and laments that, unfortunately, this remained the reality almost a decade later.

While these arguments certainly explain why IL is not widely promoted in universities, Fister (2011b) proposes a slightly different view on why IL may be

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[5] Google, Google Scholar, Google Books

relatively invisible, and she argues that very few academics would think IL is not important and shouldn't be part of university education. Rather, she suggests the reason IL may appear invisible in universities is because it is:

> so fundamental a skill that it doesn't rate mention any more than breathing would be included in a list of wellness priorities. Of course students need to know how to find, evaluate, and use information. You don't have to call it 'IL' to believe that it is an intellectual skill as essential as breathing. (para 5)

If we accept this possibility, and the essential role of IL in learning, then the challenge lies in explicitly and intentionally increasing the awareness of IL for both instructors and students in the disciplines, and emphasising its contribution to knowledge development and learning. The assumption that IL will develop as a natural outcome of higher education and research-based assessment needs to be challenged. Understanding the extent to which IL competencies can be taught, and identifying opportunities for IL development throughout the undergraduate degree, will make IL both visible and valued.

2.4.2 Connecting IL and academic literacy

Situating IL in higher education requires an understanding of its connection to the conception of academic literacy. The view of academic literacy as multiple 'literacies' (including information, academic, digital and media) (Bent, 2013; Pope & Walton, 2006; Secker & Coonan, 2011b) recognises the interplay of various literacies in the learning process. The model of 'literacies' that informed this research was Coonan and Secker's (2011b) 'Information Literacy Landscape' (Figure 2), which places the broader, holistic understanding of IL at the centre of learning and identifies overlaps with numerous other competencies essential to academic learning, including academic literacies, new literacies, media literacy and digital literacy. In this representation, IL contains elements of other literacies, including critical thinking, evaluation, study skills and academic writing, and high-level cognitive skills that are central to lifelong learning. Throughout this thesis, these elements will be referred to as 'other academic competencies', which extend from and connect to IL. Placing IL firmly with learning supports the importance of embedding its development rather than

keeping it on the periphery of academic learning (as a generic skills-focus tends to do).

Figure 2: *ANCIL Information Literacy Landscape*
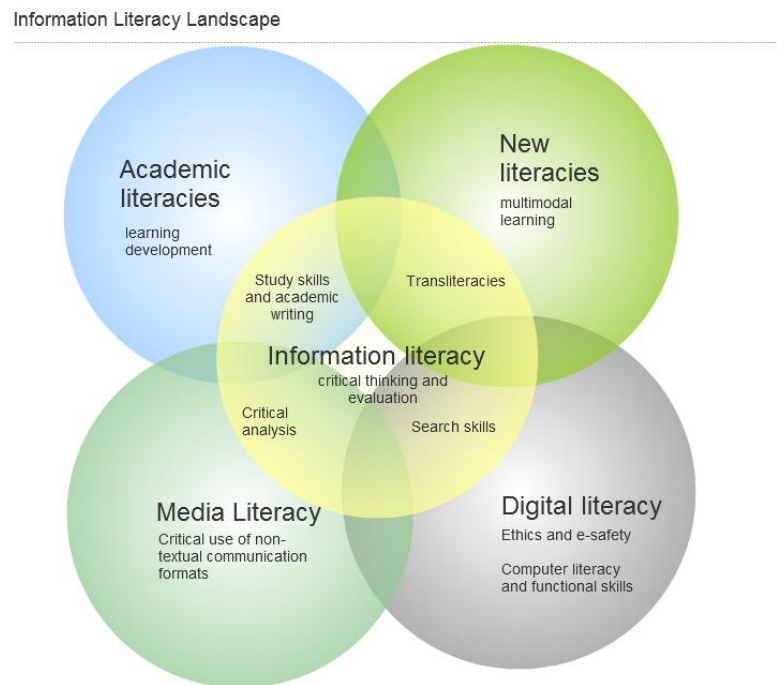
Recent research connects IL explicitly to composition and recognises that information supports the writing process (Birmingham et al., 2008; Bruce, 2008; Coonan, 2011; Jacobs & Jacobs, 2009; Lupton, 2008a; MacPherson; 2004; McMillen & Hill, 2005; Secker & Coonan, 2013). However, this connection is not new. Fister (1993) investigated the rhetorical dimensions of IL by comparing the role of the library and academic instructors in developing IL and reducing the emphasis on finding information. She observed no correlation between finding and evaluating information and the ability to write effective research papers, and recognised that merely locating information did not necessarily lead to developed arguments supported by evidence. Recasting research in the rhetorical context helps students to tap into the scholarly network (research conversation) (see 2.4.3). It enables students to determine the value of a source implied by the audience, argument, and evidence (MacPherson, 2004), and understand how the same information can be adapted to different audiences

(presentation to peers, paper to tutor). The connection of IL to writing is also a key feature in the ANCIL framework: presenting and communicating knowledge forms the eighth strand of the curriculum, and is linked to developing academic writing abilities (Secker, 2011; Secker & Coonan, 2013).

2.4.3 Research as conversation

Part of effectively evaluating the value of information to the discipline is being able to effectively engage with information and connect to the 'research conversation' (Bruce, 2008a; Fister, 2012; Gaipa, 2004; Lankes, 2011; Leckie, 1996) to support higher-level IL development and engagement with information sources (McMillen & Hill, 2005). The idea of research as a conversation is captured by Kenneth Burke's (1941) 'unending conversation' metaphor:

> Imagine that you enter a parlour. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no-one present is qualified to retrace for you all the steps that had gone before. You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defence; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon the quality of your ally's assistance. However, the discussion is interminable. The hour grows late, you must depart. And you do depart, with the discussion still vigorously in progress. (as cited in McMillen & Hill, 2005, p.6)

The 'research as conversation' metaphor, or 'Conversation Theory' (Lankes, 2011) suggests effective information use involves creating networks and paths to follow conversations and make judgments about information presented as evidence for research findings. Lankes (2011) suggests that a Conversation Theory approach to IL creates "a focus on learning and knowledge, rather than information access and artefacts" (p. 23) and shifts the emphasis from product to process. It also connects to the experience of learning that cannot come from texts or audio-visual material.

Yet, undergraduates, particularly first-year students, have a limited sense of who is important in a particular field, and on-going interaction with ideas by creating trails of association through citation is an unfamiliar process (Fister,

2011a, 2012; Leckie, 1996; McMillen & Hill, 2005). Fister (2012) recognises that:

> library tools are supposed to serve both the researcher who is continually drilling deeper into the vein they've mined for a decade and who personally know most of the living experts on the topic – as well as the undergraduate who has two weeks to learn enough about a topic they barely understand to make an argument about it. (para. 6)

Thus, undergraduate students may require support to make meaningful connections that instructors (as researchers) take for granted.

2.5 The 'Net-Gen' and IL

In the past 10 years, the focus of IL has moved to the information age and the use of information by the group of young people born since the 1980s who have never known life without computers, referred to as the 'Net-Gen', 'Digital Natives' or 'Millenials' (Abram & Luther, 2004; Bennett, Maton & Kervin, 2008; Latham & Gross, 2012; O'Brien & Symons, 2005; Porter, 2011; Prensky, 2001; Windham, 2006). Several perceptions about how this group of young people prefer to find and use information, and the challenges they face in today's information-saturated environment, have been identified. Net-Gen students are perceived as wanting instant gratification and immediate search results (Brabazon, 2006b; Godwin, 2006; Latham & Gross, 2012; Porter, 2011; Prensky, 2001), taking the easiest route, and using whatever article they find online, rather than selecting the most relevant sources for their research (MacDonald & Dunkelberger, 1998; O'Brien & Symons, 2005). Limberg, Alexandersson and Lantz-Andersson (2008) suggest that surface information-seeking behaviours that focus on finding answers may stem from high school practices that focus on the reproduction of facts and getting the task done.

Academics' assumptions around the innate abilities of Net-Gen students to effectively use computers to learn may impact on whether IL teaching is seen as necessary (Bennett et al., 2008; Ladbrook & Probert, 2011; Secker, 2011). As previously indicated (see 2.4.1), academic instructors may misunderstand the subtle differences between IL and confidence in using technology (Badke, 2010; Jenson, 2004; Macklin, 2001). While technological advances have made access to information even broader, confidence in using technology does not

seem to always translate into knowing how to use that knowledge to learn effectively (Dalgleish & Hall, 2000; Kennedy, Cole & Carter, 1999; MacDonald & Dunkelberger, 1998; Macklin, 2001). Furthermore, the concept of a Net-Gen generation "fails to recognise the cognitive differences of young people of different ages, and the variation within the same age group" (Bennett et al., 2008, p.779). Ladbrook and Probert (2011) suggest that, in reality, Net-Gen students are 'digital refugees', who may be skilful online, but are certainly less knowledgeable about effectively searching for and using information to learn.

A further challenge concerns some Net-Gen students' self-perceived abilities to conduct effective research. They tend to believe their research strategies are sufficient and lack interest in learning to be information literate (Brown, Murphy & Nanny, 2003; Gross & Latham, 2007, 2010; Jenson, 2004; Latham & Gross, 2012; Macklin, 2001; Weiler, 2004). Thus, as Brabazon (2009) suggests, inexperienced students may not realise they are limiting their IL competencies to low-level strategies. As the increasing access to unfiltered information raises questions about authenticity, validity and reliability, Bundy (2004) warns the "sheer abundance of information and technology will not in itself create more informed citizens without a complementary understanding and capacity to use that information" (p. 3). This suggests explicit IL instruction at universities would be beneficial for all students, who are perhaps largely unaware that they need it.

2.5.1 Impact of the Internet, Google and Google Scholar

The arrival of Google in 1997 changed the face of information searching forever. Then, in 2004, Google Scholar combined Google's perceived advantages of ease of access and familiarity with a means to connect directly to quality scholarly content online (Becker, 2003; Ettinger, 2008; Timpson & Sansom, 2011). Much of the debate around students' approaches to research centres on their preference for Google and Google Scholar over other search engines (Brabazon, 2006b; Williamson, Bernath, Wright & Sullivan, 2008).

The main attraction of Google is the familiarity and simplicity of searching the single search box, which some students tend to believe finds everything (Secker et al., 2007). Google simplifies the research process, attracting students who struggle with the complexity of subject-specific databases and

Boolean logic (Ettinger, 2008). Keyword searching in Google produces more results than traditional databases, which seem less intuitive. Google also provides interdisciplinary coverage not found in library databases, and links students quickly to full-text sources (Asher et al., 2012; Callicott & Vaughn, 2005; O'Brien & Symons, 2005). However, some students may not look past the first page of Google results (Asher et al., 2012; Ladbrook & Probert, 2011; Sundin & Francke, 2009). Waller (2009) warns that, rather than seeing what Google results reveal, we need to teach students what is concealed behind Google's relevance and popularity ranking systems.

Several limitations of Google and Google Scholar have been identified by educators. Google is criticised for providing access to unreliable information students frequently use (Asher et al., 2012; Brabazon, 2006b; Timpson & Sansom, 2011). Walton and Archer (2004) warn that students may look at the web information with a 'naive' view of the purpose of internet sites and the information they contain. Furthermore, random Google searching reduces control over the search process. Dalgleish and Hall's (2000) study found most students attributed successful information searches to luck more than skill. Reliance on Google and Google Scholar creates challenges within the research process, including:

- challenges in sorting and evaluating results

- lack of identification of content provider

- false impression of scholarly coverage and value

- omission of highly relevant articles

- limited full-text access through controlled distribution of paid-access journals (Brabazon, 2006b; Ettinger, 2008; Windham, 2006).

Brabazon (2006b) raises concerns over what she calls the 'Google effect' on students' IL development, which connects to the notion that relevance is determined by the number of 'hits'. Confusion between quality and popularity arises, and creates serious consequences when students access "highly ideological sites that are assessed by popularity, not qualitative importance or significance" (p. 160). Thus, although Google makes searching easier, it may

degrade scholarship as credentials and expertise may be overlooked, while one person's opinion gains unwarranted value.

Another concern is that students tend to believe they can find everything online (Waller, 2009). Williamson et al. (2008) found that students made no distinction between different kinds of electronic sources available to them and used 'online' to refer to both websites and academic journal articles found through electronic searches. The lack of context and key strategies to determine the difference between the content and form of electronic information means students often struggle to differentiate between 'free-flow' digital information, and the more balanced, significant information required for research (Waller, 2009).

A further key challenge with Google and Google scholar is that they discourage students from learning to use library databases to access higher quality information (Ettinger, 2008; Timpson & Sansom, 2011). Library discovery search tools, which search across library content, have been adapted to a single search box that looks similar to Google (Asher et al., 2012). However, such simplification limits students' abilities to evaluate and select information and oversimplifies the research process; if students use these search engines in the same way as Google, they will get unsatisfactory results (Asher et al., 2012; Buck & Mellinger; 2011). Students can also limit searches to 'full-text, peer-reviewed' sources, which discourages the development of effective evaluation strategies (Asher et al., 2012; Fister, 2012;).

As Google becomes the preferred tool for undergraduate research (Becker, 2003), teaching strategies to search Google and Google Scholar effectively alongside, rather than instead of, other databases is an emerging theme for IL instruction (Callicott & Vaughn, 2005; Ettinger, 2008; Godwin, 2006; Gross, Latham & Armstrong, 2012; Snavely, 2008; Sundin & Francke, 2009). Although Google Scholar lacks the rigour required at the research level, it may be suitable for the basic information needs of undergraduate novice researchers (Callicott & Vaughn, 2005; Ettinger, 2008; Timpson & Sansom, 2011). Ettinger (2008) recognised exposure to Google and Google Scholar is inevitable, so librarians and educators alike should embrace its potential and "support students to make informed decisions on which research tool to use by

educating them on their relative strengths, weaknesses and usefulness" (p. 70). Internet searching and evaluation can be enhanced and extended through additional instructional sessions that start with the familiarity of Google, particularly with students demonstrating below proficient IL competencies (Gross et al., 2012)

2.5.2 Task-completion vs learning

A key barrier to students developing effective, sustained IL practices is that they tend to take a task-focused approach to information searching and only research to meet the requirements of the task (Godwin, 2006; Rosenblatt, 2010). The motivation for completing tasks may stem from a desire to pass rather than to learn (Jenson, 2004). When adopting a task-focused approach, students may fail to transfer generic skills to other contexts or tasks. The main challenge to modifying students' task-focused approaches is that information seeking is viewed as a product not a process (Jenson, 2004; Latham & Gross, 2012; Secker, 2011).

Most assignments require students to engage in reflection and deep learning strategies to complete the task. However, even when students are able to access appropriate information for task completion, many struggle to engage effectively with such strategies (Gawith, 2000; Ladbrook & Probert, 2011; Rosenblatt, 2010; Weiler, 2005). As a result, they may rush or neglect the process, and leave out key stages of the research process. Students who fail to reflect on ideas and content, and who reproduce information without critical analysis, cannot be considered information literate (Gawith, 2000; Ward, 2001). Ladbrook and Probert's (2011) study at the secondary school level in NZ showed that students tended to 'cut and paste' and use the information without interpretation, analysis or synthesis. Most students mimicked the order of ideas and struggled with paraphrase, simply choosing relevant sections verbatim and deleting the rest. Although they were aware of the need to reference, they were unsure how to do this appropriately. Some students admitted copying references from Wikipedia without accessing the texts, believing no-one was going to check all their sources. Weiler's (2004) research would suggest that students are safe in this assumption. He cites Herring (2001) who found 73% of

faculty accepted student use of the internet in assignments with no criteria or limits attached regarding the accuracy or quality of the websites students used. The practices of the students in Ladbrook and Probert's (2011) study have serious implications for university instructors in dealing with students who have internalised ineffective research and synthesis practices prior to entering university.

2.6 Roles, Responsibilities and Approaches to Teaching IL

While there is now more agreement over what IL is, the debate continues over who should teach it and how it should be taught. As has been shown, IL has been recognised as central to, and inseparable from, the learning process (Andretta, 2006; Bruce, 2008a; see 2.2). Because much IL instruction teaches objective, 'safe' aspects of research, such as finding books, identifying scholarly sources and critically evaluating web materials (Ward, 2001), explicit instruction in the university curriculum that moves IL beyond a skills focus is essential (MacPherson, 2004). Lupton (2004) identified this as a shift from IL training to IL education. Although some highly motivated students will potentially learn IL skills on their own, all students would benefit from time and assessment to improve their academic research competencies (Brabazon, 2006b; MacPherson, 2004). Macpherson found that an overview of IL in first-year programmes is "likely to significantly enhance" (p. 234) student understanding of academic competencies required in undergraduate studies.

Instructors' attitudes towards IL education impact on the way IL instruction is delivered and how it is embedded into assessment and courses. Students need repeated action-focused opportunities to learn, practice and apply IL skills and strategies within the disciplinary context (Bundy, 2004; Diehm & Lupton, 2012; Secker & Coonan, 2011b). Engaging and well-designed curricula can be transformational, by supporting learners to become autonomous, reflective, critical, and discerning in their use of information (Secker, 2011). Latham and Gross (2012) suggest simply making instruction available is not sufficient, and that the most effective strategy to increase student motivation is a 'stick and carrot' approach, i.e. making IL workshops mandatory but also ensuring they are engaging and useful.

This research considers three options for where IL should be taught and by whom: librarians, academics, or collaboration.

2.6.1 Libraries' role: Rethinking focus from BI to IL

Much IL literature published in library journals acknowledges the valuable role librarians have in developing students' information-seeking behaviours and awareness of resource availability (Grafstein, 2002; Lupton, 2004; McCartin & Feid, 2001; Secker & Coonan, 2011b; Simmons, 2005). Most university libraries are equipped to host IL workshops with computers and seminar rooms that enable students to practise conducting information searches during instructional sessions (Latham & Gross, 2012). Such facilities may be limited in the lecture rooms where disciplinary teaching takes place.

However, librarians often seem to have become entrenched in what they do (McCartin & Feid, 2001). Faced with limited time to offer IL instruction, the library-based introductions to information-seeking are often one-off BI seminars at the beginning of the semester. While BI is an important component of IL, skills delivered out of the curriculum context do not necessarily coincide with students' need for information (Orr, Appleton & Wallin, 2001; Simmons, 2005; Thompson, 2003; Ward, 2006; Webber & Johnston, 2000). Short introductory sessions may not allow for any discussion of how to evaluate the sources found (Latham & Gross, 2012; McCartin & Feid, 2001), and the complexity involved in doing research today is more than can be taught in a one-off library session. As a result, many students often do not go to the library, relying wholly on the internet for sources.

New, extended models of IL development (see 2.2) suggest that support needs to extend beyond the library. An alternative approach that focuses on concepts over tools is required to emphasise processes and transferable skills to create lifelong learners (McCartin & Feid, 2001). The library has a key role in supporting the promotion and implementation of the ACRL and ANZIL standards (see 2.1.3, Table 1 & 2), and Standard 2 of both models can be consistently developed in the library domain. However, the other standards are strongly connected to disciplinary content knowledge being developed within the learning environment and assessment process, and require support from

academics within the disciplinary context (see 2.6.2). Andretta (2006) recognises the need to shift to a "learning how to learn approach – librarians need to adjust perspectives and perceive the phenomenon in terms of a more dynamic and holistic process of information use rather than mechanistic information seeking practices" (p. 17). This requires a greater focus on professional development to support librarians to become teaching professionals collaborating with discipline specialists (Andretta, 2010; Whitworth, 2012).

2.6.2 Academics' role: Fundamental

The key difference between 'information' and 'knowledge' is that "decontextualised data and information become knowledge only when someone, working within the framework of a discipline, integrates it into the knowledge-base of that discipline" (Grafstein, 2002, p. 200). Thus, academics' expertise is valuable for teaching students what kinds of information are valued in the discipline and how to evaluate the materials they find.

A broader holistic view recognises that explicit IL instruction should ideally be embedded into the disciplines (Grafstein, 2002; Macklin, 2001; Moore, 2005). The Boyer Commission (1998) report highlighted that academics hold a key responsibility to support students to develop critical evaluation skills. However, academics may not recognise their role in students' IL development (McGuinness, 2006, 2007), and they may not be aware that even minimal intervention in IL development within content courses can radically improve outcomes in students' research and writing processes (Leckie, 1996; MacPherson, 2004). Although overwhelming support for IL *as a concept* is shown by academics, its development through direct teaching, student-centred teaching or assessment appears uncommon (Ladbrook & Probert, 2011; McGuinness, 2007; Orr et al., 2001; Secker & Coonan, 2011a, 2011b).

Academics may be better placed than librarians to promote IL within their own disciplinary contexts (Macklin, 2001; Orr et al., 2001) because they can create situations where information is central to problem-solving, and IL and critical thinking skills can be developed within the discipline curriculum (Macklin, 2001; Moore, 2005; Orr et al., 2001). However, a key concern that may arise from

academics teaching IL strategies at the information-seeking stage is they themselves may be unfamiliar with all the resources the library is able to offer, and may not have time to keep abreast of the rapid changes taking place in terms of information retrieval devices (Secker et al., 2007; Smith, 1997). Therefore, both teaching academics the importance of IL instruction and up-skilling them with the skills and strategies to teach it means librarians' efforts can be focused on a smaller group, who can then spread IL development to the wider student body (Secker et al., 2007; Smith, 1997).

2.6.3 Collaboration: Beneficial

The either/or arguments do not take into account the important roles that both librarians and academics play in students' IL development. Effectively embedding and implementing IL across the curricula in all programmes requires collaboration between academics, librarians and wider university administrative bodies, through recognition that IL is an integral component of the educative process (ACRL, 2000; McCartin & Feid, 2001; Secker & Coonan, 2013; Simmons, 2005; Turner & Fisher, 2002). This requires both collaboration within the library[6] and between library and academic staff[7] to support students' IL development in the curriculum (Turner & Fisher, 2002). Thus, many IL researchers promote collaboration between library and academics to ensure that IL is spread throughout the courses and consistently reinforced across the full degree, not just in the first year or at the beginning of the semester (McCartin & Feid, 2001; Secker, 2011).

The value of collaboration connects to the complexity and interdependent nature of IL competencies, which require the co-operation and knowledge of librarians and faculty in the design and delivery of programmes (Orr, Appleton & Wallin, 2001; Secker, 2011; Thompson, 2003). Fister (2011b) identifies the key difference in the way librarians and academics view IL. Librarians think of skills that apply to all knowledge domains, taking a practical approach to show students how to find information on any subject using various tools and techniques. Academics, on the other hand, tend to think more in terms of how

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[6] sharing resources, team teaching, peer review
[7] provision of resources, staff attending classes with students, using assessment to encourage participation, providing feedback on IL skills development

using sources connects to particular disciplinary traditions and values. Therefore, supporting students to acquire IL is a shared responsibility: librarians can teach generic skills for information seeking and knowledge acquisition, while academics can focus on higher-level skills needed for subject-specific inquiry and research (Fister, 2011b; Grafstein, 2002; Proctor, 2006).

While collaborative efforts to improve students' IL are desirable, both Turner and Fisher (2000) and Markless and Streatfield (2007) found that full integration and broad collaboration have been elusive. Research on the development of IL at Otago University in NZ from 1993-2002 (Turner & Fisher, 2002) showed an increased level of collaboration, but despite librarians' increasing contact with departments and involvement with academic staff, there was still a sense of ad hoc development. The main challenge was that significant collaboration took time and involved "academics making time for IL teaching components, academic staff working closely with library staff to devise appropriate assessment mechanisms, mark work, and provide feedback" (Turner & Fisher, 2002 p. 9). The findings of their study suggest librarians are working hard to make in-roads into academic courses, but the onus remains on academics to recognise that IL development in the disciplines is essential to support higher academic learning.

2.6.4 Embedded approach: Ideal

Developing IL is achieved best through being woven into the curriculum content, sequence and structure (ACRL, 2000; Secker, 2011); thus, a strong theme emerging in the literature is that it should be embedded in the academic discipline, rather than in supplemental, isolated instruction (ACRL, 2000; Andretta, 2006; Bruce, 2008a; Bundy, 2004; Collins & Hill, 2003; Gunn, Hearne & Sibthorpe, 2011; Proctor et al., 2005; Secker & Coonan, 2011b, 2013; Wang, 2007, 2010). The Queensland University of Technology (QUT) Library (2010) 'Information Literacy Strategies' website defines embedded IL practice as:

> where learning opportunities and experiences are designed, delivered, assessed and evaluated via collaborative partnerships between academic and library teaching staff within the full curricula of a course and each associated unit of study within that course. IL content is always contextualised within the content and assessment of a single unit as

connected to multiple units within a course (i.e discipline-driven) and targeted to the specific and immediate long-term needs of the students in each unit/course. Assessment elements of the unit are a combination of formative and summative mandatory requirements of the unit and/or course, and are weighted accordingly. Through recursive and iterative learning opportunities, the outcome is deep durable learning and transferable understanding and application of complex IL concepts and skills. (para 7)

Because IL is an educational and pedagogical issue, a sustained, embedded approach will fully integrate IL development into the curriculum (Andretta, 2006). Successful embedding can be achieved through sustained collaboration and curriculum and assessment design that considers the requirements of the discipline (Secker & Coonan, 2011b; Turner & Fisher, 2002). It is a longitudinal process, which should ideally begin in first year and then be continually reinforced through on-going collaborative teaching practices throughout the undergraduate and postgraduate years (ACRL, 2000; Gunn et al., 2011; McCartin & Feid, 2001; Secker & Coonan, 2011b; Stubbings & Franklin, 2007). Gunn et al. (2011) found that effective learning requires both practice and the ability to transfer skills, which cannot be realistically achieved within one year of study. They cite research which found second and third-year students had not retained generic skills explicitly taught in first year (Ford et al., 2009, as cited in Gunn et al., 2011). Therefore, embedding IL only at first year leaves gaps in knowledge in subsequent years, and overall coherence and consistency may be lost. Through an embedded approach beyond first year, students should develop a dual focus on research and content and may come to see IL as a set of competencies transferable to all learning and courses (McCartin & Feid, 2001).

Although embedding IL into the curriculum and disciplines is strongly advocated, it remains a challenge within higher education (Gunn et al., 2011; Stubbings & Franklin, 2007). Gunn et al. (2011) found "various strands of research from the past 40 years recommend embedding these skills in the curriculum as the way to promote academic success, yet this practice is not yet mainstream" (p. 1), and much IL support remains remedial and separate from the curriculum. They suggest academics' reluctance to consider IL development as part of their responsibility compounds this problem.

44

2.6.5 Online IL instruction: Increasing

Increasing student numbers, both internally and at a distance, have prompted a shift to online IL instruction (Gunn et al., 2011; Partridge, Edwards, Baker & McAllister, 2008; Secker, 2011), which is perceived to provide IL instruction to a greater number of students. Online access to information has meant that the libraries need to have a strong online presence and make access available to a greater range of information than students can access through Google (and other online search engines) alone. While the challenges of online IL instruction did not emerge as a feature of the interventions in this research, it did present as a major issue of concern for librarians.

Online components are advocated as a way of delivering core, functional IL skills to large groups of students (Partridge et al., 2008; Secker, 2011). Gurtierrez and Wang (2001, as cited in Partridge et al., 2008) found that online IL learning can be enhanced when promoted within a lecture so students have human intervention. Partridge et al. (2008) offer the QUT interactive Reflective Online Search Skills (ROSS) as an example of what they consider an effective online IL tool that can be modified and embedded into different disciplines. Partridge et al., (2008) stated that a strength of ROSS is that it includes a reflective workspace, where "students are provided ample opportunity to critically reflect upon the development of their own online searching and knowledge" (p. 57).

However, a number of concerns over online IL delivery were also identified. Partridge et al. (2008) observed that "many online information literacy tools are static, modular, linear and heavily text based, and have failed to incorporate an interactive approach to the learning process" (p. 55). Access to online support that is not embedded or followed up with assessment relies on students' recognising their lack of IL skills and being pro-active in relation to learning. Furthermore, Markless and Streatfield (2007) recognise that online IL tutorials, worksheets, and self-assessment questionnaires do not tend to foster the depth of reflection and critical analysis needed to encourage transfer. Merely providing self-access resources will not make students seek them out and use them for independent learning. Therefore, unless engagement with online learning

resources is encouraged by academics, online IL instruction may still miss a large proportion of students.

2.7 Reflections

After exploring the key definitions and approaches to IL, I embraced the holistic notion of IL fundamental to and inseparable from learning.. The key IL models and frameworks reviewed, particularly the ANCIL curriculum and informed learning agenda, informed my understanding of IL and underpinned the interventions developed to support students' IL development.

To date, there is insufficient research about academics' engagement with IL and their experiences of integrating IL into their assessment and classroom activities. This research, developed through a model of action research, both empowered academics to work with IL and researched this process. The significance of action research is discussed in Chapter 4. After considering the approaches to IL instruction in the literature, I selected collaboration between the librarians, content instructors and me (as a researcher and collaborator) as the appropriate approach for supporting students' IL development. This approach facilitated embedding library instruction in the disciplinary context, which was central to ensuring students developed practical information-seeking behaviours and evaluation strategies within the BEP context under the guidance of content instructors.

CHAPTER THREE
Teaching to Support Learning of IL at University

In this research, many conversations with participating instructors centred around identifying teaching and learning strategies that would provide internal consistency for students' IL development in a context of supporting learning. This chapter considers appropriate teaching pedagogies to support IL development in a university context, and offers a broad overview of changes in the university teaching and learning environment. It then establishes the key pedagogical principles on which the interventions in this research were designed and based.

3.1 Changes in the Student Body and University Environment

As mentioned in the opening to this thesis, constant change is a recognised feature of western university environments today. Before exploring how students learn at university, it is important to briefly identify the key changes in the environment for teaching and learning in western university contexts, and to consider concerns over students' preparedness for university study.

3.1.1 The change in student cohorts

A key focus in the literature on higher education in the US, UK, Australia and NZ concerns changing student cohorts (Biggs & Tang, 2011; Brabazon, 2007; Devereux & Wilson, 2008; Gosling, 2003; Radloff, 2006; Secker et al., 2007; Weimer, 2003), and the implications of this on the way today's students learn, and therefore, how they need to be taught. It has been argued that governments with key goals of increasing economic productivity have created policies to encourage more people to gain tertiary qualifications (Radloff, 2006); thus, the expansion of access to higher education has widened entry to a larger number of traditional-age (18-20 year olds) and non-traditional students (including mature-aged and international students, and students with disabilites), with greater numbers enrolled part-time (van der Meer, Jansen & Torenbeek, 2010) or studying at a distance. The increasingly diverse student population with varying stages of academic growth and development creates a situation where instructors' expectations and students' abilities may differ

(McCartin & Feid, 2001). Gosling (2003) argues that "we can no longer assume that there is a common understanding by students of the purposes of higher education and the nature of studying at higher levels" (p. 162).

3.1.2 The change in modes of teaching

The shift to mass education in western universities requires new pedagogies that better engage the diverse student population "who are welcomed into the academy by the rhetoric of widening participation, but at the same time denied an adequate participation by taken-for-granted assumptions about academic conventions" (Lillis & Turner, 2001, p. 66). Radloff's (2006) research in Australia found that traditional conventions are being challenged by both the increasing number of non-traditional students entering higher education, and that new technologies are changing the traditional face-to-face mode of learning as a result of the increasing availability and popularity of flexible, distance and online learning. These new technologies have impacted on teaching practices, curricula, and assessment (Boyer Commission, 1998; Devereux & Wilson, 2008), and also on the ways students prefer to learn. A systematic approach to supporting student learning is becoming increasingly important, and instructors need to adapt traditional teaching pedagogies to those which may better engage and support a greater diversity of students (Gosling, 2003; Lillis & Turner, 2001).

3.1.3 The change in university environments

Changes in student cohorts in the US, UK, Australia and NZ have been accompanied by changes in the university environment. The adoption of a business model of education in universities has created an environment affected by competition, cost-cutting, user-pays structures, higher staff:student ratios, and increased casualisation of the workforce (Biggs & Tang, 2011; Brabazon, 2007; Devereux & Wilson, 2008; Grey & Scott, 2012). This business-driven environment impacts on the way instruction can be delivered to larger classes of students who, under the previous elite view of higher education, would have been denied access to universities (Biggs & Tang, 2007; Brabazon, 2007; Grey & Scott, 2012).

3.1.4 University readiness and transition

A concern over widening participation in higher education, particularly in the UK (Secker, 2011), Australia (Brabazon, 2007) and NZ (van der Meer et al., 2010), is whether or not students entering university are prepared for the demands of academic learning. There is a strong perception that the gap between high school and university is widening throughout western countries (Angier & Palmer, 2006; Callahan & Chumney, 2009; Ladbrook & Probert, 2011). Brabazon (2007) observed that the lack of preparedness for university in the US and Australia has resulted in a greater proportion of students who require increased support to achieve passing grades and yet still may produce inadequate work. Secker (2011) attributes transition issues students face in the UK and elsewhere to the widely used 'teach to the test' model of learning in schools, which is criticised for failing to adequately prepare students for university learning.

Being prepared for, and successfully transitioning into, university requires that students understand the expectations of learning within their discipline, including recognising, finding and being able to read key information sources, and knowing how to write academic tasks (Conley, 2008; Secker, 2011). To support students towards tertiary academic literacy, the onus lies with universities to reform the first-year experience by embedding the development of academic competencies within first-year courses to enable a smoother transition into higher education (Jansen & van der Meer, 2012; Weimer, 2003). Research in NZ by Gunn et al. (2011) suggests a "challenge arises when teachers assume that students will come fully equipped with the necessary academic skills, and if they don't, it's their own problem and someone else's responsibility to fix it" (p. 1). Secker's (2011) research in the UK indicates that because some academic staff equated being explicit to spoon-feeding, they were failing to clarify their expectations to students. Therefore, both students and instructors would benefit from understanding how students have been taught prior to university entry and where any gaps exist.

3.2 Student Approaches to Learning

When tackling a learning situation, students may learn through trial and error, and adopt a surface (passive), strategic, or deep (active) approach to learning (Biggs & Tang, 2011; Diehm & Lupton, 2012; Entwistle, 2000; Markless & Streatfield, 2007). The approach students choose to adopt is dependent to some extent on the teaching they are experiencing (Biggs & Tang, 2007; Diehm & Lupton, 2012; Moon, 2001). Learning approaches students employ impact on the quality of their learning outcomes (Diehm & Lupton, 2012). However, because a student's approach to learning is at least in part a response to the learning situation, different approaches can be modified through explicit focus on the research and writing process, which will, in turn, improve understanding and learning.

3.2.1 Trial and error

Trial and error has been identified as a common and legitimate approach to student learning when underpinned by problem-based learning (Diehm & Lupton, 2012; Macklin, 2001). For IL development, trial and error may occur in two ways:

- a haphazard way of trying different processes, keywords, information tools and sources

- a more planned and thoughtful experimentation that involves evaluating results and actions, and subsequently modifying attempts (Diehm & Lupton, 2012, p. 7).

The first method often leads to surface learning, as students fail to make connections and transfer skills learned. The second method, however, can lead to a deeper discovery approach to learning if students can be encouraged to make it a more intentional, deliberative, and reflective strategy (Diehm & Lupton, 2012). Macklin (2001) suggests that within a considered trial and error process, the instructor's role is to provide opportunities for problem-solving where students discover existing knowledge, and are then guided towards new knowledge.

3.2.2 A surface approach

Several factors contribute to whether students adopt a surface approach to learning (Table 4), including both student intentions and teacher practices (Biggs & Tang, 2011; Entwistle, 2000). Learners tend to adopt a surface approach when their aim is to memorise the material rather than relate it to existing ideas. In terms of developing IL, learners may adopt a surface approach if the focus of IL instruction is on acquiring and applying techniques, rather than developing a critical awareness of information and how it supports learning (Diehm & Lupton, 2012).

Table 4: Factors that Encourage Surface Approaches to Learning

STUDENT	- Intention to achieve a minimal pass - Non-academic priorities exceed academic ones - Insufficient time - Too high a workload - Misunderstanding requirements - Cynical view of education - High anxiety - A genuine inability to understand particular content at a deep level
TEACHER	- Teaching piecemeal by bullet points, not bringing out the intrinsic structure of the topic or subject - Assessing for independent facts (short answer + multi-choice tests) - Teaching, and especially assessing, in a way that encourages cynicism e.g. I hate teaching this, you'll hate learning this, but we have to cover it - Providing insufficient time to engage with the task – emphasising coverage at the expense of depth - Creating undue anxiety, or low expectations of success

Developed from: Biggs & Tang, 2007 p. 23-25

Surface learning may also stem from an intention to complete assessment tasks as quickly as possible with minimal effort, while still meeting the course requirements (Biggs & Tang, 2011; Marton & Saljo, 1984; Moon, 2001; Proctor, 2006). This approach is supported by low-level or inappropriate learning activities that focus on content over process, meaning or understanding (Proctor, 2006). Thus, the style of teaching and design of tasks and assessments, particularly traditional, teacher-centred modes of instruction, can contribute to whether students adopt a surface approach to learning (Biggs & Tang, 2011).

3.2.3 A strategic approach

Students adopting a strategic approach to learning focus on assessment and understanding the preferences of lecturers to achieve the highest possible grades (Entwistle, 2000; McGuinness & Brien, 2006; Marton et al., 1984). They are effective at time management and put consistent effort into studying. While strategic approaches are preferable to surface learning, the focus for learning is on getting the maximum benefit with minimal effort (Cassidy & Eachus, 2000). As such, it may be considered an effective approach to passing, but it lacks the processes to engage deeply with learning. Students who adopt a strategic approach are often self-confident and have the ability to adopt deeper approaches to learning when engaged in a task or when the assessment design demands it (Fry, Ketteridge & Marshall, 2003; Moon, 2001).

3.2.4 A deep approach

Learners are more likely to adopt a deep approach to learning when they are curious about a topic and engage with content meaningfully (Biggs & Tang, 2011) (Table 5).

Table 5: Factors that Encourage Deep Approaches to Learning

STUDENT	• Engages in the task meaningfully and appropriately (intrinsic curiosity or determination to do well) • Has appropriate background knowledge • Has the ability to focus at high conceptual level, which requires a well-structured knowledge base • Has a genuine preference and ability for working conceptually rather than with unrelated detail
TEACHER	• Teaches in a way to explicitly bring out the structure of the topic or subject • Teaches to elicit an active response from students • Teaches by building on what students already know • Confronts and eradicates students' misconceptions • Assesses for structure rather than independent facts • Teaches and assesses in a way that encourages a positive working atmosphere, so students can make mistakes and learn from them • Emphasizes depth of learning, rather than breadth of coverage • Uses teaching methods that support explicit aims and intended outcomes of the course

Developed from: Biggs & Tang, 2007 p. 23-25

Students engage in deep learning when they aim to understand the material by integrating it with previous knowledge and by developing and changing

52

understandings, resulting in higher quality learning (Biggs & Tang, 2011; Entwistle, 2000; Moon, 2001; Trigwell, Prosser & Waterhouse, 1999). A deep approach can be encouraged by building on what students know, encouraging curiosity about learning new content, and providing learning tasks that require high level responses and involve critical thinking and reflection (Moon, 2001). The effectiveness of this approach is dependent on a student's ability to work effectively, rather than simply being interested in learning (Cassidy & Eachus, 2000).

3.3 Adopting Learner-focused Pedagogy

Perceptions of what it means to effectively learn within higher education are central to determining the approaches academics adopt to teaching (Biggs & Tang, 2011; Entwistle, 2000; Trigwell et al., 1999). Moving away from traditional transmission models of teaching, recent trends in tertiary teaching encourage alternative learner-focused pedagogies to support student learning at universities (Biggs & Tang, 2011; Bruce, 2004; Bruffee, 1999; Coonan, 2011; Gosling, 2003; Huba & Freed, 2002; Lupton, 2004; Secker et al., 2007). This section briefly identifies traditional modes of teaching at university and then outlines the value of a shift to learner-focused pedagogies which adopt constructivist, experiential, reflective and socially-constructed views of learning.

3.3.1 Traditional teaching pedagogies and remedial approaches to skills development

Learning cannot be separated from teaching, and the way students are taught will impact on what and how much they learn; however, teaching does not automatically lead to learning (Biggs & Tang, 2007; Illeris, 2002; Weimer, 2003). The lack of a universal tertiary teaching qualification for academic instructors (Wang, 2010) may mean that a number of experts employed to research and teach at the university lack any teaching experience and tend to teach in the same way they were taught at university (Brabazon, 2002; Huba & Freed, 2002; Radloff, 2006), that is, predominantly by transmitting information through lecturing. Traditional lecturing places the teacher as the bearer of knowledge at the centre of teaching and learning, and academic instructors may view transmittal lecturing as an effective means to 'cover the material' (Horgan, 2003;

Weimer, 2003). This approach to university teaching is "so widely accepted that teaching and assessment the world over are based on it" (Biggs & Tang, 2007, p. 17), and teaching rooms, technology and media have been designed to facilitate one-way delivery.

While interactive and engaging lectures can promote learning, the transmission lecturing approach has been widely criticised as being largely ineffective because it can lead to students adopting a surface or strategic approach to learning and assessment (Biggs & Tang, 2011; Diehm & Lupton, 2012; Trigwell et al., 1999). Andretta (2006) argues the transmission approach to teaching may support teacher-directed learning expectations students bring with them from secondary school. As a result, students may become passive participants in the learning process, learning only the lecturer's interpretation of the course content (Entwistle, 2000; Trigwell et al., 1999). Furthermore, transmission lecturing does not always support knowledge retention. Lord (2007) observed that within a few weeks students could only recall 5% of information from lectures. Thus, maintaining a traditional approach to teaching means some universities may be "underperforming and failing to produce graduates ready to succeed in the information age" (Huba & Freed, 2002, p. 3).

A further challenge arises when academics adopt a remedial view of academic literacy development. The assumption that students can already read and write appropriately for tertiary study when they arrive at university means academics often perceive students' inability to produce quality academic written assessments as laziness (Brabazon, 2002; Macklin, 2001) or a lack of basic academic skills from secondary level (Boyer Commission, 1998; Crozier, 2007; Devereux & Wilson, 2008; Murray & Kirton, 2006; Radloff, 2006). This may result in the adoption of approaches to skills development that offer remedial support for weak students. These include bridging courses for pre-entry students, referral to university academic support services (which are often under-resourced) for one-to-one support (Chanock, 1999; Radloff, 2006; Skillen, Merten, Trivett & Percy, 1998), or the integration of generic or discipline-specific writing courses, which are often developmental and process-led, but may be perceived as remedial by both academics and students (Boyer Commission, 1998; Chanock, 1999).

Academic instructors' perceptions and approaches to academic literacy development impact on how much support they are willing to provide. The remedial perspective dominates when instructors view either a developmental approach as 'spoon-feeding' or feel they need to offer less challenging tasks to ensure weaker students can pass. Biggs and Tang (2007) describe spoon-feeding as doing "the work for the students, so they have little left to do but swallow" (p. 54). Instructors who believe that students are unable to cope with more challenging tasks may adopt an approach that 'dumbs down' the texts, or rely on textbooks that are easier for students to digest, or create assessments that require lower level cognitive skills (Devereux & Wilson, 2008; Hammond & Gibbons, 2005). An academic instructor who takes a remedial focus will fail to understand that developing IL and other essential academic literacies for all students is integral to effective engagement with learning in higher education (Crozier, 2007). Skillen et al. (1998) argue that an:

> underlying remedial approach [is] a fundamental weakness because it fails to recognise that all students need to develop specific skills for operating effectively in both the tertiary and disciplinary contexts and it effectively categorises those brave enough to ask for help as 'deficient'. … [A remedial approach] marginalises learning development of academic skills on the 'fringe' of academic study. (p. 3)

3.3.2 Research vs teaching

One constraint on professional development for teaching is that tenure and promotion opportunities at some western universities are perceived to encourage a focus on research over teaching. In the US, research universities are ranked by the research productivity of academic faculty (Boyer Commission, 1998). The Boyer Commission report found that teaching is often not given high priority due to time constraints, focus on research, lack of value on teaching in the tenure process, or simply to instructors lacking pedagogical knowledge. Similarly, in NZ, under the current Performance Based Research Funding (PBRF) model, research may be promoted at the expense of teaching. Gerrard, Nokes, Roberston and Salm (2004) suggest that the PBRF system in NZ "has done much to focus the attention of individuals, departments, and institutions on research productivity" (p.6) with the trade-off being time allocated to improving teaching, or researchers 'buying out' teaching to focus on research, meaning undergraduate students may not be being taught by the disciplinary experts. For

some academics, the key focus is on research and securing the next round of research funding from external funding bodies, a revenue stream that is essential for university survival in an age of reduced government funding for the tertiary sector. However, this focus may impact on the quality of teaching at universities (Willis, 2009).

3.3.3 A shift towards learner-focused, developmental approaches to learning

As previously indicated (see 3.1.4), there is a concern over whether students entering university study in the UK, Australia and NZ have mastered the academic competencies needed to successfully approach undergraduate-level assessment tasks (Bruce, 2008a; Jansen & van der Meer, 2012; Weimer, 2003; Wilson et al., 2004). A number of students enter university with technological competencies, but this may give a false sense of preparedness, as discussed in section 2.5. While some students may be aware of the academic research and writing process, many others will enter their programmes of study with no formal introduction to IL and academic literacies, and will struggle to learn these on their own. Furthermore, university instructors expect a skill set distinctly different from high school requirements (Jansen & van der Meer, 2012). Supporting students to become effective learners requires tertiary instructors to re-conceptualise the acquisition of tertiary academic conventions as developmental (Angier & Palmer, 2006; Husain & Waterfield, 2006); it requires awareness-raising about essential IL and academic literacy competencies, complemented with practice and repetition, embedded in courses throughout their degree.

A shift to learner-focused pedagogy creates a better balance between teaching and learning (Weimer, 2003) and encourages deeper learning approaches (Trigwell et al., 1999). Bruffee (1999) argues that effective learning occurs when both instructors and students engage in a continual conversation to construct and maintain knowledge. This requires instructors to rethink and question assumptions about the roles of both themselves and students in the learning process (Huba & Freed, 2000; Weimer, 2003). Often interchangeably referred to as 'student-centred', 'learner-centred', 'student-focused' or 'learner-focused',

this approach to learning draws on constructivist learning principles (see 3.3.4) and suggests that "learning is not a spectator sport" (Radloff, 2006, p. 249). I have selected to use the term 'learner-focused' in this research for two main reasons. The first is because it recognises the joint responsibility between the teacher and the student in the learning process as promoted by the NZ Ministry of Education (n.d) *Te Kete Ipurangi*[8] (TKI) guidelines, which suggest:

> the success of teaching and learning is founded on the quality of the relationship built between the teacher and the student. The teacher manages the motivational climate of the classroom to foster a learning-focused relationship with students, with a shared ownership of and responsibility for learning. This provides students with the maximum opportunity to build their own motivation to learn. (Ministry of Education, n.d)

The second reason for referring to learner-focused, rather than student-centred, learning is that Brabazon (2007) warns:

> if inexperienced students are expected to be independent learners, responsible for their own time and scholarship, then there will be consequences. Failure rates will be high. Because of 'student-centred learning', the blame for this failure is the individual, not the institution. (p. 87)

Learner-focused approaches to teaching and learning recognise that what the students do in the classroom is more important than what the teacher does (Radloff, 2006; Shuell, 1986, as cited in Biggs & Tang, 2007). A learner-focused approach recognises that students' learning needs and development relate to the academic competencies courses demand (Gosling, 2003), and focuses on the students discovering the meaning behind the content and making decisions about what is important. This mode of learning is more likely to give students more power over the learning process and encourage them to take more responsibility for their learning (Fry et al., 2003; Weimer, 2003).

The instructor also learns from the students in a learner-focused learning context (Biggs & Tang, 2011; Fry et al., 2003). Rather than being the bearer of knowledge, the instructor provides a map that enables students to navigate

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[8] Te Kete Ipurangi – the online knowledge basket – is the NZ Ministry of Education's bilingual education portal, which provides New Zealand schools and students with a wealth of information, resources, and curriculum materials to enhance teaching and learning, raise student achievement, and advance professional development (http://www.tki.org.nz/About-this-site/About-Te-Kete-Ipurangi).

around the content and discover their own interpretations and meanings. While this may be what many lecturers desire, unfamiliarity with teaching pedagogies beyond the transmittal lecturing approach, and time constraints inherent in a semesterised teaching schedule, may provide challenges for instructors to modify teaching and curricula to focus on the learner and what is learned, rather than the teacher and what is taught (Biggs & Tang, 2011).

Learner-focused approaches also rely on the creation of opportunities for students to engage actively in learning tasks (Entwistle, 2000; Huba & Freed, 2000; Weimer, 2003). Such opportunities include creating activities that foster critical thinking, encourage open discussion, and support students to encourage and peer-teach each other in a collaborative learning situation (as will be discussed in section 3.3.4). These opportunities cannot be achieved if the instructor dominates the dialogue and students sit passively in class taking notes, but rather are facilitated through discussion and reflection, and a clear understanding of intended learning outcomes (Biggs & Tang, 2011). However, students may not be prepared for a learner-focused approach to learning. Coonan (2011) explains:

> many students' experience of school learning will have been grounded in the model of knowledge transfer, in which learning is parcelled into discrete chunks, communicated by instruction and demonstration, and tested by a means of memorisation and repetition which rewards rote or regurgitate answers. (p. 10)

Therefore, supporting students towards learner-focused approaches should ideally begin throughout secondary education and continue from the moment they enter university.

3.3.4 The complexity of a collaborative teaching and learning relationship

When learning is viewed as a truly collaborative experience, then both teachers and students have roles to play in the learning process as students develop research, writing and critical thinking capacities. This socio-cultural view of teaching (Sundin & Francke, 2009; Wang, 2007, 2010; Wang, Bruce & Hughes, 2011) connects to the Māori concept of '*ako*', effective and reciprocal teaching and learning:

> The concept of ako describes a teaching and learning relationship, where the educator is also learning from the student and where educators' practices are informed by the latest research and are both deliberate and reflective. Ako is grounded in the principle of reciprocity and also recognises that the learner and whānau [family] cannot be separated. (*Kā Hikitia,*[9] Ministry of Education, 2009)

The concept of ako is applicable to all spheres of education and supports the notion that effective learning is achieved through a balance of teacher-directed and self-directed instruction that meets the learners' needs. Instructors may have to directly teach specific content or skills, particularly given time constraints which do not provide sufficient time for students to go through a discovery process (Booth, 2011), or if an idea or skill is needed as a pre-requisite for advancing to more important ideas or skills. Direct instruction is also valuable when introducing a new concept or skills that the students have no prior knowledge (schema) of or have not experienced before, and, therefore, could not be expected to learn for themselves (Booth, 2011). Direct instruction techniques include demonstration or guided discussion for learning functional or factual knowledge, or guided practice (Booth, 2011; Grassian & Kaplowitz, 2009).

Equally important is space within the curriculum for collaborative, critical and self-directed learning (Bean, 2011; Booth, 2011). There are several ways students can learn from each other in a collaborative learning environment, and teachers can learn from their students through reciprocal feedback and observation. Firstly, an understanding of what students are learning will enable teachers to see whether what they believe they are teaching and what the students are learning align. Secondly, students bring a diverse range of backgrounds, expertise and experiences to the classroom and may introduce ideas that the instructor and other students may not have considered, but which are nevertheless relevant. Engaging in class discussions opens students up to a variety of perspectives that may differ from the instructor's views or from those contained in texts. Bean (2011) argues that "class discussions, small group activities, and other teaching strategies encourage students to work collaboratively to expand, develop and deepen their thinking" (p. 5-6). Since

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[9] Kā Hikitia is the NZ Ministry of Education's Māori Education Strategy for supporting NZ's indigenous Māori towards educational success.

critical thinking is an essential part of both IL and being able to research and write well, instructors and peers are key resources to support critical thinking.

3.3.5 Constructivism

This research is informed by the principles of constructivist educational theory (Biggs & Tang, 2011; Booth, 2011; Grassian & Kaplowitz, 2009; Hepworth, 2006; Illeris, 2002; Limberg et al., 2012; Markless, 2009; Star & McDonald, 2007). Constructivism recognises both the cognitive and social aspects of learning (Star & McDonald, 2007). It is underpinned by learner-focused, participative, collaborative, experiential, self-motivated and reflective pedagogies that offer a practical approach to teaching and learning, where the instructor and students participate in a shared learning experience to enhance learning (Booth, 2011; Cooperstein & Kovecar-Weidinger, 2004; Hepworth, 2006; Illeris, 2002; Markless, 2009; Radloff, 2006; Wang, 2007; Wrathall, 2013).

When instructors adopt a traditional transmittal approach to teaching, they may seek new information, integrate it into their existing knowledge, then organise and present it to students who tend to sit passively and listen; however, the individuals doing the most learning in this scenario are the instructors (Huba & Freed, 2000; Weimer, 2003). A constructivist perspective, on the other hand, supports learners to construct knowledge via active learning. Students are encouraged to build on existing knowledge and structure new information to bring about conceptual change. This is achieved through the manipulation of data, information and knowledge rather than just acquiring information (Biggs & Tang, 2007; Cooperstein & Kovecar-Weidinger, 2004; Hepworth, 2006; Wang, 2007). Within constructivism, knowledge and ability are not simply transferred from teacher to student (Limberg et al., 2012). A constructivist approach allows learners more control over what and how they are learning. However, constructivism is more than providing hands-on activities (Cooperstein & Kovecar-Weidinger, 2004; Weimer, 2003); rather, it creates opportunities for active learning and encourages students to take responsibility for their learning.

Criticisms of constructivism include the role of the teacher in learning being largely ignored, the time-consuming nature of discovery learning, and the lack of connection to individual cognitive and motivational differences in learning

(Entwistle & Smith, 2002). However, these challenges can be overcome when teachers focus on teaching for understanding and intervene, when appropriate, with formative feedback and collaborative learning opportunities (Cooperstein & Kovecar-Weidinger, 2004; Entwistle & Smith, 2002; Weimer, 2003).

3.3.6 Experiential learning

Within constructivist learning theory, experience, or learning-by-doing, is recognised as an essential key to learning (Diehm & Lupton, 2012; Fry et al., 2003; Kolb, 1984; Illeris, 2002; McCartin & Feid, 2001; Markless & Streatfield, 2007; Secker et al., 2007). Beard and Wilson (2002) state that "learning from experience is one of the most fundamental and natural means of learning available to everyone" (p.13), but recognise that different people view the same experience differently and can learn in different ways from the same experience.

Kolb's (1984) 'Experiential Learning Cycle' suggests learners go through four key stages in learning:

1. concrete experience – doing or having the experience
2. reflective observation – reflecting on / reviewing the experience
3. abstract conceptualisation – drawing conclusions and learning from the experience
4. active experimentation – using prior learning to plan and put into action what has been learned.

Experiential learning is facilitated learning through inquiry-based or problem-focused learning activities. Instructors in inquiry-based learning act as mentors who guide students in discovery, rather than authorities who transmit information (Boyer Commission, 1998, 2001; Huba & Freed, 2000; McCartin & Feid, 2001). An important aspect of the experiential learning cycle and discovery process is that students learn as much from their mistakes as they do from their successes (Beard & Wilson, 2002; Cooperstein & Kovacar-Weidinger, 2004; Illeris, 2002), which suggests that practice and formative low-stakes learning opportunities would be beneficial in supporting students to take risks in learning.

Experiential learning is highly relevant when supporting students to develop IL. McCartin and Feid (2001) describe experiential learning as learners engaging in learning using "a combination of senses to process information" (p. 15). Learning from experience links action and thought (Beard & Wilson, 2002), engages the learner in activities that make the processes and strategies visible (Markless and Streatfield, 2007), and reinforces practice and skills application to support the development of research processes (Diehm & Lupton, 2012). The same level of learning is unlikely to occur in IL sessions where students are taught through lectured demonstrations, where students may struggle to apply what they have seen in practice, as opposed to hands-on, interactive sessions where they can practice with instructor guidance (Jenson, 2004). Experiential learning can be further enhanced by creating authentic learning opportunities that connect learning to professional practice so that students can engage in solving real-world problems (Lombardi, 2007).

3.3.7 Reflective learning

Constructivist learning principles also recognise that reflection on practice and learning is an essential part of the learning process in higher education and professional practices (Argyris & Schön, 1989; Hedberg, 2009; Huba & Freed, 2000; Illeris, 2002; McGuinness & Brien, 2006; Moon, 2001; Rogers, 2001; Wang, 2007; Whitworth, 2012). Being reflective requires both instructors and students to be intentional about their reflection to improve learning (Huba & Freed, 2000; Langer, 1989, as cited in Rogers, 2001). Reflection may make the difference between students adopting surface or deep approaches to learning. Reflection potentially promotes the development of higher-order thinking skills, including problem-solving, evaluation and critical analysis, synthesis of ideas (complementary and opposing), and meaning making (Burns, Dimock & Martinez, 2000), and is, therefore, fundamental to creating lifelong learners through higher education (Hinett, 2002a).

If we consider learning to be an active and reflective process that combines experience and thought to create new knowledge (Burns et al., 2000), then reflection offers a means for individual learners to raise awareness of themselves as learners, and to be able to change and direct their learning

(Hinett, 2002a). Although experience provides a stimulus for learning, experience alone does not lead to learning; rather, learning-by-doing is underpinned by reflective practice which makes learning from the experience possible (Argyris & Schön, 1989; Bruce, 2002, 2008; Diehm & Lupton, 2012; Hinett, 2002a; Illeris, 2002).

Despite the recognised role of reflection in learning, creating space for sustained, purposeful reflection remains a challenging concept to apply in practice (Ash & Clayton, 2004; Hedberg, 2009; Moon, 2001). Instructors may not be aware of strategies they can use to facilitate reflection in the classroom, or may see reflection as something that students need to do on their own. Furthermore, instructors who are already challenged with a lack of time will struggle to make time available for reflection within an already overloaded, semesterised curriculum, even if they see the value of on-going reflection on learning (Hedberg, 2009).

It can take time for students to appreciate the learning accomplished via deliberative reflection (Hinett, 2002b) and some students do not seem to positively respond to or engage with reflective tasks (Bulpitt & Martin, 2005; Huba & Freed, 2000; Waddington & Wright, 2007). Therefore, they may initially find little value in them and may feel threatened by learner-focused approaches and reflection designed to help them construct their own knowledge if they have not been asked explicitly engage in reflection before (Huba & Freed, 2000). Students may not understand what they are being asked to do, since they may be unfamiliar with the reflective process (Moon, 2005), and may want clear rules and boundaries to follow when engaging in reflective activities (Bulpitt & Martin, 2005). Some students may also see reflection as an add-on to the course rather than something central to their learning (Waddington & Wright, 2007).

To make reflection a successful and rewarding activity, students need to be encouraged and supported to develop a habit of reflection from first year, which will likely lead to learning beyond the curriculum, the learning outcomes, and the teacher's control of the learning in the classroom (Bean, 2011; Moon, 2001; Waddington & Wright, 2007). Supporting students to engage in deeper reflection requires a clear purpose and outcome appropriate for the reflection

(Hinett, 2002a; Moon, 2001; Waddington & Wright 2007), which may be encouraged through formatively assessed learning opportunities (Bean, 2011; Partridge et al., 2008; Pickford & Brown, 2006).

3.3.8 Socially-constructed learning

Learning as a socially-constructed process is a key theme that links constructivism, collaboration and learning (Bean, 2011; Bruffee, 1999; Diehm & Lupton, 2012; Wang et al., 2011). Students are more likely to be engaged in learning in "classroom cultures which value participation and sharing of knowledge and experiences, and which facilitate interaction and encourage learning through the exposure to the views of others" (Diehm & Lupton, 2012, p. 8). As mentioned in section 3.3.4, collaboration between instructors and students can facilitate reciprocal learning. In addition, opportunities for peer-directed and supported learning may increase student engagement in the learning process. Learning and scholarship are about negotiating meaning and building conversations around topics of interest. They may be enhanced through opportunities for students to collaborate, discuss and share ideas connected to content learning with their peers (Bean, 2011). Lord (2007) found that students who worked cooperatively or were involved in teaching others were more successful in their learning and retention of information. However, even within collaborative learning contexts, there will always be differences in learning because knowledge is built on what is already known, and this differs from person to person (Illeris, 2002). Students who are used to learning in traditional teacher-led contexts may struggle to grant authority to a peer, or to be confident enough to take an authoritative position themselves (Bruffee, 1999).

Studying collaboratively with peers can take a number of forms both inside and outside the classroom. Developing learning communities and study groups and having opportunities for class discussions and group projects allows students to support each other's learning as they exchange and share understanding, experiences, knowledge and information (Devereux, Macken-Horarik, Trimingham-Jack & Wilson, 2006; Hegarty et al, 2010; Wang et al., 2011). Students in Devereux et al.'s (2006) study strongly believed "interaction with

others was an important facet to learning both course content and writing skills"
(p.13) and that group discussions were an essential strategy to reinforce
learning. However, Bruffee (1984) warns that it is not enough to put students
together in groups and expect them to learn from each other. Making
collaborative learning a part of students' educational development requires a
structured effort of guidance and preparation throughout the learning process.

3.4 Fostering Independent Learning

One of the key reasons instructors may not focus explicitly on developing
academic literacies within content courses is the belief that university students
in western university contexts need to be autonomous, independent learners
(Coonan, 2011; Phillips & Bond, 2004). However, students entering university
straight from high school in the UK, Australia and NZ are often used to a highly
structured programme where dependence is the norm (Chanock, 2001; Jansen
& van der Meer, 2012). For example, the NZ NCEA system has been criticised
for creating a dependence on exemplars and teacher guidance for students to
complete assessment tasks (Hipkins, 2013; Locke, 2005; see 5.1). Academic
researchers in Australia and the UK have observed that, rather than moving
towards independent learning and being critical users of information, students
may seem to be becoming less questioning and more dependent on instructors
(Brabazon, 2007; Secker & Coonan, 2013).

Although first-year university programmes should function to bridge the gap
between high school and university and support students into the independent
research focus of university study (Boyer Commission, 1998), the transition
from dependent to independent learning seems largely unsupported (Coonan,
2011). Students are told they need to study differently, but not told in concrete
terms how expectations of their performance will differ or how they should adapt
their existing attitudes and practice to the university context (Chanock, 2001;
Coonan, 2011). The widespread assumption that students will acquire IL and
other academic competencies without active intervention from their teachers
results in students often struggling to critically engage without instructor support
(Wilson, Devereux, Macken-Horarik, & Trimingham-Jack, 2004)

It is common for academics to argue that universities often provide a number of academic support services to help students as they transition into the tertiary learning environment (Coonan, 2011; McGuinness, 2006; Radloff, 2006; Secker, 2011; Wilson et al., 2004). However, accessing available support services relies on the students being both aware of the services and their own learning needs, and requires students to seek out support services independently while they are still transitioning to the university and negotiating other life changes that are happening, particularly in their first year.

Students develop autonomy along a continuum from dependence to independence, but this is not necessarily a linear process. To be autonomous, independent learners, students must become more aware of themselves as learners, take control of their own learning, and monitor and reflect on their learning process (Hegarty et al., 2010). As new challenges are met, learners will need to manage both dependence and autonomy before achieving a new level of independence. Mariani (1997) explains:

> there may be a time for autonomy and a time for dependence, and it is essential to experience both if we want to make informed choices. Thus learning to be autonomous is basically an individual, gradual, never ending process of self-discovery ... the true meaning of autonomy is not a complete, irrational freedom to do anything under the sun, but rather a more subtle ability – the power to decide, at any single moment, whether we should be safe or daring. (para 6-7)

The idea of scaffolding learning over a number of high-challenge, high-support tasks within the research and writing process is widely promoted as a means to support students to become more independent learners (Burns & de Silva Joyce, 2005; Coonan, 2011; Devereux & Wilson, 2008; Emerson, 2005; Gunn & Miree, 2012; Mariani, 1997; Star & McDonald, 2007; Walton & Archer, 2004; Whitworth, 2012). Scaffolding identifies "elements of a task that are initially beyond a learner's capacity and allows them to focus on aspects of the task they can manage" (Walton & Archer, 2004, p. 5). Scaffolded instruction should ideally begin at the beginning of all students' university experience (Devereux & Wilson, 2008) and continue as they progress to more complex tasks in more specialised courses (Burns & de Silva Joyce, 2005; Devereux & Wilson, 2008; Rockman, 2004; Whitworth, 2012). It focuses students on the process of learning, rather than specific content, which is always changing. It will also help

learners understand appropriate disciplinary genres and develop ways to create better products (Grafstein, 2002; Hyland, 2003).

Cognitive and socio-constructivist theories of learning[10] (Meszaros, 2010; Secker et al., 2007; Weiler, 2005) suggest that students entering university who are coming from highly structured learning environments will benefit greatly from scaffolded learning support to help them progress through the increased cognitive demands of critical thinking, synthesis and reflective learning required to be successful learners at university (Meszaros, 2010; Weiler, 2005).

High-challenge tasks with high support aid in the transition to university and help students engage more fully in learning (Hammond & Gibbons, 2005). Figure 3 shows that students are more likely to learn in a high-challenge, high-support learning context. Low-challenge tasks with low support decreases motivation, and high-challenge tasks with low support lead to increased levels of frustration and high failure rates. A low-challenge, high-support context will allow students to be comfortable in their learning context and lead to high pass rates, but learning may be limited.

Figure 3: Framework for learning contexts
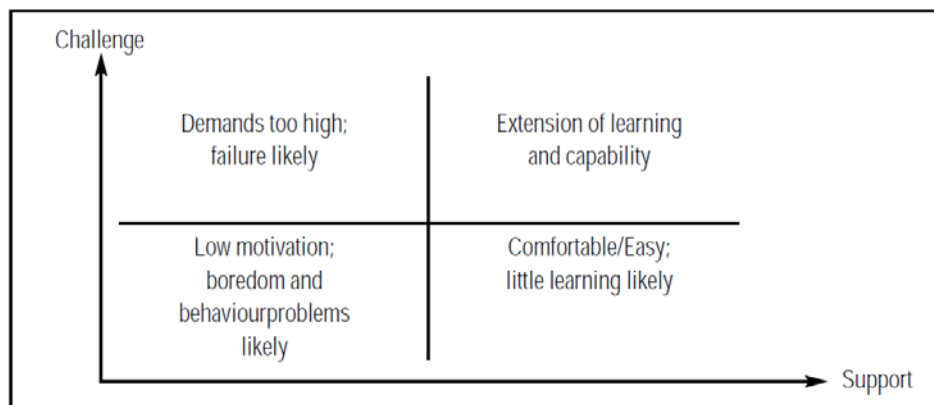
Source: Adapted from Mariani, (1997) in Hammond & Gibbons (2005)

Providing repeated opportunities to explicitly focus and reflect on the research and learning process throughout the curriculum allows students to develop competencies through increasingly challenging tasks by building on what they

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[10] For example, Vygotsky's (1978) Zone of Proximal Development, Perry's (1970) Scheme of Intellectual and Ethical Development and Dreyfus and Dreyfus' (1980) Novice to Expert theories of learning.

already know and revisiting and extending competencies within each course (Burns & de Silva Joyce, 2005; Walton & Archer, 2004). Scaffolding supports the development of practical skills and more cognitive research abilities inherent in IL and the broader research and writing process (Birmingham et al, 2008; Rockman, 2004). Such scaffolded support would ideally take place in tutorials to allow for smaller group discussions and opportunities for individual support (Devereux & Wilson, 2008). Assessment tasks can be developed so they build on existing knowledge and promote the development of competencies needed to learn within and beyond the classroom context (lifelong learning).

It is important to recognise the difference between scaffolded learning support and the notion of 'spoon-feeding' (see 3.3.1) that "suppresses the learner's ability to act for him or herself" (Coonan, 2011, p. 21). Unlike spoon-feeding, effective scaffolding is temporary and is gradually withdrawn (Hammond & Gibbons, 2005; Whitworth, 2012). Reflection, as part of scaffolded support, enables students to move towards autonomous learning as they become self-directed, independent learners once the scaffolding is removed (Hammond & Gibbons, 2005; Whitworth, 2012). Markless and Streatfield (2007) argue that scaffolds for IL encompass knowledge, skills and strategies, as well as attitudes and values that enable students to engage more effectively with information in their academic work.

3.5 Impact of Assessment and Feedback on Learning

Assessment is an essential part of quality learning and teaching and strongly influences how students approach the learning process (Carless et al., 2006; Fry et al., 2003; Huba & Freed, 2000; Lupton, 2004; Proctor, 2006). Carless et al. (2006) point out that "assessment impacts on what content students focus on, their approaches to learning and their patterns of study" (p. 2) and that assessment changes students' behaviour more than anything else we may teach. Since students are highly motivated by grades (Dolan & Martorella, 2003; Moon, 2001; Proctor, 2006), they see assessment as defining what is important in the curriculum and give higher status to assessed tasks (Proctor, 2006).

3.5.1 Summative vs formative assessment

Much of the teaching at university tends to concentrate on content instruction assessed via summative 'assessment of learning', which monitors students' achievement but may not actively promote deeper learning (Huba & Freed, 2000; Pickford & Brown, 2006; Biggs & Tang, 2011). Because summative assessment focuses on the final product, it generally does not provide evidence of students' engagement or competence in essential academic competencies that support the research and writing process. Bean (2011) says that:

> too often ... what the student submits as a finished product is an unrevised draft, the result of an undeveloped and often truncated thinking process that doesn't adequately confront all the available evidence, consider alternative views, examine assumptions, or imagine the needs of a new reader. (p. 10)

This may be in part due to students not being aware of their learning processes and/or the gaps within them, or because students know they can pass with little understanding of the material (Weimer, 2003). Furthermore, because the process is not assessed, students may undervalue the development of these competencies and may adopt a utilitarian, surface approach to learning.

Shifting the focus to what is learned, rather than what is taught, emphasises the importance of the learning process in assessment (Huba & Freed, 2000; Lupton, 2004; McGuinness & Brien, 2006; Pickford & Brown, 2006). Formative 'assessment for learning' is a key to promoting learning and can be designed to help students learn by both identifying errors and reinforcing correct understanding (Bhattacharya & Jorgensen, 2008; Dolan & Martorella, 2003). Encouraging a focus on process by having submissions of key tasks (i.e. formative assessments) while completing a summative task can help students identify the stages in the research and writing process that are often inadequately addressed. A structured approach, particularly in the first year of tertiary study, may support students towards earlier engagement in the assessment tasks and may also improve assessment outcomes (Proctor, 2006). Furthermore, students are also less able to plagiarise if they are asked to demonstrate work in progress and are assessed for their efforts during the

research process (Bhattacharya & Jorgensen, 2008; Emerson, 2008; Pickford & Brown, 2006).

Blanchard (2009) identifies the key differences in the focus of summative and formative assessment (Table 6). A balance of formative and summative assessment can both support learning and measure student performance (Biggs & Tang, 2007). Learner-focused approaches to assessment mean that "students leave evaluative experiences with a grade and a deeper understanding of both the material and their performance" (Weimer, 2003, p. 53). Instructors can help students overcome the challenges of the research and writing process by changing their approach to assessment and assessing both the process and the product to make 'assessment for learning' a larger part of their undergraduate teaching.

Table 6: Key Differences Between Summative and Formative Assessment

Summative Assessment	Formative Assessment
Focuses on performance and attainment	Focuses on learning and progress
Treats abilities as if they are finite and absolute	Accepts that abilities can develop and change
Succeeds when it defines the limits of learners' capabilities.	Succeeds when learners advance
Makes judgements about how well students have learned what they should have been taught	Makes judgements about how to take students' learning forwards
Treats performance as a valid, reliable indicator of completed, measurable or describable learning	Results in modified behaviour
Takes for granted learners' commitment to passing their examination	Seeks to enrich the learners' commitment to curriculum activity as an intrinsically enjoyable experience and catalyst for further learning
Criteria inform examinees' demonstration of a specified skill and knowledge	Criteria benefit learners' growing capability and autonomy.
Traditionally norm-referenced; competitive	Criteria-referenced; achievement based on what has previously been learned; competition within the individual
Learners may not be forewarned or prompted to show what they can do in terms of the criteria used to judge them; being assessed on performance	Learners are in a position to experience formative assessment as doing something and learning; what matters is the personal development and critical reflection
Does not require the learner to be interested in activity for its own sake – success is better served by extrinsic or utilitarian interest	Promotes learners' interest in the quality of what they do for its own merit
No interest in what happens next, because the activity has no history and no future	'Now what?' as a key question as well as 'Why do it?'

Developed from: Blanchard, 2009, p. 139-143

3.5.2 Using feedback to support student learning

One of the key ways university instructors attempt to help students improve their learning is by giving feedback on written summative assessments (Biggs & Tang, 2011; Carless et al., 2006; Chanock, 2000; Duncan, 2007; Lea & Street,

70

1998). Instructors' comments on students work are sometimes referred to as feed-forward because, even after a task has been completed, instructors believe students can use advice provided to support learning for future assessments of a similar type or genre (Duncan, 2007). Carless et al. (2006) argue that "feedback is central to the learning process and when handled effectively it can be one of the most powerful ways of enhancing student learning" (p. 5).

However, feedback alone may be inadequate to help students develop IL and academic competencies (Chanock, 2000; Duncan, 2007; Lea & Street, 1998; Lillis, 1997; Read, Francis & Robson, 2001). Some feedback comes too late for students to use it to improve learning. Gosling (2003) suggests that students often only know how they are performing once they received marked assessments, and that feedback often comes too late to improve within the same course due to restricted time in a semesterised curriculum. Furthermore, they may not use feedback on summative assessments to complete future tasks because they fail to see the connection between courses or assessments (Biggs & Tang, 2007; Carless et al., 2006).

Giving timely constructive formative feedback during the process of achieving the learning task may help support learning as students discover and develop a robust research and writing process of which they have been previously unaware. Biggs and Tang (2007) argue that "the most powerful enhancement to learning is feedback during learning" (p. 97). Constructive feedback is effective for giving students an accurate picture of how they are progressing and participating in the wider discourse of their discipline (Devereux & Wilson, 2008). Instructors can review their feedback to identify gaps in understanding that are preventing students from completing a task successfully and address these before the course ends. Students will be better able to understand what is expected of them as they progress through the course, and will be able to identify and address key gaps in their research and writing process that may be hindering successful learning outcomes.

A major concern over increasing formative tasks is the increased marking time, particularly in large classes (Carless et al., 2006; Huba & Freed, 2000). Yet

instructors are spending large amounts of time marking and giving feedback on summative assessment tasks. This time may be better used to provide formative feedback during the assessment process at key stages during the research and writing process, particularly in first year courses. Fry et al. (2003) suggest if the assessment process does not allow for adequate feedback, it needs to be revised. The amount of marking on the final submission should be reduced as better assessments are submitted, resulting in greater satisfaction for both instructors and students (Bean 2011; Carless et al., 2006). Huba and Freed (2000) suggest that students cannot learn without feedback both to and from the learner. Therefore, feedback can also come from peers, and self-reflection on any feedback received will help support the development of a robust process to lead to more successful assessment outcomes.

3.6 Reflections

The pedagogical approaches outlined in this chapter connected broadly to all university contexts and to academic literacies beyond IL alone. I recognised that key aspects of learner-focused pedagogy can be used within both the library and the disciplinary context to support students' IL development. I decided to encourage the adoption of constructivist, learner-focused approaches to designing interventions that would support students' IL development and learning across the four-year BEP degree. Connecting IL to learning could be facilitated through creating reflective and process-oriented learning opportunities that would help students connect to using information to learn. I also recognised that a developmental approach which scaffolds learning through high-challenge tasks with high support was more likely to result in students developing robust learning processes and becoming independent, autonomous learners.

In reviewing the literature and reflecting on my assumptions of teaching, I came to understand that teaching and learning is a complex, collaborative relationship, where both instructors and students are continually learning from each other. Because students learn effectively by working collaboratively and reflecting on their own learning, I needed to ensure that space was created for this within the BEP curriculum.

SECTION II
METHODOLOGY

CHAPTER FOUR
METHODOLOGY – Participatory Action Research

A key purpose of this research was to help instructors identify ways to embed IL development into their curriculum and assessment. Participatory Action Research (PAR) (McNiff & Whitehead, 2009, 2012; Seymour-Rolls & Hughes, 2000) was identified as a suitable methodology, because a desired outcome was to implement a necessary change (within pedagogy and curriculum design) identified by academic instructors in the discipline. PAR offered the opportunity to research and implement that change in a collaborative context. It enabled non-threatening, frank and open discussion and reflection on all aspects of teaching and learning, as well as the opportunity to focus on specific areas of concern.

This chapter provides an overview of the origins and definitions of action research in an educational context, the key themes emerging from these definitions, the different types of action research, with particular focus on participatory action research (PAR), and the benefits and challenges of action research for researching educational practice. It then outlines the various data collection and analysis methods used in this project.

4.1 Action Research in Education: Introduction and Background

Action research seeks to improve learning through improving practice (McNiff & Whitehead, 2012) via inquiry conducted by and for people, rather than research on people (Altrichter, Kemmis, McTaggart & Zuber-Skerritt, 2002; Sagor, 2011). It is designed to help people function more skilfully and intentionally within a specific context by improving practical judgement, rather than providing a scientific measure of truth (Burns, 2000). Furthermore, action research allows practitioners within a specific context to enhance and improve their current practice (Lodico, Spaulding & Voegtle, 2010) by taking purposeful action that is flexible and responsive to the required change. It also provides a check on the validity and adequacy of the conclusions drawn during the process (Dick, 1997; McNiff & Whitehead, 2012).

Kurt Lewin is generally seen as the 'founding father' of action research due to his development of the methodology in the 1940s (Bunning, 1994; Kemmis & McTaggart, 1988; McNiff, 2002; McNiff & Whitehead, 2006; Selener, 1997). Lewin was concerned that many critical social issues were not being solved by mainstream science (Susman & Evered, 1978), and developed action research as a research process that would allow continual reflection and action (Selener, 1997).

Action research was quickly developed as a way of researching educational practice (Kemmis, 1988). Like Lewin, Stephen Corey, a chief advocate of action research in American education, was convinced that research on education using scientific methods had little impact on improving educational practice (Corey, 1953, as cited in Selener, 1997; Kemmis, 1988; McNiff & Whitehead, 2006). Hodgkinson (1957) recognised the value of action research for investigating issues arising from contextual situations. However, positivist researchers widely criticised action research for being methodologically poor, ineffective, incompatible with notions of the general development of education systems, and unscientific (Kember & Kelly, 1993; Kemmis, 1988). These criticisms led to its decline during the 1950s (Kember & Kelly, 1993; McNiff & Whitehead, 2006).

A revival took place from the early 1970s, when Lawrence Stenhouse's work in teacher education renewed enthusiasm for action research in education in the UK (Kemmis, 1988). It also gained attention in the US and Australia through the 1970s and early 1980s, as awareness of the methodology's potential to investigate practice grew (Kemmis, 1988; Selener, 1997). This revival continued through the 1980s with the appearance of expanded views of action research as educators recognised the constraints of pre-conceived ideas, and accepted the natural development of enquiry processes (Kember & Kelly, 1993). Through the 1990s, it was accepted as a mainstream way for educational practitioners to study their own contexts, and thus, to improve practice (Selener, 1997). Elliott (1991) observed that action research "integrates teaching and teacher development, curriculum development, and evaluations, research and philosophical reflection, into a unified conception of the reflective, educational practice" (p. 54).

Post-2000, the benefits of action research in education continue to be strongly promoted. It is widely viewed as a valuable tool for problem-solving, knowledge-generation, implementing solutions and evaluating their effectiveness. It improves practice, enhances teaching and fosters lifelong learning for both teachers and students through action and reflection (Burns, 2005; McNiff, 2002; McNiff & Whitehead, 2006; Nolan & Putten, 2007; Stringer, 2008). In 2011, McNiff and Whitehead were "delighted" that, finally, action research had become viewed internationally as a valid, practical alternative to theory-based research.

4.2 Participatory Action Research (PAR)

Of particular relevance to this study is PAR, which allows participants to collaboratively research, change and then re-research problems to improve a situation by developing new knowledge and theory through explicit examination of context (Creswell, 2005; Seymour-Rolls & Hughes, 2000; Wadsworth, 1998). The key principles of PAR are action, research, participation, collaboration, empowerment, knowledge and social change (Greenwood & Levin, 2007; Seymour-Rolls & Hughes, 2000), principles not embraced by the more technical or practical modes of action research (Grundy, 1982; Selener, 1997). Those involved in PAR are committed to defining problems and informing, evaluating, and changing both their own and others' behaviours and practices (McNiff & Whitehead, 2009, 2011; Williamson & Prosser, 2002). This means that participatory action researchers:

> ensure their encounters with others are opportunities for learning and growth. When they reflect on practice, they are reflecting on their relationship with others and whether the others have benefitted from the encounter. (McNiff & Whitehead, 2009, p. 19)

Through discussion and reflection, participants identify a thematic concern (McTaggart, 1997), which is then integrated into a common goal through an agreement to participate and collaborate to solve common concerns. Wadsworth (1998) argues that "a hallmark of genuine participatory action research process is that it may change shape and focus over time as participants focus and refocus with understanding about what is 'really' happening and what is really important to them" (para. 24). For a PAR project to

be viable, the problem under study must be important to the key participants, and the research methods and data must be credible to the participants (Whyte, 1989).

The practitioners' central role in the research process contrasts with the dominant role in decision-making taken by outside professional experts. As Wadsworth (1998) explains, PAR "cannot be used by one group of people to get another group of people to do what is thought best for them"; rather it is "quite close to a common-sense way of 'learning-by-doing'" (para. 54). Therefore, it may have a greater lasting impact in practice than external research that recommends change without taking specific contexts into account (Burns, 2005).

Key assumptions underlying the benefits of active participation in the action research process are that:

- Participants will be empowered to make changes in their practices and contexts, and in the wider education system (Kemmis & McTaggart, 1988; Selener, 1997; Zuber-Skerritt, 2001), particularly in reflective response to the questions and problems that arise during the cyclical process (Avison, Lau, Myers & Neilson, 1999; Burns, 2005; Nolan & Putten, 2007).

- Participants are more likely to change their attitudes and behaviours if they work together on common problems (Selener, 1997; Whyte, 1989; Zuber-Skerritt, 2001).

- Personal involvement in the process means participants are more likely to take ownership of the decisions made, become more committed to the results of their enquiry, (Argyris and Schön, 1989; Kemmis & McTaggart, 1988; Susman & Evered, 1978; Williamson & Prosser, 2002; Whyte, 1989), and implement change quickly and sustainably (Greenwood & Levin, 2007; Lodico et al., 2010).

- Participants will be more open to new ideas and will develop flexible, reflective thinking to solve emerging problems (Burns, 2005; Selener, 1997; Wadsworth, 1998).

- Collaborative participation in action research supports the notion that fundamental changes in practice will continue to contribute to social and cultural transformation even after the research process has ended (McNiff & Whitehead, 2010; Oja & Smulyan, 1989).

Participating instructors in this research demonstrated all five of these characteristics through collaboration with the researcher, and librarians, and were committed to facilitating change in pedagogy, curriculum and assessment to enhance students' information literacy and learning. This research suited PAR because it allowed a high level of reflection on both any unexpected directions the process took and how change unfolded over time.

4.3 Definitions and Characteristics of Action Research: The 6 Cs

The lack of a single accepted definition of action research (Altrichter et al., 2002; Rearick & Feldman, 1999) is a strength of the methodology, as action research can encapsulate a wide range of scenarios; thus, action research's power lies in its flexibility and dynamism. McNiff (2002) stated "action research is a name given to a particular way of researching your own learning" that involves "learning in and through action and reflection" (p. 15). A reason given for why so many different definitions, terms and types of action research[11] exist is because each of these "connotes different purposes, positionalities, epistemologies, ideological commitments, and in many cases, different research traditions that grew out of very different social contexts" (Herr & Anderson, 2005, p. 2).

Reviewing the range of definitions for action research shows that the researcher must clearly define action research for their particular project in terms of context, purpose and outcomes, participants, and justification for the methodology at the outset of the research, and as the research progresses. The

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[11] Many faces of action research - The most common are *action research; participatory action research (PAR); practitioner research; action science; collaborative action research; cooperative enquiry; educative research; appreciative inquiry; Emancipatory praxis; community-based participatory research; teacher research; participatory rural appraisal; feminist action research; feminist, antiracist participatory action research; and advocacy, or militant research (Herr & Anderson, 2005, p. 2)*

focus must be on the research aspect of the project, not only in terms of how the local context has been affected, but also what can be drawn from the study to add to the general body of knowledge (which could relate to methods, content or process). After reviewing numerous definitions in the literature (Avison et al., 1999; Bunning, 1994; Checkland & Holwell, 1998; Kemmis & McTaggart, 1988; McKernan, 1996; McNiff, 1988, 2002; McNiff & Whitehead, 2006, 2010, 2011; Selener, 1997), this research drew on Kemmis and McTaggart's (1988) definition which captured five of the six key themes that emerged as central to this research:

> Action research is a form of **collective,** self-**reflective** enquiry, undertaken by participants in social situations in order to improve [**change**] the rationality and justice of their own social or educational practices, as well as their understanding of these practices, and the situations in which these practices are carried out [**context-specific**]... The approach is only action research when it is **collaborative**, though it is important to realise the action research of the group is achieved through the **critically** *examined action* of individual group members. (p. 5; italicised emphasis in original, bold emphasis added).

A sixth common theme in definitions is the cyclical nature of the research process (Kemmis & McTaggart, 1988; McKay & Marshall, 2001; McNiff, 2002; McNiff & Whitehead, 2011). I refer to these combined characteristics as the '6 Cs' of action research: 1) Cyclical, 2) Collaborative, 3) Context-specific, 4) Combining theory and practice, 5) Critically Reflective, and 6) Change-focused. These characteristics are explored in sections 4.3.1 to 4.3.6. Most definitions and descriptions of action research identify many, if not all, of these characteristics.

4.3.1 Cyclical

A cyclical methodology was essential to allow the participating instructors and me to plan, trial, reflect on and re-trial key interventions developed to support skills development in content courses. The theme of the action research as a cyclical process, going through a series of iterations with four to six steps in each cycle, is prominent in all discussions of action research (Checkland & Howell, 1998; Kember & Kelly, 1993; Kemmis & McTaggart, 1988; McNiff, 1988, 2002; McKay & Marshall, 2001; Selener, 1997; Taba & Noel, 1957; Wadsworth, 1998). The simplest, most often cited, cycle was Lewin's 'plan, act, observe,

reflect' cycle (Kemmis & McTaggart, 1988). During an action research process, researchers and practitioners act together on a particular cycle of activities, including problem diagnosis, action intervention, and reflective learning (Avison et al., 1999). Although the cyclical models appear linear, the iterations may be repeated and applied to new contexts (McKay & Marshall, 2001)

After critiquing the linear representations of various action research models, McNiff (2002) developed an alternative model (Figure 4) that depicts a constantly evolving "iterating spiral of spirals" that represent "a spontaneous, self-recreating system of enquiry" (p. 56). This model suggests it is possible to focus on one key issue, and address multiple other relevant issues that may arise from the research process (McNiff, 2002). This was significant for this research as several new research questions arose during each cycle.

Figure 4: McNiff's Generative Transformational Evolutionary Process Model of the Action Research Process
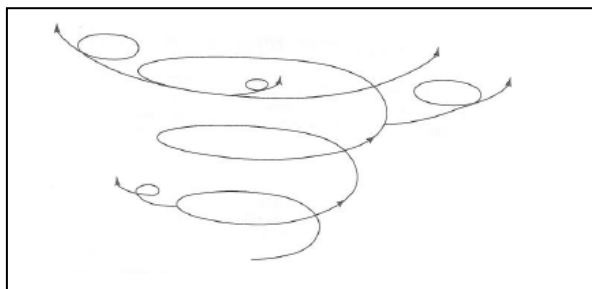
Source: McNiff (2002 p. 57)

While many of the models focus on a single action research cycle, McKay and Marshall (2001) offer one which identifies the dual foci of action and research in separate, yet inter-related spirals. One cycle relates to the researchers' problem-solving interests and responsibilities, and the second relates to the research interests and responsibilities (Figure 5), but both tend to take place concurrently, as it is difficult to separate one process from the other (see McKay & Marshall, 2001, pp. 49-52 for more information on this model).

While the fundamental aim of action research is to improve practice (Elliott, 1991), the dual research-focused aspect of the process as represented in the McKay and Marshall model contributed to the knowledge development aspect of this research by ensuring that the themes emerging from data collected from

multiple sources were used to evaluate the effectiveness of the interventions and provide evidence to answer the research questions and support the key findings. The research focus was a key attraction for the participating instructors because they valued the research-driven change and input from student feedback collected during each cycle.

Figure 5: The Dual Focus of Action Research.

The problem-solving interest in action research

The research interest in action research
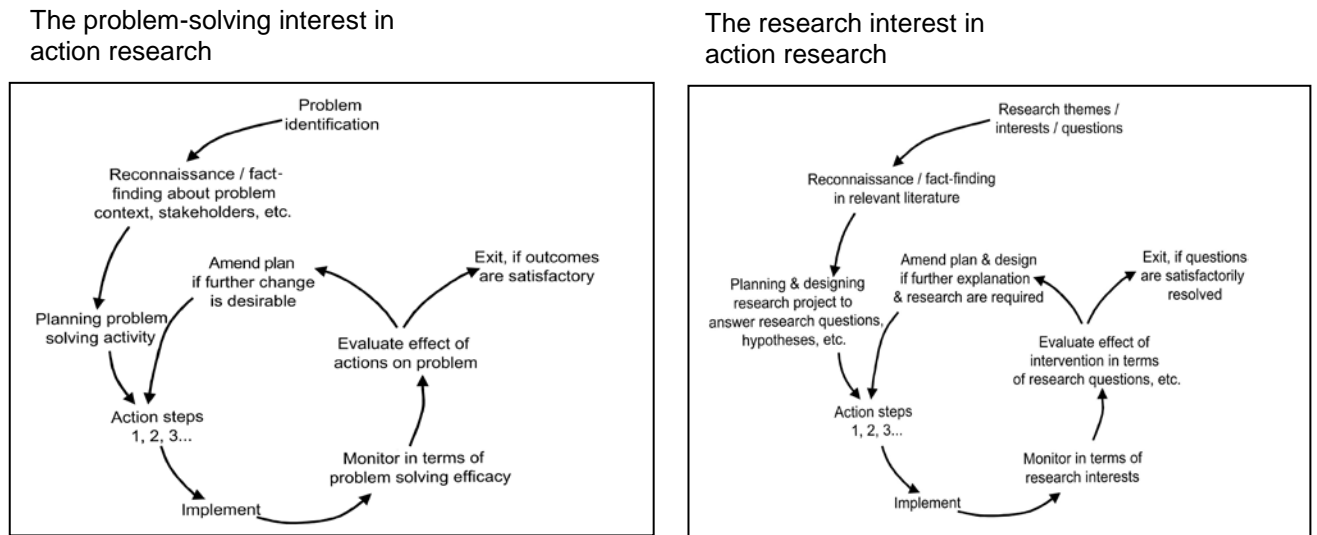
Source: Mckay and Marshall, 2001 p.52

4.3.2 Collaborative

This project involved collaboration between the researcher, participating instructors, librarians and students to design, implement and provide feedback on key interventions implemented to promote IL development within the research and writing process. The collaborative nature of action research is widely accepted, particularly by those who promote participative methods of action research in education (Brock-Utne, 1980; Creswell, 2005; Oja & Smulyan, 1989; Selener, 1997). Sagor (2011) states that:

> the product of multiple minds is inevitably better than one. Therefore, the very act of including more people and more perspectives in a study will make it more likely that the study will be more robust. (p. ix)

As a key participant in the research process, the action researcher works collaboratively as, or with, the 'problem-owner', sharing both the action researcher's and other participants' experiences, skills and competencies (Blum, 1955) so the research process can achieve its dual goals of problem-

solving and knowledge generation (MacKay & Marshall, 2001). Although the subjective viewpoint of the researcher has led to criticisms that the methodology is unscientific (Blum, 1955; Bunning, 1994), Bunning argues that it is impossible and even undesirable for the action researcher to act as a "disengaged third party whose presence and activities have no effect on the research results" (p. 43). Herr and Anderson (2005) observe that the objective stance taken by positivist research is unrealistic when dealing with human participants.

The collaborative nature of action research also creates a more democratic form of research, because it involves those who are directly affected by the problem under study. This allows them to take ownership of the process and outcomes and, thus, claim the power to change their own situation, rather than having an outsider's or manager's decision enforced on them (Burns, 2005; Selener, 1997). In this research, the participating instructors' ownership of the process and the interventions became much more apparent in Cycle Two. Students were also invited to give feedback on the interventions being trialled, and to provide insight into their current levels and understanding of IL.

4.3.3 Context-specific

This research was conducted within a specific discipline at a specific university and as such required a methodology that recognised the significance of the findings of research conducted within a specific context. Action research recognises the strengths of context-specific studies conducted in real-life situations with the practitioners themselves involved in the process (Kemmis & McTaggart, 1988; McKernan, 1996; McNiff, 1988, 2002; Selener, 1997). Being personally involved with the process, along with collaboration in the research, gives participants more ownership of the data and allows them to come up with solutions that are immediately relevant for their own particular context.

Because action research is, by nature, holistic, it cannot be easily used to study a phenomenon independent of the various layers of social context within which it is situated (Herr & Anderson, 2005). Hodgkinson (1957) points out that "no attempt is made to isolate out a factor and study it alone, divorced from the environment that gave it meaning" (p. 75). In the process of action research, a real-world, often problematic situation is investigated with the dual goals of

improving the situation and gaining knowledge from the experience (Checkland & Holwell, 1998). McNiff (2002) states that the research may develop in unexpected ways as new questions arise from the context of the research. This was certainly true for this research.

Two key challenges are connected to the context-specific nature of action research. Firstly, action research studies are difficult to replicate, which can have a potentially negatively impact on the validity and reliability of their findings (Checkland & Holwell, 1998; Feldman, 2007; Herr & Anderson, 2005). However, Greenwood and Levin (2007) argue that action researchers are not concerned with context-free knowledge. Checkland and Holwell (1998) respond to criticisms around context and reliability constraints by arguing that the aim of the action researcher should be "to enact the process based on a declared-in-advance methodology in such a way that the process is recoverable by anyone interested in subjecting the research to critical scrutiny" (pp. 17-18).

The second recognised challenge is that the contextualised nature of action research results in findings that may not be meaningful to those outside the context studied (Checkland & Holwell, 1998). The difficulty in making generalisations from the findings (Argyris & Schön, 1989; Bunning, 1994; Oja & Smulyan, 1989) means action research is seen to produce localised knowledge (Herr & Anderson, 2005). In response to the criticism concerning generalisability, Checkland and Holwell (1998) argue that a robust action research process can produce 'defensible generalisations'. While action researchers are interested in the validity of the knowledge generated, they are more interested in outcomes that go beyond the pure generation of knowledge (Herr & Anderson, 2005) and instead offer practical solutions to real problems. Herr and Anderson present five validity criteria (outcome, process, democratic, catalytic, and dialogic) linked to the goals on which most traditions agree. The goals are:

a) The generation of new knowledge (Dialogic and process validity)

b) The achievement of action-oriented outcomes (Outcome validity)

c) The education of both researcher and participants (Catalytic validity)

d) Results that are relevant to the local setting (Democratic validity)

e) A sound and appropriate research methodology (Process validity).

From these goals, Herr and Anderson have identified indicators of quality for action research studies and emphasise that knowledge gained holds sufficient depth to inform change in other contexts (see Herr & Anderson, 2005, p. 54 for more detail).

4.3.4 Combining theory and practice

It was important for the participating instructors in this research that any changes in practice were informed by both theory and the data collected during the research. Action research facilitates the combination of theory and practice, as it aims to pursue action and research outcomes simultaneously, while seeking to create new knowledge by finding solutions to practical problems in specific situations (McKay & Marshall, 2001; Susman & Evered, 1978). Action research bridges the gap between theory and practice (Selener, 1997, p. 109); the dual focus allows any interventions to be informed by theory through a systematic study of the problem (McKay & Marshall, 2001; O'Brien, 2001). The combination of theory and practice in this research contributed to participating instructors both taking ownership of the interventions and developing confidence to modify the interventions once the research was complete.

4.3.5 Critically reflective

A central component of our research was on-going personal and critical reflection on practice and learning (Altrichter et al., 2002; Kemmis & McTaggart, 1988; MCNiff, 2002; Selener, 1997) for all of the participants, including the researcher, instructors (content and library) and students.

Reflection is a continuous process throughout action research, and thus, involves discussion before and during the implementation of interventions, and the evaluation of change (Avison et al., 1999; Seymour-Rolls & Hughes, 2000). Action research provides numerous chances to reflect on action and create new informed actions, which are then further reflected on (Wadsworth, 1998). It therefore acts as a means for practitioner researchers to critically consider the

implications of their interventions and develop theories from reflection that can inform new actions.

Critical reflection is a key maxim in McNiff's (2002) definition. Reflection allows participants to explore the assumptions underlying ideas and practice. In this study, it also allowed participants to explore both the successes and challenges in the teaching and learning process, and to consider objectively interventions that did not succeed and use them as rich opportunities for learning (McNiff, 2002; Mills, 2007). Reflection is an on-going process that allows us to "make changes to data collection strategies based on questions and issues that arise during on-going data analysis process" (Mills, 2007, p. 121). In other words, we are learning about the action through the action itself (McNiff & Whitehead, 2006)

4.3.6 Change-focused

The final key characteristic of action research essential to this research is its focus on facilitating change in the context, participants, and problem under study. While the general goals and outcomes of different approaches to action research slightly differ, the overall theme of change is common to all (Avison et al., 1999; Checkland & Holwell, 1998; Kemmis, 1988; Kemmis & McTaggart, 1988; MacKay & Marshall, 2001; Selener, 1997; Wadsworth, 1998; Williamson & Prosser, 2002). Change, according to McNiff, (2002) "begins in individuals' minds; it develops by individuals talking with one another and taking action as a result of a collective decision" (p. 86).

The change focus of action research involves improving the situation or identified problem through the active participation of the practitioners involved (Burns, 2005; Selener, 1997). The context-specific nature of any study means a system for change is generated that is unique and valid for that particular context alone. Corey (1953, as cited in Selener, 1997) believed that "the value of action research is determined by the extent to which findings lead to improvement of the practices of those engaged in the research" (p. 107). Furthermore, changes resulting from participating may include both personal and professional growth of the participants. In this research, shifts towards learner-focused pedagogy and developmental views of learning were an

important change indicator in this research and largely determined whether the interventions would continue beyond the research time-frame.

4.4 Action Research Methodology and Research Tools

Herr and Anderson (2005) describe action research methodology as "designing the plane while flying it" (p. 69). As mentioned earlier, a common characteristic of any action research process is the iterative cycles of plan, act, observe, and reflect, which are repeated several times throughout the research process. The initial problem under investigation will shift and change as a result of the actions implemented in each cycle (McNiff, 2002; Selener, 1997). Herr and Anderson (2005) argue that, due to the cyclical nature, an evolving methodology is inevitable, and therefore, the methodology section "is the researcher's best guess as to what will transpire in the field" (Herr & Anderson, 2005 p. 76). Thus, the write-up of the research is based on the actual evolution of the research and a documentation of the decisions made during the project.

Selener (1997, pp.124-131) presents a six phase methodology based on a synthesis of the models presented by Lewin (1948), Corey (1953), Taba (1957), Ebutt (1985), Elliott (1981), Kemmis and McTaggart (1988) and McNiff (1988). The phases are:

1. *Identifying the problem and planning* – considering the nature of the problem, including symptoms and causes. This continues throughout the process as problems shift and new problems arise.

2. *Analysing the problem* – exploring the underlying causes and fundamental character of the problem, so it can be described and explained to determine appropriate solutions and desired outcomes.

3. *Formulating and testing a tentative hypothesis* – based on the above two steps, a tentative hypothesis can be formulated and then tested to see if the assumptions about the problem are valid. This will determine the types of data needed, the appropriate methods of data collection, and appropriate data analysis techniques.

4. *Designing and implementing the action plan* – once the most promising course of action is decided, a basic written plan of action is produced (see Selener, 1997, pp. 128-129 for a model plan). This plan will outline the context, the problem, a list of strategic actions, a description of the intended effects of the action, a statement of negotiations needed before a course of action can be taken, an estimate of resources, and a description of the research techniques and ways outcomes will be monitored and recorded.

5. *Collecting and analysing data* – participants must analyse circumstances and actions, plus their consequences, through critical reflection, and consider the impact of the socio-political context on any interpretations made (see Selener, 1997, p. 130 for a list of areas for reflection).

6. *Evaluating findings* – the researcher seeks to understand the effects of interventions and actions. This evaluation is then used to revise the original plan before undertaking subsequent research cycles, basing the changes on experiences and insights gained in the first cycle.

Herr and Anderson (2005) also explain that the roles of researcher (insider, outsider, facilitator), as well of the roles of the other participants, are usually acknowledged in the methodology section of action research reports. The complex, often multiple and possibly shifting, roles of the researcher must be clearly documented throughout the process. My position as the researcher in this research is outlined in section 4.7.1.

4.5 Ethical Considerations

In action research, ethical challenges can arise from the necessarily close and collaborative approach to research, particularly the difficulty in ensuring confidentiality (Eikeland, 2006; Morton, 1999; Williamson & Prosser, 2002), and the extent to which participants can give informed consent (Morton, 1999; Nolan & Putten, 2007). This is because many aspects of the research emerge during the research process and are, therefore, unknown at the outset (Nolen & Putten, 2007). Hooley (2005) explains that:

from an ethical point of view, naturalistic research centres not so much on formal consent and confidentiality, but agreement on a democratic process that establishes a respectful and open relationship between participants, that expects the unexpected and can deal with changes of direction that inevitably occur. (p. 77)

In this research, data were collected using mainly qualitative methods, with some quantitative survey data (see 4.7). At all stages of the research, confidentiality of both staff and student participants was maintained, unless attribution was requested. I discussed the Massey University Human Ethics Code of Conduct and the screening questionnaire with my chief supervisor, and ascertained that this research project fell within the regulations for low-risk research. We determined there was minimal risk of harm to the participants because a) I was not employed by the university during the data-collection phase and was not involved in the teaching or assessment in the BEP discipline, and b) the instructors made the decisions on whether to implement any changes in their courses, contributing to a process which regularly occurred through course revisions. At each stage of data collection for the research, low-risk notifications were submitted to the Massey University Ethics Office and participants were provided with an information sheets and consent forms (Appendix 3). No aspect of the research emerged that did not fit within the low-risk category, therefore a full ethics application was not submitted at any stage of the research. As the researcher, I was responsible for maintaining the confidentiality of the data (McKernan, 1996) and ensuring feedback to instructors and writing up of the research did not identify participating students.

4.6 Theoretical Approach

My theoretical approach to this research involves aspects of both a social constructivist knowledge-oriented approach and a pragmatic action-oriented approach as identified by Lodico et al. (2010, p.11). Table 7 identifies the underlying assumptions of each approach. For this research, these two approaches enabled us to recognise the broader context of teaching and learning within the university, while focusing on the immediate problems within the BEP context. We aimed to improve the educational outcomes for BEP students by drawing on expertise from within and outside the programme, and collaborated to learn from each other. We could test the personal theories and

assumptions we held coming into the research against those that emerged through the research process and through exposure to the assumptions and ideas of those working in various domains of the university. We aimed to improve education within the BEP through understanding the perspectives of those involved in supporting students' IL development and learning: instructors, university librarians, and students.

Table 7: Assumptions Underlying Educational Research

Social Constructivist – Knowledge-oriented approach	Pragmatism – Action-oriented approach
• Reality is culturally and historically constructed so there are multiple possible realities • Educational settings and problems must be understood as complex wholes • Researchers must be continually aware of and control their values • Researchers should become actively involved with participants in order to understand their perspectives • Theories and hypotheses are generated during data collection and achieve meaning through human interactions	• The immediate reality of solving educational problems should be the focus of educational research • Educational settings and problems can be studied using any method that accurately describes or solves a problem • Research should strive to find better ways to make education better • Researchers should collaborate with participants to fully understand what works • Theories and hypotheses are useful tools in helping improve education

Taken from: Table 1.1 Frameworks and assumption underlying educational research (Lodico et al., 2010, p. 11).

4.7 The Research Participants

At the outset of this research, all the BEP instructors were introduced to the research and asked to consider whether the content and curriculum of their courses would fit with the aims of the research. Several courses focused on discipline-specific core Planning skills that did not match the research objectives. Five instructors teaching six courses that were identified as being potentially able to support IL development agreed to participate in both cycles of action research.

In doing PAR, I was reliant on other people acting on the ideas discussed. The research began with conversations with those volunteering to participate, and, as it continued, the participating instructors and I developed mutual trust and respect, and built relationships that continued to develop throughout the process and beyond. Since the purpose of action research is to initiate change, these discussions were important to ensure that change would happen.

Participation was entirely voluntarily and participants were aware that they could withdraw from the research at any time. Instructors were provided with information sheets and consent forms outlining participation parameters (Appendix 3a). Because participating instructors were very busy, it was important to ensure any time for meetings was productive and efficient. I needed to respect their choices to implement any of the ideas discussed. Throughout the process, I came to realise that some of the ideal practices discussed in the literature were difficult to implement due to time and resource constraints.

Students were also invited to participate in our research. Mills (2007) argues that "an obvious condition for doing action research and effecting educational change is that the outcome of any change effort must benefit students" (p. 158). This research aimed to identify techniques students used to access, evaluate and synthesize information, and how they developed these strategies. It also aimed to identify when students struggled with IL development and how they used feedback provided on these issues or other means of seeking support for learning. Finally, student voices were central in determining the value of the interventions.

At the start of each semester, students were introduced to the research in the first class for each participating course and invited to participate. They were given information sheets and consent forms (Appendix 3b) on which they could indicate a willingness to participate at various levels of data collection. Permission was requested from all students to be able to use observation notes and to review their assessments. Students were also asked to indicate whether they would be interested in participating in e-mail journals and/or focus groups. They were given time to confirm their agreement to participate, and, individual follow-up e-mails were sent. Students were also advised that they could tick a box to not participate in the research at all (student participation data are provided in section 4.8.4).

4.7.1 Positioning the researcher

The action researcher acts within a particular social context, and observes, describes and explains developments in their own learning in connection with

the learning reported by other participants (McNiff & Whitehead, 2009). In PAR, where an outside researcher is involved in the process, Tomal (2010) considers the action researcher as a 'change agent', who "acts as a catalyst in collecting data and then working with the group in a collaborative effort to develop actions to address the issues" (p. 15). Action researchers must become self-critical and develop an understanding of the assumptions that underlie their own practice (McNiff, 2002; McNiff & Whitehead, 2011). They must also use their educational influence to support other participants' learning so they can become critical of their practices.

In collaborative action research, the researcher's position needs to be established from the outset of the research. Herr and Anderson (2005) state that, while it can be difficult to position the researcher in PAR, true collaboration among insiders and outsiders is possible. They propose a continuum and implications of positionality, from action researchers who study their own practice to outsiders studying insiders from the traditional outsider position (Table 8). In this research, I adopted a Level 4 position, 'Reciprocal collaboration (insider-outsider teams)', which aims to achieve equitable power relations. Research at this level seeks to extend the knowledge base of the participants, improve practices, and lead to professional and organisational transformation.

Another consideration is the mode of participation in the research and the relationship between the researcher and the participants (Herr & Anderson, 2005). This study represents a mode of 'co-learning' where "local people and outsiders share their knowledge to create new understanding and work together to form action plans, with outsider facilitation" (Herr & Anderson, 2005, p. 40). Although I was suggesting interventions that would support IL development, the instructors were in the classroom integrating the interventions into their teaching, so had more at stake, particularly in terms of student responses to the interventions and the overall impressions of the class. As they integrated the interventions into their teaching, participating instructors gained greater ownership of both the process and the interventions we developed collaboratively.

Table 8: Continuum and Implications of Positionality

Insider (1) _____ (2)_____ (3)_____ (4) _____ (5) _____ (6) Outsider		
Positionality of Researcher	Contributes to:	Traditions
1. Insider[a] (researcher studies own self/practice)	Knowledge base Improved / critiqued practice Self/professional transformation	Practitioner research Autobiography Narrative Research Self-study
2. Insider in collaboration with others	Knowledge base Improved/ critiqued practice Professional / organisational transformation	Feminist consciousness raising groups Inquiry / Study groups Teams
3. Insider(s) in collaboration with outsider(s)	Knowledge base Improved / critiqued practice Professional / organisational transformation	Inquiry / Study Groups
4. Reciprocal collaboration (insider-outsider teams)	Knowledge base Improved / critiqued practice Professional / organisational transformation	Collaborative forms of participatory action research that achieve equitable power relations
5. Outsider(s) in collaboration with insider(s)	Knowledge base Improved / critiqued practice Professional / organisational transformation	Mainstream change agency: consultancies, industrial democracy, organisational learning Radical change: community empowerment (Paulo Freire)
6. Outsider(s) studies insider(s)	Knowledge base	University-based, academic research on action research methods or action research projects

(a) A flawed and deceptive version of this is when an insider studies his or her own site but fails to position himself or herself as an insider to the setting (outsider within)

Source: Adapted from Herr & Anderson (2005) Table 3.1 Continuum and Implications of Positionality (p. 31)

In collaborative action research, the mutual benefits to all participants should be recognised (Herr & Anderson, 2005). As the primary action researcher, working towards a PhD (my beneficial outcome), I had to ensure that all the participants benefitted. Negotiation became a trade-off in the research as my ideal changes were often met with the reality of the teaching situation and the instructors' willingness to make change (discussed in Chapter Seven). Instructors were particularly interested in student responses throughout the research. Therefore, a recognised benefit for the instructors was that they received feedback on interventions and teaching practices from both the students and my observations, and they could focus on improved practice and student learning outcomes. This research also provided an opportunity for instructors to make

changes they had been considering but had not found time to put into practice, and allowed them to explore their assumptions around student approaches to learning.

A final key consideration in a collaborative team when the position of the researcher may become problematic concerns the reporting of the research. McNiff & Whitehead (2006) argue:

> questions arise about who tells the research story, whose voice is heard, and who speaks on behalf of whom. In much interpretive research, the researcher's voice is usually heard rather than the participants'. Participants are sometimes viewed as sources of data rather than as actors, so further questions arise about how power relationships are used and why. (p. 11)

In this thesis, I have used quotes from the participants to capture their voices and ensure that their partnership in our research is acknowledged and recognised.

4.8 Data Sources and Collection Methods

In action research, data is used as "evidence to support a reasonable claim that something is effective" (McNiff, 2002, p. 98), rather than as absolute proof. To ensure the findings are valid, data is collected systematically, and analysed and reflected on throughout the entire project (Tomal, 2010).

Data collection took place over four NZ university semesters, beginning in Semester Two (July-November) 2010 and continuing until the end of Semester One (February-June) 2012 (Table 9). The course codes for participating courses are derived from the year of the four-year BEP programme and the semester the course is offered; for example, Course 1-2 is offered to first-year students in Year 1, Semester 2, and Course 4-D is Year 4, Double-semester course.

Data were collected drawing on techniques outlined in Mills' (2007, p. 73) taxonomy of action research qualitative data collection techniques, including:

- Experiencing – through participant observation and meeting notes

- Enquiring – the researcher asking questions via interviews, questionnaires and surveys

94

- Examining – using and making records via journals and document analysis.

Table 9: Data Collection Timeline

CYCLE 1	
SEMESTER 2, 2010 **(July – November)**	Course 1-2; Course 2-2
SEMESTER 1, 2011 **(February – June)**	Course 1-1; Course 3-1; Course 4-1; Course 4-D
CYCLE 2	
SEMESTER 2, 2011 **(July – November)**	Course 1-2; Course 2-2; Course 4-D
SEMESTER 1, 2012 **(February – June)**	Course 1-1; Course 3-1; Course 4-1; Course 4-D

Klafki (1974, as cited in Brock-Utne, 1980) suggests the instruments used to collect data in action research should support educators towards greater self-knowledge and provide practitioners with immediate feedback so that evaluation can have a direct result on the process. In this research, discussion and feedback over regular intervals during each cycle meant that immediate responses to an intervention could be recorded and followed-up with reflective responses two to three weeks after the intervention was trialled.

The following sections 4.8.1 to 4.8.4 outline the various data collection methods used to gather data from the researcher, the participating instructors, and students throughout this research. A three-letter code is used to refer to the data sources: the first letter is used to indicate the source (I = Instructor, S = student, C = Course), and the remaining two letters, the data source.

- IIN   Instructor Interviews
- IRF   Instructor reflective feedback
- IMN   Instructor meeting notes
- SJN   Student reflective journal
- SSV   Student survey
- SFG   Student focus group
- COL   Course Outline
- CWS   Course Website

- CHO Course Hand-out

Participant quotes used in subsequent chapters have been edited to reduce repetition, clarify vague referents and remove the possibility of identifying of the participating institution, programme, instructors, librarians and students.

4.8.1 Researcher's reflective journal

One of the key instruments that provides much of the data for any action research process is the researcher's reflective journal (Herr & Anderson, 2005; Kemmis & McTaggart, 1988; McKernan, 1996; McNiff, 2002; McNiff & Whitehead, 2011; Mills, 2007; Seymour-Rolls & Hughes, 2000). A journal encourages description, evaluation and reflection on events, behaviours, thoughts and feelings, permitting maximum freedom of response in a continuous flow of consciousness that is not distorted by the effects of memory and recollection (McKernan, 1996). The subjective reflections and observations collected in the researcher's journal are then tested against critical feedback and triangulated with other data sources to strengthen the robustness of the research process and validate the evidence presented to support the conclusions drawn as the research progresses (McNiff, 2002; McNiff & Whitehead, 2011).

 A research journal is an effective way to:

- systematically reflect on and record choices made and their consequences

- be critical of yourself and capture the development in thinking and in action

- show changes in perception over time and how learning is used to make sense of the developing process

- make explicit when actions were modified based on key learning

- have a clear record of any ethical decisions made over the duration of the research project (Herr & Anderson, 2005; McNiff, 2002; McNiff & Whitehead, 2011; Mills, 2007).

Establishing a routine of reflection is essential because it encourages thinking and allows revision of what has been done, provides a focus on any improvements relating to a thematic concern, and is an opportunity to look back

on the foci of earlier stages of the project (Kemmis & McTaggart, 1988). Herr and Anderson (2005) stress the importance of a research journal as a "document reflecting the increased understanding that comes with the action research process" (p. 77). Although the researcher's journal represents a subjective account of the action research process, McNiff and Whitehead (2011) suggest:

> information from diaries, personal reflection and observations are subjective only in that they represent one person's point of view about the extent to which the practitioner/researcher has realised their values in their practices. During the course of the research, the validity of these subjective accounts will be tested against the critical feedback both of the researcher as they reflect on the robustness of what they have done, also critical friends and validation groups who examine the quality of the data and evidence recorded in the reports. (p. 45)

Throughout this research, I maintained a detailed journal, which provided a clear record of my observations, interpretations and reflections on the participants' journeys, as well as a clear record of my journey as an emerging action researcher. My journal proved to be an invaluable record of the process and strategies implemented during the overall research process. It has provided a narrative of, and reflection on, all stages of the research and data collection process. It also allowed me to pinpoint exactly when shifts in the participants' and my own learning were happening. Within the notes and observations, I made links to how my findings were similar to or different from the literature. To ensure that I was maintaining a regular journal, my supervisor asked me to submit it fortnightly. Regular submission forced more in-depth reflection throughout the research and placed my supervisor in the role of a critical friend, able to comment on my interpretations, continually challenge my thought processes, and offer insights and questions that led to further reflection and discussion.

4.8.2 Document review

A review of documents can help researchers obtain relevant information in the research context (Elliott, 1991; Stringer, 2008). Such document analysis was conducted throughout this research. Document analysis began with a review of all course outlines in the programme to identify where IL instruction was

currently taking place or where it could be embedded. This involved looking at each course for assessment types (for example, essay and report structure), and looking for repetition and gaps, as well as points of difference in information use that could be explicitly explained to the students (for example, Introduction, Method, Results, Discussion (IMRD) report vs report to a client vs field trip report formats). This review, in conjunction with data gathered in the BEP instructor interviews, identified the types of assessments at each year of the undergraduate programme, and indicated appropriate places within the BEP curriculum to introduce IL competencies needed to progressively support student learning. The course outlines of the participating courses were then modified to make IL an explicit learning outcome.

Written assessments were collected from consenting students in each of the participating courses. The first assignment review in Semester 1, 2010 in Course 1-2, was used to identify the need for support with IL development. Assignments were reviewed throughout both cycles of the research process and used for two purposes:

1. to identify students' existing challenges with IL and information use in written assessments, based on instructor feedback and my own analysis as a writing instructor

2. to identify whether the intended outcomes of the IL interventions were appearing in the students' written assessment tasks.

A review of marked assignments from consenting students provided insight into the students' writing, source selection and synthesis, and citation skills, and helped identify areas that needed further development. This helped guide and produce interventions designed to implement IL development in the subsequent research cycles. It also identified the type and method of feedback and the foci of the instructors' comments (for example, source quality, referencing, and lack of clarity and conciseness).

Reports based on instructor feedback in the marking and my review of the tasks were used to identify key challenges with student use of information in written assessments. The key observations were discussed and reflected on in the

end-of-semester briefing meetings with participating instructors (4.8.3.3), and were used to develop and modify the interventions as the research progressed.

4.8.3 Collecting data from participating instructors

Data collected from participating instructors proved a rich source of information that captured attitudes, assumptions and responses to change throughout the research. McNiff and Whitehead (2011) suggest that it is "questionable whether you actually can monitor and gather data about other people's learning or whether you can simply make tentative judgements about the quality of their learning through what they say and do" (p. 152). Therefore, continued discussion of instructors' reflections was central to understanding the impact of the research on their teaching and learning. Furthermore, McKernan (1996) warned that as teachers are "somewhat overworked, it is a little bit idealistic to suppose that they will be able to mount systematic collaborative action research projects in the face of constraints, such as a lack of time, [and] lack of research methodology skills" (p. 235). Participating instructors fitted this description, and were unwilling to keep detailed written reflective journals. Therefore, data was collected from recorded conversation, and via e-mail journals requested at various intervals throughout the research process. Details on data collection methods used with the participating instructors are outlined in sections 4.8.3.1 to 4.8.3.5.

4.8.3.1 Initial BEP instructor interviews (IIN)

In Semester 1, 2010, prior to Cycle One, semi-structured interviews with all BEP instructors were conducted to gain an understanding of existing IL needs and development within the programme. These 'purposive conversations' (Lodico et al., 2010) offered insights into what the instructors were currently teaching and assessing, and identified where and how IL development could take place within individual courses and the programme as a whole (see Appendix 4a for an example of interview questions). From the interviews, the participating instructors were identified as teaching courses which could support explicit IL development within the curriculum. Key themes emerging from these interviews are discussed in Chapter Five.

4.8.3.2 Conversation

In action research, there is an underlying assumption that conversation leads to enhanced insights and change (Feldman, 1999; McKernan, 1996; McNiff, 2002; McNiff & Whitehead, 2011). Feldman (1999) promotes the role of conversation in collaborative action research as a valid research method because the knowledge-sharing and meaning-making processes gained through conversation support deeper understanding. By entering into action research, each participant is engaged in research, which means the conversations that take place are directed and meaningful. Thus, deliberative conversation can be seen as a process of 'oral inquiry' which goes beyond 'teacher talk' because it involves building insights from the examination of education concepts, student work and problem solving, and captures the ways teachers relate theory to practice (Cochran-Smith & Lytle 1993, as cited in Feldman, 1997). McKernan (1996) states that "since action research has discourse at its core and since discussion, rather than the written word, is the chief means of communicating throughout life, it is thus a very potent tool" (p. 166). Conversations that can count as research are those which facilitate communication and consensus, exchange information, and share understanding (Feldman, 1999).

In this research, conversations with participating instructors on how IL instruction was taking place (or was perceived to be taking place) helped guide the plan of action to make this instruction more explicit. They helped identify ways instructors could amend their pedagogy or assessment towards learner-focused pedagogies. Through conversation and observation, problems identified by instructors provided opportunities for further investigation. As mentioned previously, it was up to each instructor whether they chose to adapt their teaching in response to the conversations and reflection taking place during the iterative cycles of action research. If the instructor chose to trial a new way of teaching or assessing a certain aspect of the curriculum, in-depth discussion of the outcomes helped determine if the intervention had been successful.

4.8.3.3 Meeting notes (IMN)

During the research process, the conversations with participating instructors took place in the form of formal or informal meetings. The formal meetings were scheduled at the beginning and end of each semester to discuss the planning and implementation of specific interventions. These meetings were recorded and transcribed. Summaries of significant points from the transcripts were then e-mailed or discussed at follow-up meetings, and instructors had the opportunity to verify or clarify points made and add further insights.

The informal meetings, which often took the form of a catch-up chat over coffee, were not recorded, but either notes were taken, or I wrote a reflective journal entry soon after. This is similar to what Mills (2007) calls an 'information ethnographic interview', where instructors engage in casual conversation to explore an idea or learning opportunity emerging from their practice. Key points taken during or after the meetings were discussed with the participants, and were used to identify any actions needed following the meeting.

4.8.3.4 Instructor Reflective feedback (IRF)

Engaging in regular reflection and using it to understand the process of change is an important aspect of PAR. Johns (2013) describes reflection as "a learning journey of becoming a reflective practitioner, someone who is reflective moment to moment. It is learning through everyday experiences towards realising one's vision of desirable practice as lived reality (p.1). On-going reflection throughout this research process enabled both the instructors and I to identify where change was needed, explore various ways to approach the interventions, and recognise where change had occurred and consider the implications of this change. Johns (2013) and Argyris and Schön (1989) advocate reflection before, during (reflection-in-action), and after (reflection-on-action) any interventions to ensure that doing reflection leads to becoming a reflective practitioner.

As mentioned above (see 4.8.3), the instructors involved in this research expressed a preference not to keep a regular written journal. Instead, they provided written feedback via e-mail on the various interventions that were taking place. Mills (2007) suggests that on-going conversations via e-mail may

be preferable to busy participants as they may not have time for numerous face-to-face interactions and can reply with their responses in their own time. Most reflective feedback was prompted by an e-mail from me requesting reflection on certain interventions. The reflections were then followed up and extended during regular face-to-face meetings throughout each cycle.

4.8.3.5 Observations

My role in this research included observing without interacting directly in the classroom. Observation allowed me to collect information by reviewing teaching styles and students' responses (actions and behaviours) to interventions as they were happening in the classroom (McClure, 2002; Mills, 2007). Class observations were conducted when the new interventions were being introduced, when formative activities or workshops were being conducted, and when feedback on assessments was being given. The classes to be observed were scheduled with the instructors at the start of the semester. During the observations, I took notes and then wrote up more in-depth reflections in my journal. Observation notes were discussed with the instructors at follow-up meetings.

4.8.4 Collecting data from students

Student feedback and reflection helped to: 1) identify students' existing IL approaches and ways they could be further supported with their IL development, and 2) determine students' views on the new approaches to assessment and pedagogy. Table 10 outlines the number of students participating in each cycle. Participation in journals and focus groups in Semester Two, 2010 was limited due to few volunteers, and some students who expressed an interest in the focus groups were unable to participate as these data collection points were scheduled during study break at the end of each semester and some students had returned home.

Table 10: Cycle One and Cycle Two Student Participation Data

STUDENT PARTICIPATION																						
CYCLE 1											CYCLE 2											
S2 2010	Course	Class total	Not partici-pating	Assignment review		Journal		Focus Group		Survey		S2 2011	Course	Class total	Not partici-pating	Assignment review		Journal		Focus Group		Survey	
				N	%	N	%	N	%	No	%					N	%	N	%	N	%	N	%
	1-2	44	0	44	100	1	2	4	9	22	50		1-2	31	0	31	100	6	19	10	32	19	61
	2-2	25	0	25	100	1	4	5	2	20	80		2-2	26	0	26	100	4	15	5	19	25	96
S1 2011	1-1	37	0	37	100	8	22	9	24	X	X	S1 2012	1-1	37	5	32	86	4	11	6	16	25	68
	3-1	22	0	22	100	2	9	5	28	X	X		3-1	27	0	27	100	4	15	5	19	25	93
	4-1	19	1	18	95	10	53	7*	37	X	X		4-1	21	0	21	100	7	33	9*	43	X	X
	4-D	22	3	18	82	10	45	7*	32	X	X		4-D	24	0	24	100	7	29	9*	36	X	X

*Focus Groups for Course 4-1 and 4-D were combined as the participating students were taking both courses

The number of students who declined to be involved in the research at all was minimal (see the 'not participating' column in Table 10). Most students agreed to assignment review. As mentioned previously (see 4.7), those who indicated they would be interested in the focus groups and/or the reflective journals were e-mailed with information detailing what participation in these data collection methods would involve. They then replied as to whether they wished to participate or not. Participation in the journals and focus groups increased as the research progressed and students became more familiar with my involvement in their courses. Some students participated in journals and focus groups in more than one semester, which allowed for a continuing conversation around whether the interventions were progressively supporting their learning throughout the BEP programme.

4.8.4.1 Reflective email journals (SJN)

Students who voluntarily consented to participate in reflective journals were sent an e-mail every second week during the semester with guiding questions, and an opportunity to comment on their personal learning. The data from these journals provided an insight into the students' learning processes and raised more questions for discussion and investigation as the research progressed. They also provided feedback for the instructors and me on the implemented changes, leading to further discussion and changes for the subsequent cycles. The participants remained anonymous and I was the only person reading the journals, but a summary of the comments (omitting information that may identify any student) were provided to instructors.

4.8.4.2 Focus group interviews (SFG)

Focus groups are used to gain a shared understanding from multiple participants while eliciting views from specific people (Creswell, 2005; Lodico et al., 2010). They allow the views of several individuals to contribute to deeper, shared understanding of the research topic, and allow interaction between those participating in the interview, which means participants have the opportunity to listen to the responses of the others (Patton, 2002). There does not have to be any kind of consensus, but all involved need opportunities to have their voices heard (Mills, 2007). Group members should be able to

respond to ideas and discussions in what should be a comfortable and enjoyable session (Patton, 2002). This research gathered feedback from student focus groups in relation to the issues of IL development and related challenges. A semi-structured interview schedule (McKernan, 1996; Mills, 2007) was used to ensure participants in different focus groups were able to respond to the same content questions (Appendix 4b), but students were also able to raise issues I may not have considered, ask questions, and develop shared understandings as the focus groups progressed. The focus groups were 60-75 minutes duration, allowing enough time to collect an adequate amount of information without the participants losing attention or motivation (McClure, 2002). From an ethical standpoint, confidentiality cannot be assured in focus groups (Patton, 2002). The need to respect the views and privacy of participants was explained in the focus group information sheet (Appendix 3c) and verbally before the focus group discussion began, to ensure that all participants recognised the importance of maintaining confidentiality.

In the first focus groups, students were reluctant to speak up, which led to excessive researcher control of the group. For the next cycle, questions were handed to the students so they could control the discussion, and I only interrupted to ask for more detail or clarification, or to move the discussion on to the next key point. As mentioned earlier, the cohort structure of the programme meant that I had repeated opportunities to speak with the same students as they progressed through their degree; this allowed me to gain a longitudinal view of the changes and determine whether any transfer of competencies and learning was taking place.

4.8.4.3 Anonymous surveys (SSV)

Anonymous survey questionnaires were conducted in Courses 1-2 and 2-2 at the end of Semester 2, 2010 because of the small number of students in the journal writing and focus groups. The surveys provided an opportunity to get responses and feedback from most of the students in the course. The surveys were administered during class time, so only those attending on the day completed them. As Cycle One continued in Semester 1, 2011, student participation rates for journals and focus groups had increased, so surveys were

not administered. Surveys were repeated in Courses 1-2 and 2-2 in Semester 2, 2011 to maintain consistency of data within each course. However, due to the richness of the data that the previous surveys had produced, anonymous surveys were also conducted in selected courses at the end of Semester 1, 2012 as a final phase of data collection. The fourth-year classes did not complete surveys because the structure of the courses and the level of participation in both journal and focus groups was adequate for student data collection in these courses.

The surveys used a Likert scale to indicate the usefulness of the interventions, and some YES/NO answers with a 'why?' prompt to elicit reasons for the response given to gain both quantitative and descriptive data. The survey also asked for 'any other comments' to allow the students to openly respond or make comment on anything else they considered relevant (Mills, 2007). The surveys only provided a limited picture of the situation, but they helped identify themes that could be developed and extended through discussion in the focus groups.

4.8.5 NZ university librarian interviews

To determine the perception of IL throughout NZ universities, semi-structured, group and individual interviews were held with librarians and academic staff at all eight NZ universities from August 2010 to April 2011 (Table 11). To identify potential interview participants, I contacted the information literacy coordinators at each university library and, firstly, asked permission to conduct the interviews, and then asked for support to organise groups of potential interviewees from within the library. All participation was voluntary. I also asked if they could recommend any academic instructors they knew who were active in promoting IL development in their universities. Any recommended persons were then invited to participate in an individual or group interview.

The purpose of the group discussions with librarians was to broaden my knowledge of the perception of IL and its place in NZ tertiary education. The semi-structured group interviews consisted of questions designed to discuss key points I had identified within the literature, and also created opportunities for participants to introduce information on IL development that was specific to their institutions. Transcripts were sent out for verification and further comment by

those who participated. Interview data were considered alongside the literature to identify both commonalties and any unique approaches to IL in the NZ context.

Table 11: Number of participants in interviews at NZ universities[12]

University	Librarians	Academics	University	Librarians	Academics
Auckland	6	3	Victoria	6	-
AUT*	2	2	Lincoln	3	-
Waikato	7	2	Canterbury	4	-
Massey	3	-	Otago	6	-

*Auckland University of Technology

4.9 Data Analysis: Identifying and Coding Themes in the Data

Data from the instructor interview and student focus group transcripts, student e-mail journal entries, participating instructor reflections and my research journal were thematically analysed and manually coded for common patterns, meanings or themes guided by both the literature and those unique to this research (McClure, 2002; McKernan, 1996; Mills, 2007). The themes identified were guided by semi-structured interview, focus group, and journal questions, and additional themes emerging through discussion. All student focus group and journal responses to the same broad questions were separated into sub-themes as emerging commonalities and differences were identified. Student data was grouped in two ways:

1. by course – to collate all responses to interventions within each course over two cycles of action research. This allowed the identification of any common challenges faced by students at first year, second year and so on.

2. by cohort – to identify any changes over time for students who participated over more than one action research cycle, particularly Cohorts B and C who were involved in three semesters of the research

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[12] Interviews with participating BEP instructors are not included in this data to protect identification of the participating institution.

(6.1, Table 13). This provided a fuller picture of individual students' research and writing processes and a longitudinal view of the impact of interventions on IL development and learning as students progressed through the BEP.

The complete data set was used for two purposes:

1. The Action Focus – to identify the key successes and changes needed for subsequent modification of the interventions during, between, and after each cycle

2. The Research Focus – to analyse the data for understanding and developing a deeper sense of the research process interventions that supported the embedding of IL development into the disciplines. This included identifying the participating instructors' attitudes and understandings of IL and their role in supporting students' IL development, and seeing when shifts took place (McKay & Marshall, 2001).

4.9.1 Triangulation

Using triangulation of multiple sources adds validity to action research findings by testing for consistency, highlighting inconsistencies, and reducing researcher bias (Kember & Kelly, 1993; McKernan, 1996; McNiff & Whitehead, 2012; Mills, 2007). Triangulation compares and contrasts different kinds of evidence and perspectives to explore key similarities and differences (Elliott, 1991; McKernan, 1996; Patton, 2002; Tomal, 2010). Inconsistencies do not weaken the credibility of findings, but rather offer "opportunities for deeper insights into the relationship between the inquiry approach and the phenomenon under study" (Patton, 2002, p. 248). Tomal (2010) suggests triangulation can also limit the effect of researcher bias if high standards of ethics and integrity are maintained and if the researcher aims to be neutral and objective when collecting, recording and interpreting data from other participants.

Triangulation was used in this research to test the findings for consistency across the data including researcher, instructor and student reflections to give the conclusions more validity. This combined the perspectives of all those

involved and provided a coherent frame on which to evaluate evidence and draw conclusions. Triangulation and interpretation of data took place throughout the two cycles to guide the subsequent cycles and discussions.

4.10 Reflections

In exploring PAR, I recognised that it would be a useful methodology for examining both instructors' and students' understandings of IL and approaches to its development across the full BEP undergraduate programme. PAR is currently underutilised in IL education as a means of exploring academics' approaches to IL instruction. As a collaborative, reflective, context-specific methodology, it would allow the voices of the participants to be heard and provide the means for BEP instructors to trial, reflect on, and take ownership of interventions designed to specifically meet the needs of their students. I realised that the '6 Cs' of action research would support this research process by: recognising the uniqueness of the context, allowing changes within the BEP programme to be monitored across the full programme over two cycles spanning four semesters, supporting collaboration and encouraging critically reflective practice, and promoting pedagogical change supported by educational theory and local data. The value of PAR in promoting the level of change we achieved in this research process is discussed in section 9.2.

SECTION III

EMBEDDING IL IN THE BEP

CHAPTER FIVE
Contexts:
Situating IL Development in NZ and the BEP

Action research takes place in a specific context or contexts. This research takes place in a NZ tertiary institution, within a specific programme. This chapter establishes and explores these contexts by outlining the tertiary education context in NZ and how IL is placed within the NZ university context, drawing on interview data with librarians and academics from all eight NZ universities (see 4.8.5). The focus then narrows to the specific context of IL development within the BEP and the chapter provides a summary of the key themes on IL development and support for learning emerging from interviews conducted with twelve BEP instructors at the outset of the research in 2010 (see 4.8.3.1).

5.1 Universities in NZ

NZ is a multicultural society, with a population of four million. The majority of New Zealanders identify as being of European descent (75%), with the remaining identifying as Māori (15%), Pasifika (9%) or Asian (7%) (Goedegebuure, Santiago, Fitznor, Stensaker & van der Steen, 2008). Education is compulsory for children aged 6-16 (Ministry of Education, 2008, 2012a). Tertiary education in NZ is broadly defined as a single sector encompassing all post-school education (Grey & Scott, 2012; Ministry of Education, 2012a), and covers "the full spectrum of adult literacy and second chance learning for those without previous formal or low schooling" (Goedegebuure et al., 2008, p. 15). The tertiary education sector comprises 900 institutions[13] catering to over half a million (predominantly domestic) students; 33% of these students are enrolled in one of the eight national research universities (Goedegebuure et al., 2008; Ministry of Education, 2012b). University entrance requirements are determined by National Certificate of Educational Achievement (NCEA) credits in approved subject areas, including literacy and numeracy (Ministry of Education, 2012c; NZQA, 2013). In addition,

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[13] Tertiary education institutions are divided into universities (8), institutes of technology or polytechnics (20), colleges of education (2) and Wānanga (Māori centres of tertiary learning (3) as well as a range of private training establishments, industry training organisations, and adult and community education providers.

any NZ or Australian citizen aged 20 or over can gain special admission without a university entrance qualification (Healey & Gunby, 2012; Universities New Zealand, 2013)

NZ university degrees are typically three-year programmes, though specialist vocationally-focused degrees may take 4 to 6 years. Only one NZ university offers a general education component in the first-year undergraduate programme, which consists of a broad range of content-focused introductory courses (University of Auckland, 2013). In the majority of cases, students enter their major in the first year (Universities New Zealand, 2013). At all universities, introductory academic literacy (predominantly writing-oriented) courses are offered, but are only compulsory for some programmes, thus remaining elective courses for a large number of students. Pre-university or foundational programmes offer a much greater focus on academic literacy and study skills, but these are often taken by domestic and international students who have not met university entrance requirements and, therefore, tend to be viewed as remedial support for learning.

In recent years, NZ universities have changed in similar ways to those in the US, UK and Australia (see 3.1). Students entering NZ universities come from increasingly diverse backgrounds, with the former Labour government taking proactive steps towards widening participation for specific under-represented groups, including Māori, Pasifika, women and those from low socio-economic backgrounds (Goedegebuure et al. 2008). These steps have had implications for students' successful transition into university study. Consistent with the literature on transition to university, the perceived widening gap between high school and university (see 3.1.4) is also a feature of discourse around university preparedness in NZ (Jansen & van der Meer, 2012). With this widening participation, larger numbers of students may struggle to transition into university successfully, particularly non-traditional students and those from under-represented groups (Healey & Gunby, 2012; Jansen & van der Meer, 2012).

Since 2008, economic pressures due to the global economic crisis have led the current National government to modify funding for higher education. Grey and

Scott (2012) recognise that the goals of the Tertiary Education Commission (TEC) have shifted from 2008, where broad-based human, social, scientific and economic progress were balanced between business needs (economic goals and growth) and the needs of learners (educational culture of optimism and creativity). Since 2011, the goal has narrowed towards economic advancement, which has led to a predominant focus on the labour market and economy. Accompanying changes in government funding have led to capped enrolments for many courses, which has shifted the focus from open enrolment to better performance and results (Grey & Scott, 2012; Healey & Gunby, 2012). The implications of this are as yet unknown, but some universities have already introduced selected entry criteria and minimum standards for progression. This will again shift the discussion on transition to higher education for under-represented groups who may be denied access to university under the new entry conditions (Healey & Gunby, 2012).

Teaching in NZ universities also tends to follow the lecture-focused trends identified in section 3.3.1. As Wang (2010) identified, the lack of a tertiary teaching qualification leads to limited knowledge of effective pedagogy for supporting learning at universities. University teaching is conducted using a combination of lectures, tutorials, and laboratory or field practices (depending on the discipline) (Ministry of Education, 2008). Physical spaces for teaching, while incorporating a range of technology, are still predominantly designed for one-way delivery of content. Tutorials, where smaller groups of students work together to apply learning from lectures, are designed to facilitate discussion and active learning (Ministry of Education, 2008), but are not compulsory for all courses.

Once students enter university, they are expected to become independent learners (see 3.4), and this may contribute to the lack of explicit support for learning offered within degree programmes. While all NZ universities offer a range of learning support and library services to help students develop necessary academic competencies to succeed in higher learning, these services tend to be both under-resourced and under-utilised by students. One learning advisor expressed concern over 'targeted advice'. He suggested learning advisors can guide students to what they want, when they need it, but

independence comes when students can put these skills into practice, rather than merely finding out how to do it in the first place. He further indicated that the chances of students finding what they need at first year without facilitation are slim (personal communication, February 15, 2011). Effective use of student learning support services relies on students being aware of the support they need, and having the confidence to ask for help. Jansen and van der Meer (2012) argue that NZ universities need to better support first-year students to develop essential academic literacies as part of the curriculum to ease the transition into the demands of higher learning.

As observed in section 3.1.4, secondary school curricula and assessment have an impact on students' preparedness for university. Secker's (2011) observation that the 'teach to the test' model in the UK negatively impacts on students' readiness for university demands is mirrored in the perceived assessment-driven focus within NCEA (Alison, 2005; Hipkins, 2013; Locke, 2005), which was implemented in 2002 (NZQA, 2013). Despite the potential for NCEA to offer student-focused learning opportunities (Hipkins, 2013), some teachers believe NCEA creates very utilitarian learners who concentrate on credit accumulation over learning (Alison, 2005; BEP Instructor Interviews, 2010; Locke, 2005). Hipkins' (2013) research revealed that over half of NZ secondary school teachers surveyed felt pressured to boost students' NCEA results to meet Ministry of Education educational achievement targets, which "arguably orients interpretation away from legitimate learning gains" (p. 17). Some university instructors in this research were quick to blame students' lack of preparedness for university on the high school curriculum, and believed NCEA fosters a learning approach that demands step-by-step instruction and makes students reliant on models and exemplars (BEP Instructor Interviews, 2010).

5.2 IL in NZ Universities

Before identifying the immediate context for this research, it is important to consider the broader place of IL in learning at universities in NZ. This section revisits key themes connected to IL identified in the literature (see Chapter Two) from the perspective of university librarians in the NZ context. Data were collected via group interviews conducted with 34 librarians from the eight NZ

universities in 2011 (see 4.8.5). Each university has been given a letter-code from A-H. Quotes from participants at more than one group interview at the same institution are identified as A1, A2, B1, B2 and so on.

5.2.1 Invisibility of IL

NZ librarians identified several of the key reasons IL is 'invisible' and not explicitly promoted in the university (see 2.4.3), including IL and IT confusion, and instructors' perceptions that students would have already developed IL skills, or would do so by completing assessments that required IL competencies. They also recognised students' tendencies to over-estimate their IL abilities and the challenges around assuming students are 'digital natives' prepared for academic learning (see 2.5.2):

> *B1:There's also an expectation from faculty that students already know how to do all this sort of thing.*
>
> *B2: We did a big survey and students … had a very over-inflated view of what they could do. You'd do a verbal interview with them about what they thought they could do as far as library skills and then … you got them on a computer beside you … and the number that said they could do these things, well, no, they couldn't. There was a big mismatch.*
>
> *F1: I would have said that generally the comments from the academics are more about how unprepared students are these days. You know, the old 'this generation's no good' syndrome.*
>
> *F2: I'll do my passionate thing if you like, which is - the one [academics] definitely completely underestimate are the students' skills at computing and computing literacies. They assume that students can use Excel [and they] assume that students can carry the ideas of mathematics into using Excel; they assume that students can use Word, [and] PowerPoint and we know they can't.*
>
> *F1: There's a strong movement amongst us in the library team that we would like to have the idea of digital natives put against a brick wall and executed by firing squad.*

An additional concern they identified was the perception that students' IL development remains the responsibility of the library, or should be combined within other university teaching and learning support for academic literacy. They argued that placing the library outside the context and content of disciplinary learning maintained the position of IL development as remedial and adjacent to content instruction. This was a key concern for one group of librarians, as in a recent restructuring at their institution, the library had been placed with facilities management rather than at the centre of research and educational learning. At another university, the merger of the library with the teaching and learning

centre in 2009 was seen as a positive change to bring university learning support services together.

5.2.2 'Information literacy' as a term

There was widespread agreement that although the term 'information literacy' was important for librarians as information professionals, it held little meaning outside the library:

> *A: It means something to us as a profession. It's a kind of platform for us to be on … a mutual understanding amongst information professionals about having people literate in information skills.*

Those who disliked the term saw it as jargon and argued that IL encompasses a broader range of competencies than the library could address. An alternative term was 'research skills', as this tended to gain academics' buy-in:

> *B: We found that some faculty have heard of information literacy but have a different idea of what information literacy is. They still think that a one-off shot at what was called 'bibliographic instruction' is all that is required.*
>
> *G: We still call it information literacy but many of us are unhappy with that term. I personally refer to academic literacy and I see what the library offers as just part of a whole spectrum of literacies or skills, so the library would never pretend we have a monopoly on information literacy … I don't think academics understand the term either.*
>
> *H: When you look at [IL] you're getting that definition but we only fit into a small part, … and so to sort of state it that way seems to be committing us to something that we can't deliver on … We try to sort of guide them on things like evaluation [but] we can't tell people how to interpret the information that they get, and the kind of definitions of information literacy that I've seen, it's quite a main part of it, so that's why I'm uncomfortable with the idea that that's what we do.*

Others recognised the value of using a term that extended beyond the library and captured more than just skills, aligning with the more holistic views of IL (see 2.1.2):

> *C: I really like this term because I think it encompasses the whole gamut of what info lit means. It means being literate, being skilled, being knowledgeable about information in all the places that it exists and all the ways you can find it and all the caveats around whether it's any good or not, and then using it, quoting it, storing it, accessing it again, understanding it. So I am very happy with that term.*
>
> *B: I think it's absolutely excellent and we try and promote it at every possible turn because it is – you talked about research methods and research skills – those are part of information literacy. Information literacy covers the whole. We can put in everything to do with access, learning, understanding, citations, methods of research – all those things fit nicely under the bubble of information literacy. We started introducing it with our orientation students, so we're getting into them at first year.*

5.2.3 Librarians' and academics' roles in developing students' IL

Consistent with the literature (see 2.6.4), librarians at all eight NZ universities agreed that an embedded approach to IL development is ideal. They recognised the importance of identifying core courses that would support IL development for a greater number of students:

> B: Having them embedded as part of the whole programme [so] that they are not incidental. They are important components … and they make up [part of] something bigger at the end.

NZ university librarians recognised that they had a limited scope in how much they could support students' IL development given both physical and curriculum constraints, and the students' limited exposure to explicit IL development outside the library:

> A:The university requires people to be information literate, but it doesn't always do enough to make this a reality.

They emphasised that gaining academics' support for developing IL was an important factor for students' IL development (see 2.6):

> C: Academics are the best people to advertise your courses and library stuff … The weight they carry when they say 'hey, this is really good', has a lot more weight than a librarian going 'hey, we've got great things, hey, look at our nice pamphlet – come along!'. Targeting the academics to get them to advocate the students coming along [is] a far more motivating factor.

Thus, a key message reinforced at all institutions was that academics have as much responsibility as librarians to support students' IL development. Academics can support students to transform information into knowledge of the discipline and effectively communicate the new knowledge to contribute to future disciplinary conversations (see 2.6.2).

However, a key barrier to gaining academic instructor buy-in was the perception that embedding IL into content courses would take significant time and space in the curriculum:

> B1: I'm approached with the problem of time – they don't have enough time in their courses to have these skills development when they are trying to get their content across. My take is that they just may need to make slight variations to their course and their assignment topic to have it become an information literacy type assignment.
>
> G: It's time too; we've got very short semesters now – 12 weeks – and every hour is precious to the academics.

All librarians felt constrained by the limited time allocated to IL development in first year courses and throughout the undergraduate programmes. Many were brought in to lectures to deliver a 50-minute one-shot introduction, or had limited space for workshops for generic or discipline-specific instruction outside the curriculum:

> *A: We have a one-hour lecture and one-hour tutorial in the second and fourth years. The thirds have an online tutorial. First year is a one-hour hands-on and a library tour where we tell them a load of stuff they need to know for how to record a book or find it on the shelves. So one or two hours is all we are going to get.*

> *G: In orientation week, they come to the library for – it used to be three hours, but it got cut back to two hours because of pressure on the time from other parts of the system. But we have them for two hours, and we call it 'deep immersion'. They all have to be aware of the catalogue, how to use the catalogue. The journals we refer them to have [discipline] in the title. It's very hands-on in terms of finding information.*

Any time allocated was largely spent on introducing students to library resources (catalogues, databases and physical layout), and little time was attached to supporting students to become more effective at searching with the tools they already use, i.e. Google and Google Scholar:

> *A: We don't really focus on Google Scholar, per se. It's there as a database, but our focus is much more on the subject-related databases. [Our institution] really prides itself on having extremely strong resources across the board for students, and Google Scholar … we don't actively promote it. … It's used as an adjunct or a quick and dirty entry point. If something is a bit obscure, then sometimes you can pick up something from that and you think 'Ah, let's follow through on that journal' and then we can go into databases.*

Librarians identified challenges connected to offering generic IL introductions or sessions aligned with specific assessment tasks; however, they criticised generic instruction for lacking context:

> *F: Actually one of my pet topics is that one of the big things I think is missing from a lot of our traditional information literacy instruction is it doesn't have a context that the student can relate to – it's teaching a technique in the absence of need and the students sort of go 'yeah whatever, that's cool' and forget about it. So we really want to, especially with the core class, focused ones, have the students know what the information need is going to be and tie it to an assignment.*

However, concerns over the transferability of the competencies learned were evident in task-specific sessions:

> *G: There's also a risk when you're doing a thing at point of need that the essence of lifelong learning perhaps gets put to the background, just because the students are seeing this as "I need to do this for this assignment".*

Other librarians took a broader subject-specific, rather than task-specific, approach to encourage transferability of the learning. Several recognised that the key to encouraging IL development was engaging the students in the research process and raising awareness of the importance of IL to learning and future career opportunities:

> *B: I think one of the key things that we endeavour to do is to teach them the process of research and the value of utilising databases for up-to-date information and being able to access the catalogue using guided keyword searching to bring up the published material within the areas that they're looking at. We're working on the assumption that once they have the process of doing research, that should stand them in good stead. Whereas, if we went to their specific assignment, they would only be focusing on that assignment and not looking at the wider spectrum with a view to the future and their careers, and what they're doing in third year, and what they'll do in their Masters, and all those types of things.*

> *H: If we can convey just an interest in and an excitement and a natural curiosity about information researching then, hopefully, that's going to show students that it's not just a matter of "can we use a database to clip out a few articles to write a paper". This is something that you really can carry with you forever. You're always going to need these skills whether it's in your job or you're trying to find a job or you're trying to pursue an interest.*

Most librarians indicated the importance of revisiting IL strategies over the full undergraduate degree and in post-graduate degrees (see 2.6.2), due to both increasing academic demands on learning and the rapidly changing information landscape:

> *A:The information world is just changing so quickly and so rapidly that when you did a course, say two years ago, it's all changed since then.*

> *G: That's one of the challenges, I think, too. You only get them at first-year, and you don't get to revisit with the changes that are happening in the libraries and what you have access to. The students miss that unless they are curious enough to work it out for themselves, which isn't that many of the students.*

> *H: I taught that 4th year group for the first time this year. No-one knew about subject guides; hardly any of them knew about [Library Search] because those things had happened in the interim since they were taught in the second year. So they obviously hadn't been going and exploring and using the library website.*

Although most librarians were assigned to work with specific subjects, many were not discipline specialists. The amount of time they could direct to exploring one subject or discipline depended on the size of the library and staffing. Some librarians were overseeing several subjects at once, while others were assigned to a specific discipline. Most librarians felt they could direct students towards databases and resources relevant to the discipline, but may not have been familiar with prominent authors or content knowledge. At one institution, one

librarian who had completed a degree in the discipline she was overseeing indicated the value of being familiar with the content when supporting students from that discipline.

> *D: If we can actually get them into a lecture the first thing I do is a hard sell - I market and I sell hard to students because we're lucky we've got Management, money, jobs. And I've got an undergraduate business degree and [librarian] has got some background so we are totally matched for our audience.*

At another institution, two librarians had been working with the same discipline for a number of years and indicated that they had become familiar with the resources over time through extended collaboration with academics. They felt they could engage with students for both IL development and discipline-specific evaluation of sources.

> *A: when you work in a highly specialised area like this. I've got this theory that you learn it by osmosis because that is what you're dealing with all the time. You know the names of the people within the specialties; you know the key academics writing within the various areas of the specialist discipline and I think this is essential especially when you are giving guidance to students with the direction of their accessing of the information.*

Consistent with the literature (see 2.6.3), NZ university librarians had the most success when collaborating with academics to embed IL development. They emphasised the importance of building a relationship with an academic instructor who actively sought to integrate IL development into the curriculum:

> *A: I've built that relationship up with [discipline] ever since I have been here so that has made a difference … I suppose acceptance of my role, and building that bridge between academics and myself, but then it makes it a lot easier when you say 'look, this problem, this is what I think you can do' and they go 'yeah, let's do it'.*

> *C1: Sometimes it can literally take years to [build a relationship], you know, over cups of coffee in the staffroom, in conversations with other people, and selling you in front of other people.*

> *C2: We are really aware of the need for collaboration and the need to get something in place within a structure that moves slightly faster than a glacial level … We've got people like [one particular academic] who are hooking in with us and making use of us and the students are benefitting. She's not in a huge amount of company; we're not fighting people like her off with a stick!*

Most librarians had had the most success embedding IL into structured, cohort-based professional programmes, for example, law, engineering, and particularly, health programmes. They recognised that cohort-based courses provide an advantage for building skills over the years, allowing opportunities to extend the development of, rather than repeat, key IL competencies:

> *A: You've got that advantage of it being the same group going through, so you know what they have done; whereas in other groups, in Arts, for example, they might have already had five tutorials with a different librarian. For them it's just another tutorial or the same thing. They don't see it's another discipline area, different resources. So it must be so much harder, I think, in those sorts of disciplines.*

They also recognised the value of team-teaching with the academics, and the academics' involvement and presence at the library sessions:

> *A: Some of the lectures, you were kind of co-teaching with the lecturer. The lecturer was there, you were there. The lecturer talked about the academic side of stuff and you talked about other things, so you were kind of seen as the same when you were presenting and that think that made a huge difference … you weren't separate.*

Most had also experienced the loss of key initiatives when instructors active in promoting IL development left the university or programme, or when courses were restructured. Some had also experienced instances where initiatives to embed IL had not been successful:

> *B: It just kind of died off with [discipline] and I would say we never got the match correct about what we were teaching and what they wanted. We were not all talking the same language even though I thought we were.*

5.2.4 Librarians' views of student approaches to IL

NZ librarians have recognised the changes in student approaches to learning (see 2.5.4), and while one librarian contributed this to time constraints, others connected the shift in attitude to NCEA and lack of engagement in learning:

> *A1: As undergraduates they want it now, they want it instantly, and you can understand because of the time-frames they are faced with. With semester-based teaching, there is not the contact hours there used to be … to have the discussions about an essay topic in a tutorial. That just doesn't happen, and so they are needing to get it right the first time. We have both noted the quite different approaches to students and their work methodologies and I think it is time driven.*

> *A2: It's just the instant end result rather than the learning process, which I think is quite sad.*

> *B: I think we've already noticed a change in attitudes of the students coming through in future because they tend to work to what they need to pass rather than to learn. And now I know that students stop – they've actually stopped doing some of their courses at school because they don't need to. They've passed. They've got another three months with no learning happening.*

> *E: I think that NCEA has changed the way secondary school students learn, sort of modularised their knowledge, and they've lost the idea of idea of really connecting with stuff.*

> *H: I've come across people who are really proud of the fact that they've got through most of their degree without even having gone into the library.*

One group of librarians recognised that the focus on IL early in the first semester without continued, timely extension was ineffective to support students' IL development:

> *C: An 18-year old is simply not going to have the cognitive functions to understand some of the stuff that in a year or two or three will be easy for them to grasp. And it's not necessarily because they are lazy or unmotivated; it's just that they haven't developed that schema. Like if you've got a dead horse and you keep chucking info lit at it, the horse is not going to understand. We have second and third years who say 'why didn't we know this sooner', and it's like … 'you did have it sooner, you just didn't notice'.*

Librarians also identified that effectively supporting students' IL development was negatively impacted on by last minute approaches to assignment completion:

> *E: There is very much a focus on 'I need this information because this is due X. I didn't need it a week ago, or two weeks, or at the beginning of the year when you guys shared it with me'. So [it's] that whole just-in-time information and repetition at the reference desk.*

> *H: It is much more reflective of the people that come in because they ask for answers; they're not asking to learn skills. They're kind of asking for a particular thing and they want you to give that to them – they don't want to learn how to get it themselves.*

5.2.5 Shift to online IL delivery

A trend in all NZ university libraries and the literature is the move towards the online delivery of IL instruction (see 2.6.5). This can be through learning objects, 'lib guides' and learning modules (Partridge et al., 2008), online assignments (Collins & Hill, 2003), or full online courses (Gunn et al., 2011). The strategic shift to online IL instruction aligns with blended learning approaches, which aim to embed online course components into internal courses. A number of courses that offer Moodle or Blackboard learning interfaces had library content and information literacy resources housed within these spaces. One librarian recognised the importance of learner preference when delivering IL instruction:

> *C: Some people will like in-class tutorials, some will like online flexibility and time. In fact, what we are doing is totally wrong by taking a one-size-fits-all [approach] and actually going to a lecture and delivering the same tutorial.*

Online quizzes are used at some institutions as a means to test students' IL competencies following online module completion. One NZ university has a compulsory online library skills orientation and quiz that must be completed in

the first semester of study before Semester One marks are released. Through the modules and quizzes, all students get an introduction to the mechanics of information searching, leaving any face-to-face library teaching time to be used for deeper discussion and articulating the information needs. This aligns with Secker's (2011) observation that increased online IL instruction allows librarians and teachers to concentrate on higher-order skills in limited face-to-face sessions. However, the same librarians recognised that the compulsory online quizzes were still decontextualised and may not be used close to the point of need:

> G1:The new philosophy of the university [is] that much more should be done electronically on Moodle … so a lot of stuff went onto quizzes and online tutorials. But just another anecdote is that last year I did an economics thing online and they had to hand in assignments, and they were pretty bad, although I gave them a posting about what to do and what to use. This year we went back to tutorials and the results are so much better. I just couldn't believe it – they don't take nearly as much time to mark because they have been done correctly and because it's been face-to-face.

> G2: If they just have to do it online, it can be a perfunctory exercise while their mind is somewhere else, so it's not as engaging.

Therefore, follow-up to online IL instruction was deemed essential, ideally supported with assessment, as well as the promotion by academics of the value of using good quality sources:

> H: That's the other thing we've found out with the library involvement online with all this information literacy stuff that we put a lot of resources there to help students but we don't necessarily find they engage unless [academics] are actually out there pushing [the resources] with assignments or with particular learning modules, unless it's being … assessed in some way.

Interviews revealed that while there was an excellent range of resources available at each university library, there was no consistent approach to ensuring students were aware of the existence of search tools available to them. Therefore, despite increased potential access to IL instruction, online resources were still not accessed by a large number of students. While the online reports generated through the Moodle interfaces allow librarians to see how many times the resources are accessed, they could have no real understanding of how students were using the resources to support IL development. Librarians at all institutions indicated that they have not conducted formal investigations into student use of the available resources although, anecdotally, students who use them have indicated their value.

Librarians also recognised that undergraduate students are relying more on Google and Google Scholar for research (see 2.1). A strength of Google Scholar is that it provides advanced search and links to paid-access sources (Timpson & Sansom, 2011). Although most university libraries in NZ provide such links, librarians identified a key problem with access: if students are unaware they should search Google Scholar via the library website, they are denied access to many of the scholarly sources the search generates.

5.2.6 Rebranding the library

A final point of interest in visiting the NZ university libraries was the change in their image. Rather than simply being physical spaces that house books, libraries have become *'information hubs'*, complete with information resources, computers, individual and group workspaces, learning support, and social spaces with cafés. The increasing shift to online electronic resources, particularly e-books, has changed the physical spaces and, therefore, the way that libraries function:

> C: When we get e-books and e-reserves, they won't come into the physical space and the concept of book-holding will change.

5.3 The BEP

The specific context for this research was the BEP at a specific NZ university, a four-year professional degree accredited by the NZPI, which offers practical-based Planning education by combining professional and academic learning opportunities. The fourth year of the programme brings together practical and theoretical knowledge and competencies through three large projects, including a double-semester capstone project that encourages all students to undertake research in a particular area of interest and relevance to Planning.

The BEP provides generalist planning education with a minor in a Planning-related discipline and has an interdisciplinary focus, because Planners need to consider views from a wide range of stakeholders in decision-making processes. The programme supports students to develop interpersonal, communication, and conflict-resolution skills, and emphasises the importance of practical and real-world experiences through building university and community

relationships. It provides students with the theoretical and ethical foundation to support them as Planning practitioners. Although the BEP is framed within the NZ context, it draws on international experiences and approaches, so graduates can apply their knowledge and competencies in both local and international professional and applied environments[14].

An external accreditation body, the New Zealand Planning Institute (NZPI), had identified that students from all Planning programmes across NZ universities were not graduating with acceptable research, communication (written and oral) or critical thinking skills[15]. Therefore, instructors in the BEP were charged with identifying ways to improve these aspects of student learning. The former BEP programme coordinator at the institution studied had sought advice from a senior writing instructor at the institution and had expressed concern over the poor quality of written work and lack of wider reading and quality source selection by BEP undergraduate students. Therefore, the BEP was identified as a potential discipline within which to explore IL development across the full undergraduate programme.

The BEP is a cohesive, cohort-based programme and therefore provided a solid foundation on which to implement IL development across the full undergraduate programme. Twelve instructors teach 17 core Planning papers, with the remainder of the degree consisting of a Treaty of Waitangi[16] course, nine minor courses and two general electives. The first-year BEP courses often cater to 40-60 students from a range of programmes, with a cohort of 20-30 continuing the BEP from second year.

In 2010, I conducted interviews with the 12 BEP instructors. The purpose of interviews was to:

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[14] Information in this section has been taken from the BEP programme website, which is not included in the reference list to prevent identification of the participating institution.
[15] The NZPI report for the participating institution was provided to the researcher by the programme co-coordinator and is not a public document. Therefore it is not included in the reference list.
[16] The founding document of NZ that is used by the NZ government and Māori "to focus on developing, understanding and strengthening relationships with iwi [tribes], whānau [family] and local communities to promote engagement and input, and to provide support as required" (Ministry of Education, 2013).

- gain an overview of the course delivery and assessment structure in the BEP programme

- understand the instructors' views on IL development

- identify how instructors perceived their role in supporting students' IL development

- identify instructors' views on the best methods for supporting students' IL development

- understand instructors' perceptions of formative, process-oriented assessment activities to support learning.

The interviews indicated that once BEP instructors understood the holistic view of IL, they recognised it as essential for BEP graduates alongside effective communication and other Planning-specific skills. However, they were concerned that these academic competencies were not being adequately developed by many of their students. Sections 5.3.1 to 5.3.5 summarise the key themes connected to IL development and learning within the BEP that emerged from the interviews.

5.3.1 Course delivery

BEP courses are delivered as a mixture of lectures and workshops or tutorials. Some of the instructors said they had changed the lecture: workshop ratio over the past two to three years to move away from a lecture-based delivery and to allow for more practice-focused activities within the professional degree. Interestingly, there was no tutorial time in the first-year content papers, which consisted of three hours of lectures per week.

Group assessment features in the programme to help students prepare for the reality of the workplace. However, instructors were concerned that this collaborative learning was allowing weaker students to progress through the degree. They also indicated challenges around creating equitable groups and the impact of group dynamics on performance in assessment tasks.

5.3.2 Assessment

Most courses in the programme used traditional forms of summative assessment (essays, reports and examinations), but each instructor had an alternative assessment unique to their course that had been designed to assess

part of the learning process and/or focus on experiential learning. Examples of these activities were role play, oral exams, design projects, documentary-making, a practical scenario exploration, and case law analysis. However, these innovative assessments only accounted for between 10-30% of the course assessment and were assessed as summative outputs; therefore, they did not act as formative learning tasks leading into subsequent assessments. The remaining 70-90% was allocated to traditional summative assessments, including 40-60% for final examinations.

5.3.3 IL in Planning

Most of the BEP instructors were not familiar with the term 'information literacy', but recognised the research competencies involved in being information literate, including being able to find relevant sources, synthesise and evaluate information, and communicate information effectively. Instructors identified evaluation as the skill students struggled with the most. Some instructors recognised students' challenges with understanding and identifying the value of information, adding disciplinary value ("*putting on the Planner's lens*"), and being able to transform information into knowledge. These challenges reach beyond the basic research skills of finding and accessing information, and connect to the holistic notion of using information to learn (see 2.2).

BEP instructors almost unanimously stated that IL competencies are essential for Planners. As professionals, Planners need to be able to understand how information is used in various settings for various purposes. To quote one instructor:

> *their job in a sense is being able to judge and access information from a variety of different sources and actors and varying sets of interest and politics. I just can't over-estimate how important it is for them to do that in ways are effective.*

However, for most of the instructors, IL was not an explicit learning outcome for their courses; they believed it was an implicit outcome embedded in what they do. They implicitly valued student mastery of research and communication (oral and written) competencies, but assumed that the students would develop them as they progressed through their degree (see 2.6.3). One instructor indicated that while IL is important, it should not be elevated to any greater importance than the other essential professional Planning competencies.

The majority of the course outcomes were content-focused with no explicit outcomes connected to IL, research, or writing development. Most instructors admitted to not having consciously considered their role in teaching and promoting IL. One instructor commented that although he assumed someone else in the course would be teaching these skills, he couldn't identify where that might be happening.

Instructors recognised that the amount of variable quality information available on the internet is creating a problem, and one instructor expressed a concern over *"the idea of a whole generation of the slightly misinformed"*. There was also concern over the students' source selection, with some reference lists being described as a *"random shopping list they've managed to accumulate that doesn't tell a story"*.

Some instructors set guidelines for the use of particular types of sources (for example, must use scholarly sources in assessment tasks) and talked about the importance of selecting quality sources, but there was limited explicit focus on developing information search and evaluation strategies beyond the first year introductory library session[17]. This meant instructors in fourth year courses were faced with a group of students who seemed unable to find and effectively use quality information to support their learning.

Instructors identified a variety of information sources Planning students would need to access when they entered the profession, with one instructor describing the scope of information as *"anything and everything due to the diverse job description of Planning"*. Another instructor noted that knowing how to find all the various information sources is not essential as much of the information can be commissioned. Examples of types of information needed include (but are not limited to):

- Factual information
- Council documents and reports
- Survey results

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[17] One particular course has specific information retrieval requirements and does teach these explicitly, but the information required is very specific and the skills taught would not easily transfer into other information-seeking situations.

- Consultation processes and decisions on hearings

- Particular consents, for example, chemical impacts on the environment, development techniques

- Site-specific development applications

- Media reports, up-to-date reports of current and local events in newspapers

- Conference papers

- Relevant legislation – District Plan and other policy and plan provisions

- Case law

- Government sources and resources, including scholarly work, government reports and international literature

- Various reports from various disciplines and external stakeholders

- Updates on good practice models via the Quality Planning website.

Despite the range of information types identified, library information sessions tended to focus on strategies for using databases to access scholarly information. Students tended to rely on the internet for the other source types identified. The BEP instructors, like many other academics (see 2.5.2), assumed that the students had effective internet search skills, so offered little explicit instruction around effective internet searching and evaluation strategies.

5.3.3.1 Provision of course readings

BEP instructors held varying views on how to provide course readings. This had been impacted on by the university's move away from providing printed materials. It was also a matter of personal preference: some provided a recommended reading list and required students to find relevant readings independently; one provided a book of readings held only in the library; and another provided students with complete printed books of readings to ensure that "*the right sources are being read*". Those who provided the readings did so because they were concerned that the students wouldn't access them otherwise, or because they need a specific group of readings for the content of the course. With the move to Moodle-based course websites in 2011, instructors were able to provide direct access to recommended readings online.

Interestingly, instructors at the higher levels tended to provide more set readings in print format than the first-year courses. The first-year course instructors provided a small set of readings and recommended readings, but most of the searching for information for assessments was done in addition to (or instead of) the material provided for the course. Regardless of how core readings were provided, all instructors were concerned over the students' inability to independently find relevant, appropriate sources for assignments.

5.3.3.2 Critical thinking and reflection

Part of being information-literate is being critically reflective of how information is used to support learning (see 2.3). Planners are often faced with different viewpoints on the same issue, so students need to be able to think critically in decision-making and problem-solving. The development of critical thinking is strongly linked to reflection (see 3.3.6); however, few explicit opportunities existed in the Planning curriculum for students to reflect on what and how they were learning. Most instructors believed that students lacked effective critical thinking strategies and that they did not make connections across the wider curriculum as they progressed through the degree. Rather, students viewed each course as a separate topic to be covered before moving on to the next one.

The students' lack of critical thinking was linked to several causes. Some suggested it was connected to the '*bums on seats'* philosophy which allowed a wider range of students with varying academic competencies to enter the university. Other instructors suggested most first-year students seemed to have a very superficial view of information and tended to believe what they read without critical analysis or questioning. Most BEP instructors were quick to blame students' apparent lack of preparedness for university and surface approaches to learning on the high school curriculum; they believed NCEA fosters a learning approach that demands step-by-step instruction, 'spoon-feeds' students, and makes them reliant on models and exemplars (see 5.1). Therefore, students expect they will be spoon-fed in the same way at university. A final comment was that students are very strategic or utilitarian in the way they learn (see 3.2), and won't go beyond learning what they need to pass the

assessments: "*they want to pass and get out. Actual learning is secondary to this goal*". While instructors expected that students would develop critical thinking skills by completing tasks and assessments that required a demonstration of critical thinking abilities, they did not identify the need to explicitly support students in learning *how* to think critically.

5.3.4 Assessing the learning process

Research suggests that assessment is a key motivator of students' learning and that summative feedback has limited impact on student learning (see 3.5.2). Most BEP instructors said they were constantly thinking about how to change various aspects of assessment in their courses, but felt constrained by workloads and lacked time to implement such change. For example, one instructor said she spent too much time giving feedback, and wanted to find alternative ways to provide feedback more effectively so students would take notice of it. More than one instructor commented on looking at ways to get the students to read more.

As part of the interviews, instructors were provided with a list of activities that focus on the research, writing and learning process (learner-focused, process-focused, collaborative, and reflective tasks) and asked if they have used these kinds of activities in their courses.

- *Peer-review*

There was a mixed response to the usefulness of peer review. The main concern was over students' ability to review each other (especially at first and second-year), and the advantages and disadvantages for the strong and weak students in the class. One instructor stated that with peer-review, "*you usually end up with two misinformed students*" rather than adding any value. Informal peer review with friends often resulted in the same mistakes appearing in more than one student's assignment. Another instructor who had trialled peer review previously felt students didn't engage fully with the peer-review process, so it was not usually successful.

- *Reflective learning opportunities*

All instructors said reflection is an important aspect of being a professional Planning practitioner. For most instructors, reflection related to engagement with, and critical thinking about, the content in order to complete the assessment. They believed they could see critical reflection in an excellent essay. There was also some reflection on roles in group work as part of assessing peer contributions. Even though all instructors indicated reflection was an important aspect of critical thinking and learning, there was no explicit requirement for reflection on the learning process (i.e. what students discover about themselves as learners during the assessment task completion) built into the curriculum and assessment of the courses. Interestingly, most instructors asked students to give them feedback so that they could improve their teaching and course design, but didn't ask students to explicitly reflect on their own learning.

- *Portfolios*

Portfolio assessments were not popular due to the extensive marking workload they create. Some instructors had used them successfully in the past, and said they would be useful if there was time to develop and assess them. There was also a concern over students leaving tasks until the last minute and not gaining benefits from the process-focus of portfolio assessments. For others, portfolios were not an appropriate assessment type for the courses they were teaching.

- *Annotated bibliographies*

An annotated bibliography was required for the capstone projects because it was important for students to demonstrate they were finding appropriate sources for the high-stakes assessment. However, they were not seen as important at the earlier stages of the degree because a reference list was seen as a sufficient indicator of source use, and instructors didn't want to overload students with unnecessary assessment.

- *In-class discussion of readings*

There was variation on how assigned readings were used in class. Student-led discussion seemed to be the preferred option for in-class discussion of readings. One instructor teaching at third and fourth year asked students to present readings and assessed them on written reviews of each reading. However, another instructor questioned whether first and second-year students have the capacity to evaluate readings, especially journal articles, as they lack experience and knowledge to make meaningful judgments. Larger class sizes at first year also made in-class discussions challenging as instructors felt they could not monitor all the discussions effectively. Previous attempts at in-class discussions of readings were impeded by students not reading the required texts, and instructors were reluctant to *"waste time"* on this.

- *In-class writing*

In-class writing was limited to taking notes in discussion groups to feed back to the class. The activities that required writing were more focused on recording content than on improving writing. One barrier to spending time on in-class writing was that it was perceived as time-consuming, and instructors already struggled to cover all the content in 12 weeks.

- *Draft-feedback*

Ideally, the instructors would have liked to engage with draft-feedback, but they said it was difficult due to time and workload constraints. One instructor said that it took *"too much energy to mark things twice, when the second submission is usually no better than the first".* Most of the instructors said they preferred to encourage students to come and discuss their work, but indicated it was usually the stronger students who sought clarification, rather than the weaker students who actually needed the support.

- *Checklists*

A generic essay and report checklist is provided in the BEP programme information booklet, and most instructors felt assignment instructions and assessment criteria were clear and could act as checklists. One instructor

viewed checklists as restrictive and "*a lazy way through, where students can just tick off bits, rather than fundamentally knowing what they are supposed to do".* He said he would be more likely to encourage a self-developed checklist, because the structure can vary, so developing logic within the task requirements is more important

Overall, there was limited use of process-focused learning activities. While some instructors said they would like to focus more on the research and writing process, they felt students wouldn't do extra activities without extrinsic reward and were concerned about how to create space for them to be assessed. One instructor was concerned that "*spending too much time on the writing process in class would leave room for nothing else".*

5.3.5 Knowledge about other BEP courses

There was a resounding '*nothing'* or '*very little'* when instructors were asked what they knew about the curriculum and content taught in other BEP courses at the participating institution. Several instructors mentioned holding incorrect assumptions about student knowledge or prior course content. Although the cohorts of students progressed through the structured programme, one instructor said *"I have no idea what [students] are building on".*

While this problem was partially attributed to instructor autonomy and staff turnaround, communication issues were acknowledged. An annual strategic planning day allowed for conversation about programme changes; however, most instructors recognised one day is inadequate. They also acknowledged that, as a result of this research, they were starting to talk more with colleagues about their courses and IL development within them.

5.4 Reflections

Establishing the contexts for action research is an essential first step in any action research process. This research had several contexts to consider, including the broader NZ university context. Group discussions with NZ librarians revealed they held similar concerns about the place of IL in NZ universities as identified in the literature (see Chapter Two).

Through interviews with NZ university librarians, I recognised that the challenges and successes in creating space for students' IL development in NZ universities align with those in the literature (see Chapter Two). NZ university libraries tend to be placed outside the academic research and learning domain and instead are aligned with university learning support services. Consistent with the literature (see 2.6.2), librarians strongly argued that successfully supporting students' IL development relies on academic instructors taking an active and explicit role in promoting IL within the assessment and curriculum design. They had achieved the most success in supporting students' IL development through effective and sustained collaboration with academics to explicitly embed IL development into the curriculum. This observation supported the collaborative approach we adopted for this research.

The specific focus of this research was the BEP context. The research created a platform to encourage and support change to improve teaching pedagogies. However, initial interviews with BEP instructors indicated that achieving change and communicating it across the programme may prove challenging due to workloads, time constraints and instructor autonomy.

CHAPTER SIX
The Interventions

The development of students' IL in the BEP was supported by interventions that encouraged students to engage with learning through the research and writing process alongside content instruction. The form of the interventions emerged from discussions with the participating instructors on content, learning outcomes, and assessments. These interventions were a response to both the individual concerns of instructors around student performance, and to a broader goal of scaffolding IL development throughout the four-year degree.

In this chapter, I provide an in-depth outline of the interventions that were created, trialled, and modified to support students' IL development within the five participating courses over two action research cycles, and I explore key learnings for participants. Part I discusses collaborations with librarians to deliver library workshops for extended IL development. Part II outlines the course assessment-based interventions that focused on developing and assessing both IL and the research and writing process.

6.1 Participating Courses, Key Considerations, and Resulting Interventions

Table 12 below identifies the six participating courses in order of the year and semester they appear in the programme, the assigned course code and the name of the instructor[18]. The final two columns show the semester and year each course participated in the two action research cycles. Data were collected from five cohort groups across four semesters from August, 2010 to July, 2012 (Table 13). Data sources and collection methods for this chapter are outlined in Chapter Four (see 4.8.3 for participating instructors and 4.8.4 for participating students).

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[18] Pseudonyms and course codes are used to protect the participants' identity.

Table 12: Participating Courses and Instructors[19]

Schedule	Instructor	Course Code	Cycle One	Cycle Two
Year 1, Semester 1	Georgia*	Course 1-1	S1, 2011	S1, 2012
Year 1, Semester 2	Jacinta	Course 1-2	S2, 2010	S2, 2011
Year 2, Semester 2	Fran	Course 2-2	S2,2010	S2, 2011
Year 3, Semester 1	Carl	Course 3-1	S1, 2011	S1, 2012
Year 4 Semester 1	Carl	Course 4-1	S1, 2011	S1, 2012
Year 4, Double Semester	Jane	Course 4-D	S1, 2011	S1, 2012

*I also observed Course 1-1 in Semester 1, 2010.

Table 13: Years enrolled in study for the five BEP Student cohorts participating in the research

Year Level	Cohort A	Cohort B	Cohort C	Cohort D	Cohort E
1st	2008	2009	**2010**	**2011**	**2012**
2nd	2009	**2010**	**2011**	2012	
3rd	2010	**2011**	**2012**		
4th	**2011**	**2012**			

* Dates in bold represent the years cohorts were participating in the research

6.1.1 Data coding

Student data are coded with a three letter code for the data type, the course code, the cycle and the cohort (Table 12). For example, SFG/3-1/C1/B indicates a focus group with students in Course 3-1 in Cycle One from Cohort B. For Courses 4-1 and 4-D the comments will be indicated as '4-1&D' as the focus groups for each course were combined because the same students were taking both courses. Where comments from more than one student participant in the same focus group are used, students will be differentiated using S1, S2 and so on.

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[19] The cycles for each course are outlined in the methodology section, including why we started S2, 2010 and the impact this had on the order interventions were developed and implemented.

Instructor data are coded using the three-letter code for the data type, the instructor's name and the cycle. For example, IRF/Georgia/C2 indicates an instructor reflection by Georgia in Cycle Two.

Course documents and resources are indicated by a three-letter code for the document type, the course code and the cycle. The codes for documents are COL= Course Outline, CHO = Hand-out, and CWS= Course Website. For example, COL/3-1/C1 refers to the Course Outline for Course 3-1 in Cycle One. Researcher dialogue is indicated by the initials AF.

6.2 Purposes of Each Cycle of Action Research

Cycle One involved gaining an understanding of existing skills development opportunities and making modifications where there was a perceived need. Thus, the purposes of Cycle One were:

- to understand the BEP programme and identify where IL development would fit into the curriculum

- to discuss the importance of explicitly developing IL within the disciplinary context

- to encourage participating instructors to expand their role in actively promoting IL development, and supporting them to do so

- to identify where intervention may be necessary to help facilitate IL development

- to increase reflective and collaborative learning opportunities

- to collect and reflect on student feedback on how the interventions impacted on their learning.

During Cycle One, the interventions were being developed and implemented at the single class level, with no overall picture of how each of these smaller activities would contribute to the broader skills development of the BEP students. Thus, the purposes of Cycle Two were:

- to refine or create new interventions based on observations from the first cycle, moving towards a structured approach across all four years of the programme

- to continue conversations on supporting the development of IL and reflective learning and around effective teaching and learning

- to continue collecting data from participating staff and students to compare with findings from Cycle One and evaluate the changes made in Cycle Two.

6.2.1 Key Considerations in developing the interventions

There were four key considerations when developing the interventions for each course.

6.2.1.1 Key consideration 1: Teaching IL

Collaboration between instructors and librarians to modify and deliver IL instruction (see 2.6.3) was identified as the best method for embedding IL in the BEP because it promoted the shared expertise of the librarians and the content knowledge of the instructors. I was actively involved in planning the intervention workshops and my teaching experience was shared via the insider-outsider role I held in the action research process (see 4.7.1).

6.2.1.2 Key consideration 2: Point of need

Research suggests skills development embedded at a point of need can be applied immediately and may better support the development of the competencies students need to be successful learners (Bean, 2011; Bruce, 2004; Macklin, 2001; Snavely, 2008; Turner & Fisher, 2002). However, because the course curriculum had been developed prior to Cycle One commencing, any new in-class activities and workshops required content to be modified to make room for the interventions. While we managed to integrate IL development and formative learning opportunities, in some cases, the interventions developed could not align with point of need.

6.2.1.3 Key consideration 3: Seamless integration of the interventions

Another key consideration was incorporating the interventions seamlessly into the curriculum so that they were not viewed as add-ons, and therefore less

valued by the students (see 2.6.4). Because BEP courses regularly utilised guest lecturers, students were used to unfamiliar instructors, so we felt students would see the workshops as integrated components of the existing curriculum being taught by librarians. The assessment-based interventions asked students to focus on the research process. Because process-focused activities may not have been required in concurrent courses in other disciplines, they needed to be justified and explained.

6.2.1.4 Key consideration 4: Balancing workloads

Developing interventions that kept the workload for the lecturers and students at a manageable level meant weighing up the benefits of the activity with the competencies gained. The participating instructors were relinquishing time for delivering content for explicit skills development, so they needed to see positive effects on the students from their own observations and/or from the students' feedback.

PART I – Library Workshops

The development of interactive library workshops throughout the BEP was a key strategy used to support students' IL development within this research. This section discusses the changes in the library sessions based on observations, reflections, and student feedback over the two action research cycles. New approaches used in library workshops in the second cycle are outlined.

6.3. Pre-intervention Library Skills Offerings: Semester 1, 2010 Observations

Prior to 2010, three library sessions were offered in the BEP: 1) in Course 1-1, the first course Planning students took; 2) in Course 4-D, the capstone final research project; and 3) in a Planning law course, where the workshop was focused specifically on finding legislature and law-specific documents.

Observation of the introductory library session in Course 1-1 in Semester 1, 2010 revealed a traditional 50-minute 'one-shot' in-class lecture introducing library databases and Boolean operators, demonstrated using static PowerPoint slides with a generic search topic unrelated to Planning. Students attended a

follow-up 50-minute session in the library to search for sources for their essay assessment. The course instructor was not present at either session.

6.4 Cycle One: Refocusing the Library Sessions

Existing BEP library sessions failed to provide students with an in-depth introduction to effective information search strategies, and IL skills were not consistently extended within the four-year programme. The generic introductory session in Course 1-1 lacked a focus on immediate information needs and, while informative, a review of reference lists suggested the session seemed to have little impact on students' source selection in subsequent assessments. The dominance of internet websites in student assignments suggested students had not learned how or why to effectively access quality scholarly information from the session.

Through discussion and collaboration with librarians, we recognised that the 50-minute one-shot library lectures needed to be developed into hands-on, interactive workshops that would allow students to attempt searches connected to assessment tasks while the librarians and content instructor were available to help.

The refocused library workshops aimed to:

- *Encourage greater student interaction and engagement in the session* – Students needed to learn by doing or reflecting on what they were learning (see 3.3.5). The focus on database searching needed to consider ways student currently accessed information.

- *Connect more closely to discipline-specific sources and immediate task requirements* – The first-year generic library session was not connected to an immediate information need. To effectively embed IL over the four-year programme, library interventions would ideally be tailored to the specific discipline and assessment tasks and delivered at point of need (see 6.2.2.2).

- *Have greater input by the course instructors* – Research (Turner & Fisher, 2002) shows that when course instructors attend library sessions,

students feel the instructor values the session. Furthermore, the content experts can offer immediate advice to students on content-specific enquiries librarians may not be able to address.

- *Have more focus on effectively evaluating source quality and relevance* – Students were being encouraged to identify credibility indicators and evaluate the quality of sources using criteria commonly found in evaluation checklists. However, many checklist style evaluation tools ask questions students may lack the knowledge to answer (see2.3).

6.4.1 Course 1-2, Semester 2, 2010: Thwarted attempt at change

Due to concerns over the sources used in the essays in Course 1-1 (Semester 1, 2010 observation), in the next course students entered, Course 1-2 (Semester 2, 2010), the instructor, Jacinta, and I decided to review students' information-search skills by connecting a library session to the group oral presentation assessment. A 50-minute session was scheduled three weeks prior to the assessment due date to help students find initial sources that could be evaluated in their groups, thereby promoting discussion around source selection and use. Jacinta and I met with the librarians and emphasised that we wanted the central focus to be on the types of information accessed via different search tools, and that we would like to introduce source evaluation by trialling a hand-out (Appendix 5) that connected to research as conversation (see 2.4.3). The librarians requested time to briefly review database-searching techniques, and we agreed to a 10-minute refresher, but reiterated that these students had already had an introductory library session.

Regretfully, this attempt to have a hands-on session was not successful for two reasons. Firstly, the librarians spent 30 minutes going over the databases and Boolean operators, despite a request for a hands-on workshop on source evaluation. The librarians identified the key criteria commonly found in checklists for source evaluation including author's credentials, place published, credibility, reliability and currency, but the connection to 'research as conversation' was not discussed.

145

Secondly, the students had not been told to narrow their topic and determine their information need prior to the workshop, so were unable to start searching. Thus, in the final 20 minutes of the workshop students discussed their topics, and no information searching was done. Jacinta's response to the session was that it had wasted time, and therefore, she decided not to offer the library session again.

6.4.2 Course 1-1, Semester 1, 2011: Still not quite right

Following initial observations the existing Course 1-1 library session was refocused to become more relevant to BEP students and to support them to access a range of government, media and scholarly sources. The library session was aligned with the first assessment (a field-trip report), and Georgia provided key sources for librarians to introduce. The purpose of the session was two-fold:

1. to guide students towards government websites that were appropriate for the assessment tasks

2. to encourage the use of appropriate scholarly sources, which had been largely absent from previous assessments.

The librarian, Kim, delivered the session in the lecture classroom. Prior to the session, Kim and I had discussed ways to increase student interaction. She initially used live searching to show students how to search, but a slow connection meant she switched to pre-prepared PowerPoint slides. She used STOP/WRITE tasks[20] three times during the session to encourage students to identify and share key learning points. She also encouraged student interaction by experimenting with the Cephalonian method[21] of questioning at specific times during the presentation. However, this was ineffective because it was difficult to hear the questions being asked in the large classroom setting.

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[20] A 'write-to-learn' technique that gives students 2 minutes to write down three key points from the lecture and then 2 minutes to compare their points with their neighbours. The tasks allows the instructor to see which points students are focusing on, and whether they have missed anything important.
[21] The Cephalonian method of questioning is when specific questions are designed by the presenter and distributed to members of the audience. The presenter asks for each question to be asked at specific points during the presentation to highlight key ideas.

Although students received useful hints and tips for searching with accompanying hand-outs, the session remained a 50-minute introduction to library databases, some relevant websites and advanced Google search tips. Students largely remained passive as there was little opportunity for hands-on practice. The follow-up session (see 6.2) at the library was not offered in 2010 because the new workshop had been tailored to the assessment.

The lecture-based session highlighted an important consideration about where librarians feel comfortable teaching. Kim said she had struggled with the lecture format compared to the library tutorial rooms, and was particularly challenged by getting students to interact without computers.

Despite the refocused library session, no significant change was noticeable in the sources used in subsequent assessments. Cited material remained largely web-based government sources. This was an important consideration for Cycle Two.

6.4.3 Course 4-D, Semester 1, 2011: Observing the 'advanced' library session

Course 4-D, the fourth-year capstone project class, offered a two-hour 'advanced' library skills session. Similar to the Course 1-1 session, Kim taught in the classroom using a mix of live-search examples and static PowerPoint slides. The focus was on increasing students' understanding of key strategies for advanced searching within familiar and unfamiliar databases. The longer session allowed for activities focused on students' individual topics (for example, identifying keywords, designing search chains), but, again, no computers meant no hands-on practice using the databases or support with individual problems.

My observations and student feedback suggested that fourth-year BEP students had not met the expectation that they would learn effective research skills independently throughout their degree experience. Many did not seem to be competent users of the variety of search tools available to them, with a large number still relying on Google as the primary search tool. This had resulted in underdeveloped information search strategies. Although the session attempted

to introduce advanced search strategies and source management, students struggled with generating useful keywords, using Boolean operators, and creating search trails[22]. This was partially due to not having refined their research topics prior to the session. Students had developed limited IL strategies, but recognised they could have been more effective learners with greater support throughout their degree:

> *I think there definitely needs to be something more in first and second year because there is really nothing guidance-wise … nothing was kind of showing us the expectation (SFG/4-1&D/C2/B).*

6.4.4 Lessons learned: Reflecting on Cycle One

A number of key lessons were learned from Cycle One observations, instructor reflection and student feedback.

6.4.4.1 Library Sessions

Observations indicated that librarians seemed entrenched in the way they delivered 50-minute workshops. However, focusing on database searching did not acknowledge students' existing knowledge and information search practices (predominantly internet via Google searches). Therefore, we needed to discuss the focus of future library workshops to reflect the students' reality.

Librarians also struggled to engage students in dialogue during the sessions. When trying to involve students in discussion, librarians were often faced with the 'wall of silence' when they asked "who can tell me..?" and no-one responded. This is a challenge of teaching a one-off session to a group of unknown students. Strategies for overcoming this were needed for Cycle Two.

While the lecture-based library sessions were informative and demonstrated a range of search strategies, students lacked opportunities to put learning into practice. Learning-by-doing helps make the process visible and supports learning by trial and error (see 3.3.5). One fourth-year student indicated the ineffectiveness of repetitive library sessions that simply told students how to search but did not explicitly extend search capabilities:

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[22] This is a term the librarians and I adopted to describe the way students can use functions of databases and search engines to extend searches from existing documents they have.

They've been drilling it into us every year. They send us to those library classes…, but it's not like we don't know it, we just don't know how to do it and I don't think they can teach us that (SFG/4-1&D/C1/A).

In Course 1-1, even though we had adapted the library session content to upcoming assessment tasks, and key strategies were modelled using relevant materials, students still lacked opportunities to search and ask questions as problems arose. This was recognised by students who had attended more interactive library sessions in other courses:

I think that because it was in the classroom and not the library itself … all the other ones we have done we have been in the library and we've had a computer each so you can sort of do what she's doing at the same time …well, that's how I learn anyway. I just didn't find it as interesting …or as helpful as the other ones because you are just being told (SFG/1-1/C1/D).

Students suggested that when they started searching they had forgotten much of what the librarian told them:

It was cool that she made it Planning geared, but the only real thing I remember is she typed in 'sustainab' and then a little asterisk thing and I thought I can do that,. But there's probably lots of little things in the back of my head, but that's what I remember her doing (SGF/1-2/C1/D).

6.4.4.2 Students' ineffective search strategies

Students had an awareness of their search strategies, but their research processes seemed underdeveloped:

Because you just search through the database and keep looking until you find that good one, and "I'll keep that", and then try and find the next one (SFG/1-2/C2/D).

I guess I'm just looking, although my research process is probably quite basic. I just want stuff that's related to the topic. Not too concerned with what journals do really. It's probably not a very sophisticated kind of process (SFG/2-2/C2/C).

Some students had a preference for books, and employed shelf-browsing strategies in the library to locate relevant sources:

I love doing [shelf-browsing]. When I actually decide I'm gonna find a book, you find the section and you can literally go along the titles and be like "oh that's a good book too. That one is quite good too. Oh, gonna take a look at this one as well". Usually you find something better than what you had actually searched out for (SFG/3-1/C1/B).

However, most students seemed to randomly search Google or Google Scholar, and most were either unaware of or didn't purposefully employ search trail techniques or utilise database tools (related articles, 'cited by' functions) to extend searches and connect resources:

> *S1: On Google Scholar, I always look and see how many people have cited them, but books and stuff, not really. I just use them.*
>
> *S2: I didn't know you could do that on Google (SFG/2-2/C1/B).*

Some students struggled to identify key words that generated useful sources, and were frequently unable to access NZ-based Planning information sources:

> *It's quite difficult to find information specifically about NZ. I don't know whether that's because I am using the wrong databases or because there is not a lot of academic literature out there about our stuff (SFG/1-2/C1/C).*
>
> *[I'm overwhelmed] sometimes, but at other times I'm overwhelmed by the lack of stuff that it can bring. Sometimes it's like only one article with one paragraph that could be slightly relevant. And that is when you are in a pickle more (SFG/4-1&D/C1/A).*

When full-text articles were not available, students became frustrated and seemed to lack strategies to search for full-text elsewhere:

> *If I can't get it electronically, I'll just find something else (SFG/1-1/C1/D).*
>
> *I find the perfect article and an abstract comes up [that] I want, and then [institution] doesn't have it. Why put it up there if you are not going to let us see it? (SFG/1-2/C2/D).*
>
> *It's pretty annoying when you find a journal article and you don't have access to it. I read the abstract It's like, "Oh my god, that's gold! That's what I want" and it's never available (SFG/1/4&D/C1/A).*

When fourth-year students were asked what else they could do to try to access the article, the response was:

> *S1: There's nothing you can do. You just search the databases you have access to but if it's not there and it's asking you to pay $30, I'm like 'Nah'*
>
> *AF: Have you ever looked to see if the library holds a paper copy and gone down to the journal section to photocopy it?*
>
> *S1: Nope, I've never really been down to the journal section.*
>
> *S2: I didn't even know there was one. Nope, I've never done that (SFG/4&D/C1/A).*

Interloaning sources was also not a feature of their search process due to both the time factor and lack of knowing they could:

> *S1: Not until we had that library session. That's when I learned about [inter-loans].*
>
> *S2: I knew about it, but I never really actually cared before this year, because most of the time for your assignments you've got three weeks and by the time you get the book it would be too late (SFG/4-1&D/C1/A).*

Students indicated that they either didn't spend enough time searching, or struggled to know when to stop wasting time on ineffective searching:

> *S1: I say I spend too much time looking for information in relation to actually reading and writing it.*

> *S2: I get overwhelmed by how much I have found and then I try to read through it and I get confused and – ugh – I research too much I think (SFG/1-2/C2/D).*

Overall, the student data suggested an increased focus on effective research processes was needed to help students understand how to search effectively.

6.4.4.3 Google

While there was recognition that they should be using more scholarly sources, observations, assignment review and student feedback suggested all students, including those at third and fourth year, had not developed IL appropriate to their level of education and many relied on Google and Google Scholar over other search tools:

> *S1: I am getting better at using the Google Scholar thing.*
>
> *S2: I don't use it as much, like I'll start using the other Google one before Google Scholar. I don't know why (SFG/3-1/C1/B).*

A number of students were unaware that Google's advanced search techniques could narrow sources substantially, and some students were not even aware that Google Scholar existed:

> *I never even knew Google Scholar existed until right now, so just regular Google (SFG/1-1/C1/D).*

The complexity of the databases put students off seeing them as useful information search tools, as they preferred to access scholarly information in books or via Google Scholar:

> *You end up giving up and just using Google Scholar, and using those articles because if they come up then you can access them … I don't really use articles just because I can't function [databases] (SFG/2-2/C1/C).*
>
> *[Databases] are not as clear. They're not as easy to use…. not as straightforward (SFG/4-1&D/C1/A).*
>
> *I'm pretty chronic of just going on Google Scholar. Just because it's familiar and I know how to use it. And then when I luck out, I go to other database searches from the [institution] library website (SFG/4-1&D/C1/A).*

Those who used Google Books (thus saving them a physical trip to the library) were not concerned about whether pages were missing in the previews available, as fast access was their priority. Supporting students to become more effective at Google searching became a focus for Cycle Two.

6.4.4.4 Evaluating source quality and relevance

Students struggled to evaluate sources for quality and relevance. Source selection appeared largely random and disconnected, and students struggled to identify quality scholarly sources. They had no sense of the 'conversation' information sources represent in academic learning. First and second-year (and some third-year) students tended to focus on content over other quality and credibility indicators and would often use a source if it contained the idea they wanted, even if they knew it lacked quality:

> *S1: At the end of the day, content.*
>
> *S2: Yeah. I'd be more content, but if there's the same document just updated I'd obviously use that, but referencing a document from 1980 that's still the same thing now, I'd have no problems doing that.*
>
> *S3: Yeah, to me the author is not so important right now. Maybe later down the track. Date-wise and that sort of stuff I sort of evaluate it before I look at the content and then content's the big one (SFG/1-1/C2/E).*
>
> *If it makes my point or improves my point, then chuck it in there. And if it's not from Wikipedia …. To be fair though, it would have relevance if it's been published in a journal and not just by some complete nutter … the people of the actual journal would have gone through it before they put it in there, right? (SFG/3-1/C1/B).*

Comments indicated that some students throughout the programme focus on quick and easy access to information and may not carefully consider the credibility of information they were selecting to complete assessment tasks:

> *AF: So how concerned are you about the credibility of your sources?*
>
> *S1: I consider it, but it's not a priority.*
>
> *S2: If it's like a journal, then I just assume it's credible, as opposed to Wikipedia or something (SFG/4-1&D/C2/B).*

Encouraging students to consider 'What is information, and why should I care?' (Ward, 2001) became a key theme for Cycle Two.

6.5 Cycle Two: Modifications to Library Interventions.

By Cycle Two, the instructors and I had a stronger sense of the importance of IL in tertiary learning, and had moved towards a view of it as learning rather than skills development. We had gained an understanding of where there were gaps in development of IL skills in the BEP. We also had a stronger focus on effective teaching and learning principles (as outlined in Chapter Three) and this became

a central focus of discussion with the librarians. Thus, the Cycle Two library interventions focused on:

- changing the library sessions into interactive workshops held in library tutorial rooms with a stronger focus on 'learning by doing'

- practising strategies for teaching interactive library workshops

- understanding how students already search and extending effective search strategies across a range of platforms including Google, Google Scholar, and the library's federated search platform (hereafter Library Search)[23], and introducing source management techniques

- helping students recognise different source types and effective source evaluation

- emphasising 'research as conversation', and why students should carefully consider source selection.

In the following section, I change terminology from library 'sessions' in Cycle One to 'workshops' in Cycle Two. This is a deliberate distinction to recognise the shift from the classroom-based library sessions delivered to a passive audience in Cycle One to the more active hands-on workshops taught in the library in Cycle Two.

6.5.1 Course 1-1, Semester 1, 2012: Significant shift in focus and delivery

Cycle Two saw a significant change in the format and delivery of the Course 1-1 library workshop (Figure 6). Georgia recognised that the 50-minute session was not adequately preparing students for their information searches and created space for a two-hour practical library workshop.

Two librarians, Jess and Natalie, met with Georgia and me to discuss ways the longer library workshop could be structured. Because both librarians were new

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[23] All NZ university libraries have adopted a federated search platform offered by EBSCO Library Search Services referred to as: 'Library Search' (Otago, Lincoln, Waikato, Auckland), 'Summon' (AUT), 'Discover' (Massey) or 'Multi-Search' (Canterbury). 'Library Search' will be used in this thesis because it is the most common name allocated to the search tool and does not specifically identify the participating institution.

to teaching library IL workshops, they held no preconceptions about how the class should be delivered. We discussed different resources and strategies for approaching IL teaching and learning. Georgia provided a range of key sources relevant to the upcoming assessment task as a base for workshop activities.

Figure 6: Modifications to the Course 1-1 Library Workshop

OLD format

Lecture
In-class
50 minutes
Minimal student participation

NEW format

Interactive, hands-on workshop
Library tutorial room
2-hours
Active student participation

The new library workshop focused on extending students' existing information search strategies. Many were already Google users, so we focused on advanced Google search strategies, and introduced Google Scholar and Library Search to access scholarly materials. We hoped this approach would help students understand the different types of sources each platform would yield and encourage them to search a range of platforms. The librarians, Georgia and I were able to offer individual support as students practised using each search tool. Students were also taught how to save and manage sources they were finding through each search platform.

The workshop was team-taught and centred on the essay topic. Librarians and students conducted live searches concurrently. Team-teaching allowed Natalie to lead the discussion and respond to student queries, while Jess showed students how to search. Name-tags were used so Natalie could direct questions to specific students, which encouraged greater participation and helped overcome the 'wall of silence'. The librarians had been concerned students may find this approach threatening, so we stressed that 'I don't know' was an acceptable answer. During the workshop, students responded actively to direct questioning, and in a follow-up discussion Jess and Natalie indicated that they felt the workshop developed into a conversation with the students, rather than a one-way delivery of the content.

To help students understand the difference in quality of information sources, we introduced the 'Healthy Source Pyramid' based on the 'Healthy Food Pyramid' (scholarly = vegetables – use lots; web pages = fast food – use least, with caution) to encourage students to consider the types of sources they were using (Appendix 6). This included a brief discussion on evaluating and identifying quality sources.

To end the workshop, students were asked to reflect on the session by writing down one thing they had learned, and one question they still had. A forum was provided through the course website to address these and follow-up questions. To consolidate skills introduced in the library session, a Source Justification assessment was created, which required students to reflect on and justify their source selection (see 6.8).

Following the library workshop, Georgia recognised a challenge relating to librarians' limited awareness of discipline-specific resources. Keywords the librarians had identified from the topic she had provided did not generate the search results she had expected to see. She recognised that consistent collaboration was needed to ensure librarians were more familiar with the content of the BEP:

> *Librarians are not always sufficiently familiar with the course content. … I would recommend that one librarian work closely with an entire degree programme to gain familiarity with the degree content and expectations of students (IRF/Georgia/C2).*

6.5.2 Course 3-1, Semester 1, 2012: A new need identified

Focus group data and observations had revealed that students entering third year were still struggling with information searching and source evaluation, so I encouraged Carl to add a voluntary library workshop into Course 3-1. Carl strongly recommended students attend because he was expecting to see quality sources in assessments. The turnout of 19/27 students suggested students felt they lacked the IL competencies needed to meet Carl's expectations. Two students in focus groups who had not attended said it was because they had other engagements rather than a lack of interest in the session.

155

The workshop was intended to be a 20-minute refresher on search platforms and techniques, with time for individual searching, but the students wanted more hints on effective searching, so the discussion on search techniques lasted the full 50 minutes. A number of these third-year students were not aware of advanced Google and Google Scholar search techniques and most had not had a formal introduction to Library Search. The workshop also had an unexpected outcome in that key words students were suggesting showed Carl they had not fully grasped the topic. He was able to intervene with alternative suggestions that were aligned with the task. This reflected the value of the instructor's presence at workshops (see 6.4).

Students suggested that the voluntary session was a valuable opportunity to revisit information search techniques:

> *I found it useful … like that advanced Google search which I didn't know how to do before that. I suppose I don't do much like long chain searching, so that was a refresher on that (SFG/3-1/C2/C).*

> *I had not been using the library research section of the [institution] website so it was extremely useful for improving my research results (SSV/3-1/C2/C).*

Carl was willing to continue offering this voluntary opportunity in future classes; however, he recognised the need to discuss tailoring the session more specifically to the task with librarians to make the time more productive.

6.5.3 Course 4-D, Semester 1, 2012: Modified delivery

The Course 4-D library workshop was moved to the library and modelled on the first-year 2-hour workshop. A structured topic was used for the modelling of search techniques. The fourth-year students valued the search strategies for Google and Google Scholar, which helped them extend and connect searches:

> *[I learned about] the uses of Google Scholar and how you can use the advanced search and how useful the 'cited by' and 'relevant' links were … It means a lot less trying to put the topic into different words and doing another search, and a lot easier to find sources that are on the right topic! (SJN/4-1&D/C2/C).*

The main focus was on advanced search strategies using the Library Search and inter-loan services, setting up alerts, and managing sources. Greater emphasis was placed on creating an extended search trail using the search results and database functions to make connections with articles students had already found. Students were briefly introduced to Endnote for reference

management. Comments indicated these fourth-year students had limited knowledge of search tools and services:

> *I found the library session for [Course 4-D] very useful, especially because we had a computer in front of us and were able to have a go ourselves. In the past we have only been able to watch, and that just wasn't useful. What I found useful was the keyword search when beginning to look for sources. Also about [Library Search] – I never knew what that even was! And the [inter-loan service], also didn't know it was possible to get sources from other universities (SJN/4-1&D/C1/A).*

> *[I learned] research methods such as the use of Scopus and [Library Search]. [I] use them now! Also I bought Endnote to organise citations. The session has made me far more efficient (SJN/4-1&D/C2/C).*

Students actively engaged in the session and appreciated the time spent searching on their own topics with support available. A number of questions were asked during the workshop and follow-up questions were posted on the course Web-site. Feedback showed students placed high value on the extended, hands-on workshop:

> *My overall impression was that it was awesome – I loved the interactiveness of it as well! I kinda wish we'd been forced into that in first year. It changed my search habits in general. Not completely, but definitely for the better. This session has been invaluable to me. My friend elected not to go, and when I told her how good I found it, she asked me what things we learnt. I struggled to explain them but I would definitely insist on anyone not thinking of doing it to change their mind – it was SO GOOD (SJN/4-1&D/C2/C).*

6.5.4 Lessons learned: Reflecting on Cycle Two

Changes in the focus in Cycle Two supported higher levels of engagement in the library workshops. Key lessons learned were:

6.5.4.1 Library Workshops

Collaboration between the librarians, Georgia, and me allowed the sharing of teaching strategies before and after the workshops were modified. Natalie and Jess were open to experimenting with new ideas. They have transferred lessons learned from this research into other library workshops for communication courses in the university, and are sharing their experiences with colleagues in the library.

Using team teaching to run live workshops increased interaction between the librarians and students in the workshop. Students were provided with opportunities to practise searching during the workshop and support was

available. Feedback on the workshops was positive and the benefits of team-teaching were recognised by both the instructors and the librarians:

> *The session yesterday was a huge improvement on previous years' sessions. What made it more successful (from my point of view at least) was going to the library and doing hands-on, real-time familiarisation and activities related to the assignment. I like having two presenters, which was good for a large group having a two-hour session. The going back and forth between [Natalie] and [Jess] is good (IRF/Georgia/C2).*

However, we also recognised that limited resources at the library would make it difficult to offer this same experience to other courses.

In the hands-on sessions, student asked questions as problems arose and practised what they were learning immediately. We also discovered that students work 'in the moment'; while they asked questions during the workshops, follow-up support via online question forums were not well utilised.

The simple strategy of using nametags proved effective to increase student engagement. The librarians found the name-tags increased their interaction with the students and encouraged conversation. Students responded when asked questions directly and, therefore, the workshop offered a two-way communicative experience.

6.5.4.2 Supporting students to be effective Google users and aware of alternatives

Using the search tools students were familiar with and then extending search strategies across available platforms increased student awareness of the different types of sources each tool would find. Fourth-year students had indicated that they had not explored the variety of search tools they could access and tended to rely on familiar strategies. Therefore, the extended library workshop for first-year students encouraged them to explore search trail strategies by using a range of tools, and it established the importance of searching across platforms from early in their academic experience:

> *I found it extremely useful. It completely changed how I look for information to be honest. I didn't know these things were available to me until then (SFG/1-1/C2/E).*

6.5.4.3 Under-developed evaluation strategies

Evaluation remained problematic for students at all levels of the programme. Library workshops supported IL development in terms of being able to find and access a range of information using a variety of search platforms. However, evaluating sources for quality and relevance remained a secondary focus. First and second-year students had limited background knowledge to draw on to effectively evaluate sources for quality and relevance, so they tended to focus on content over other credibility indicators.

At the higher levels, students exhibited underdeveloped evaluation strategies, relying on peer-review practices as a measure of quality, rather than evaluating the sources using a range of credibility indicators. As the range of ways information is produced and disseminated continues to change, effective strategies for evaluating sources need to be further developed within library workshops and the broader curriculum.

PART II - The Assessment Interventions

Over two cycles of action research, all participating instructors changed their assessments in direct response to supporting the development of IL and reflective learning. To consolidate skills introduced in the library workshops, the researcher and participating instructors collaboratively created a series of assessment tasks in each participating course to help students further develop IL within the research and writing process, and to encourage increased reflection on learning. Cycle one interventions were largely based on the researcher's ideas and suggestions for change, and then developed with the participating instructors' input. The participating instructors had much more input into the modifications and developed greater ownership of the interventions as they were integrated into their curricula.

Part II outlines assessment interventions which shifted the focus of assessment to process rather than product alone. Sections 6.6 to 6.9 outline the interventions for each course in turn, beginning with the development and implementation of the assessment tasks in Cycle One, and then the subsequent

modifications made for Cycle Two based on observation and feedback. The chapter ends with a summary of the overall lessons learned.

6.6 Changes in course assessment

Cycle One focused on identifying areas where intervention may be necessary and making changes in existing assessments so that the research process became a focus and was partially assessed. We developed and implemented assessment formats that encouraged more student engagement with the research and writing process and active learning. Reflective learning tasks focused on the development of the learner rather than on content alone. We hoped that timely formative feedback and scaffolded support (see Chapter Four) during the research and writing stage might result in higher quality student writing, less time spent marking poor assessments, and greater instructor and student satisfaction. Table 14 indicates the pre-research assessment design and the changes to assessment over the two cycles of action research, and illustrates that instructors moved away from solely summative traditional forms of assessment to more process-focused and reflective tasks.

6.7 Overview of the Assessment Interventions

The interventions were designed to support students to understand and improve their use of academic conventions and took two forms:

1. new assessment tasks, created to meet a need identified by participating instructors
2. tasks which extended an existing assessment by adding a formative or reflective component.

Assessments that were new in Cycle One became part of the existing assessment for Cycle Two, with modifications where necessary.

I had two assumptions when working with the participating instructors to create the interventions:

1. time put into giving formative feedback earlier would save marking time later as students would produce better assessments

Table 14: Changes in Assessment in the Participating Courses over Two Cycles of Action Research

COURSE	PRE-RESEARCH	CYCLE ONE	CYCLE TWO
Course 1-1 GEORGIA	<u>2010</u> 10% Short Essay 25% Field Trip Report 25% Test 40% Exam	<u>2011</u> 10% Test 20% Field Trip Report 10% Source justification 20% Essay 40% Exam	<u>2012</u> 10% Test 20% Field Trip Report 10% Source justification 20% Essay 40% Exam
Course 1 -2 JACINTA	<u>2009</u> 15% Group presentation Peer assessment (40%), instructor assessment (60%) 15% In class test 30% Essay 40% Exam	<u>2010</u> 10% Written reflection on Values inc. draft submission 20% Group Work 15 minute oral presentation - Peer assessment (25%), instructor assessment of group findings and presentation (50%) and written summary of key points of each presentation) 1500 words (25%). 30% Essay including i-map – 20% of the overall mark 40% Examination	<u>2011</u> 15% Written reflection on Values inc. draft submission 30%- Essay including i-map – 20% of the overall mark, and 2% for attending a writing workshop run by the Centre for Teaching and Learning. Draft submission of the i-map 1 wk prior to essay due date. 30% Group 15 minute oral presentation - Peer assessment (25%), instructor assessment of group findings and presentation (50%) and completed worksheets summarising the key points of each presentation) (25%). 25% Examination
Course 2-2 FRAN	<u>2009</u> 25% Report 15% Practical Ex 1-3 60% Exam	<u>2010</u> 15% Report 15% Professional Reading and Learning Log 10% Practical Ex 1-2 60% Exam	<u>2011</u> 15% Report 10% Professional Reading and Learning Log –- two part submission 15% Practical Ex 1-2 60% Exam
Course 3-1 CARL	<u>2010</u> 25% Essay 25% Group Report (inc. 5% verbal presentation) 25% Field Trip Report 25% Viva voce exam	<u>2011</u> 25% Essay 25% Group Report (inc. group i-map and 5% verbal presentation) 25% Field Trip Report 25% Viva voce exam	<u>2012</u> 25% Essay 25% Group Report (inc. 5% verbal presentation) 25% Field Trip Report 25% Viva voce exam 5% from each assessment is for reflective learning tasks.
Course 4-1 CARL	<u>2010</u> 20% Essay 40% Report 25% Oral exam	<u>2011</u> 20% Essay 10% Group Project - Timeline 40% Group Project - Report (inc. Video presentation /Final written report) 20% Group Project - Client Folder 10% Group Project - Reflective Practitioner	<u>2012</u> 20% Essay 10% Group Project - Timeline 40% Group Project - Report (inc. Video presentation / Final written report) 10% Group Project - Client Folder 20% Group Project - Reflective Practitioner
Course 4-D JANE	<u>2010</u> 20% Problem /issue identification and annotated list of key sources End of Week 4, 3000 words 80% Final Report 8000 words	<u>2011</u> 20% Problem /issue identification and annotated list of key sources End of Week 4, 3000 words 80% Final Report 8000 words	<u>2012</u> 10% Draft Introduction & Literature Review & project timeline, End of Week 8, 2000-3000 words 10 Minute Oral Presentation of findings of literature review and value of research question, including brief outline of proposed methodology to answer question 2, Week 12 Semester 1 5% Full Draft , Week 1, Semester 2, 7000- 8000 words 80% Final report, 8,000 words

2. students would feel less stressed about the assessments if they were scaffolded with formative feedback.

To support the embedding of the IL-focused assessments, new learning outcomes to promote IL were developed for the participating courses. For example:

> Course 1-2: The ability to find, evaluate and use information effectively to enhance your own learning and personal development. (COL, Course 1-2, C1, 2010)

> Course 3-1: Use information to create knowledge that they then apply critical thinking to in order to produce new information and ideas for their discipline (COL, Course 3-1, C1, 2011)

6.7.1 Key considerations in designing the assessment tasks

Three key considerations informed the assessment interventions for the participating courses: firstly, several of the new assessment tasks were designed to encourage a focus on key aspects of the research and writing process which are often neglected in last-minute assignment completion. To add value to the tasks for students, formative feedback during the process was a key component of the task design. Secondly, both instructors and students had heavy existing workloads. Therefore, we needed to ensure that the tasks were timely and contributed to skills development without creating an excessive workload. Thirdly, the process-oriented tasks ideally needed to be part of the assessment to engage the students (see 3.5). The challenge for instructors was in deciding the percentage to allocate to the tasks so they were perceived as worthwhile but did not undermine the summative assessments that measured learning throughout the course. The assessments were designed to:

- focus on the research and writing process

- provide opportunities for formative feedback

- scaffold the development of skills across the four years of the BEP degree

- encourage wider and deeper reading of quality sources

- promote the importance of clear, concise academic writing

- create opportunities for reflective and collaborative learning.

The focus of each assessment was determined through discussion with the participating instructors around challenges they saw in student performance. In Cycle One, the majority of the changes were based on my suggestions and then developed in collaboration with the participating instructors. The form was initially determined via a discussion of options informed by my previous teaching experience and modified examples from the literature. Once the assessments were developed to a form the instructors were satisfied with, they were responsible for introducing them in class, completing the marking, and giving students feedback. My role was to observe the implementation, review marked assessments to identify if any modifications were required, and collect student data on their effectiveness in supporting learning and any suggestions for change. By Cycle Two, the participating instructors had taken ownership of the tasks and, rather than following my lead, modifications were developed collaboratively through our observations and reflections.

As mentioned earlier, the key challenge in designing the interventions was that they were being developed and implemented at the single-class level; however, the inclusion of reflective tasks in most participating courses began a thread of reflection across the whole BEP programme. Table 15 outlines the assessment interventions that were added to each course, indicating the weighting they received and the key focus of the task.

The first four columns identify the instructor, course code and year and semester the course is delivered. Column five identifies whether the intervention was new or a modification of an existing assessment. Then the intervention, the assessment weighting and the focus of the intervention is identified. Column five in Cycle Two shows that new interventions from Cycle One had become part of the existing assessment in Cycle Two. A hyphen in columns six-eight indicates no modifications were made for the assessment in Cycle Two. Details of the key changes for each participating course are discussed in sections 6.8 to 6.12.

Table 15: Developing and modifying the interventions over two cycles of action research

CYCLE ONE – DEVELOPING THE INTERVENTIONS							
INSTRUCTOR	COURSE	YEAR	SEMESTER	EXISTING ASSESSMENT	INTERVENTION	%	FOCUS
GEORGIA	Course 1-1	1	1	-	Source Justification	10	Evaluation and reflection on source use
JACINTA	Course 1-2	1	2	-	Reflection on Values	10	draft writing submission, group discussion
				Essay	I-map –- visual process model	5*	research and writing process / reflection
				Group Oral Presentation	Worksheets for Group Oral Presentations	20*	active listening
FRAN	Course 2-2	2	2	-	Reading and Learning Log	15	critical review / connecting information to learning
CARL	Course 3-1	3	1	Group Report	Group I-map	5	Research and group processes / Reflection
	Course 4-1	4	1	Group Report Assessment	Project Timeline	10	Process
					Reflective Practitioner	10	Reflection / experiential learning
					Client Folder	20	Process
JANE	Course 4-D	4	1/2	Capstone Research Project	-	-	-
CYCLE TWO – MODIFYING THE INTERVENTIONS							
INSTRUCTOR	COURSE	YEAR	SEMESTER	EXISTING ASSESSMENT	INTERVENTION	%	FOCUS
GEORGIA	Course 1-1	1	1	Source Justification	Modified structure and requirements	10	Information - specific source types
JACINTA	Course 1-2	1	2	Reflection on Values	-	-	-
				I-map –- visual model	Draft submission of i-map	5	Formative feedback
				Group Presentation + Worksheets	-	-	-
FRAN	Course 2-2	2	2	Reading and Learning Log	Modified structure and requirements	15	Formative feedback - Two-submission process
CARL	Course 3-1	3	1	Essay	Reflective Log	5*	Process / Reflection
				Group Report	Reflective Log	5*	Process / Reflection
				Field-trip report	Reflective Log	5*	Process / Reflection
				Viva Voce Exam	Reflective Log	5*	Process / Reflection
	Course 4-1	4	1	Group Report Assessment	-	-	-
				Project Timeline	-	-	-
				Reflective Practitioner	-	20	-
				Client Folder	-	10	-
JANE	Course 4-D	4	1/2	Capstone Research Project	Modified assessments	15	-
					Oral Viva	5	Formative Feedback

*Portion of the overall mark awarded for the assessment

6.8 Georgia – Course 1-1: Focusing on Source Selection

Georgia's key concern around IL was that students in previous years had relied strongly on web-based sources which resulted in a lack of scholarly sources and over-use of poor quality sources. Although Georgia recognised that students would find scholarly sources challenging, she wanted to encourage early exposure to sources students would be expected to access as they progressed through their degree. Therefore, changes in assessment were focused on encouraging considered source selection and use for assessment tasks (Table 16).

Table 16: Changes to Assessment in Course 1-1

PRE-RESEARCH		CYCLE ONE		CYCLE TWO	
2010		**2011**		**2012**	
10%	Short Essay	10%	Test	10%	Test
25%	Field Trip Report	20%	Field Trip Report	20%	Field Trip Report
25%	Test	10%	Source Justification	10%	Source Justification
40%	Exam	20%	Essay	20%	Essay
		40%	Exam	40%	Exam

6.8.1 Cycle One: Developing the Source Justification Task

To encourage students to use quality sources, we developed the 'Source Justification' task worth 10% of the final grade. The task asked students to conduct a "brief critical reflection on source selection" (COL/1-1/C1), and was in the form of a modified and extended annotated bibliography connected to the essay topic.

The task required students to:

- identify key sources relevant to the essay question
- practise APA format
- identify key points in the source connecting to the essay question
- justify source selection (evaluation)

Students were encouraged to apply what they learned in the library workshop about selection and evaluation to complete the source justification. Thus, the key purposes of the task were to encourage students to: 1) start early on their

information searches, 2) read with a purpose, and 3) make considered source selections.

In the Cycle One version of the task, students chose five sources they were planning to use for the essay. They had no guidance on source types, and only a brief outline of the task in the course outline (Appendix 7a). The task was marked and returned to students within four days, with feedback indicating which sources were not appropriate for use in the essay.

Student feedback indicated that the inclusion of the source justification task, following the extended library workshop, made them carefully consider source selection for the essay:

> *The Source Justification was good. I liked being made more critical when you think and finding specific information from them rather than sometimes I just look at them and go oh yeah this will do and quickly flick through (SFG/1-1/C1/D).*
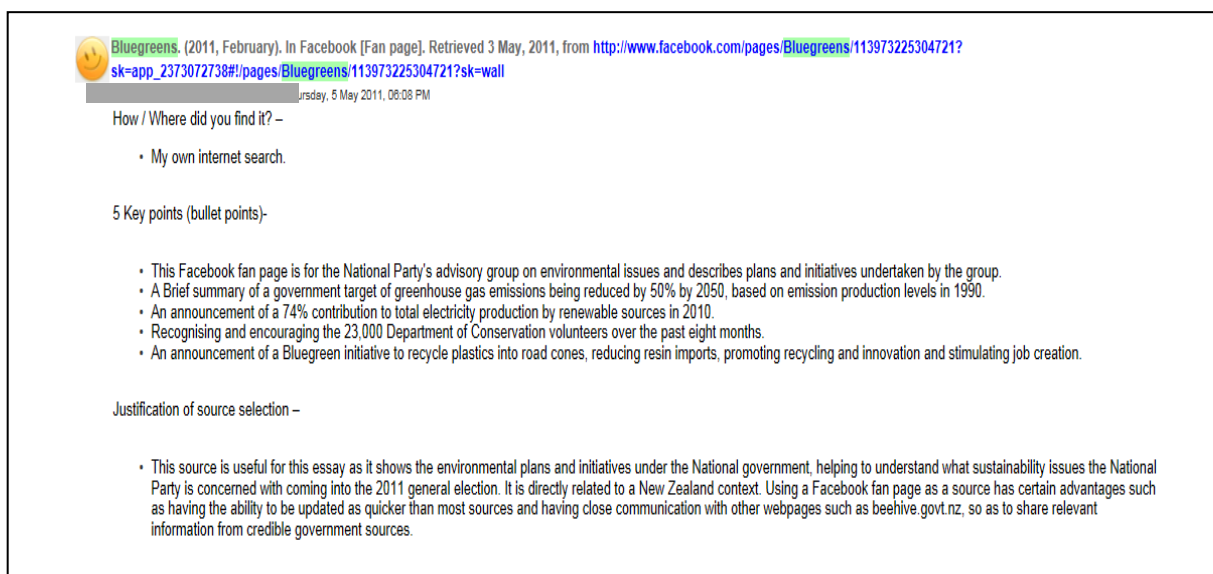
Students also appreciated the feedback on source selection prior to writing the essay, as this enabled them to make changes prior to completing the essay task:

> *I think mine was just that I needed to find more scholarly sources – they were all just about internet based (SFG/1-1/C1/D).*

After the source justification task was implemented, a review of reference lists in the essay indicated that the formative task had effectively eliminated Wikipedia and other less appropriate sources from reference lists.

The task also created a number of challenges. Although student entries showed that key considerations for evaluating sources were being used, these were often applied inappropriately. In the example below (Figure 7), the student has selected a Facebook fan-page created by environmentally conscious National government supporters. The student is applying key credibility indicators by alluding to the currency of the source, as well as its connections to other credible government sources, but is not recognising that Facebook fan-pages are not considered an appropriate source for an academic essay despite the justification provided.

Figure 7: Example of a Student Source Justification Task

Unfortunately, despite the emphasis on the value of using scholarly sources in the library session and in the feedback on source selection in the source justification task, government sources still dominated most students' essay reference lists. Scholarly peer-reviewed sources only accounted for 25% of the reference list entries.

6.8.2 Cycle Two: Modifying the Source Justification Task

The source justification task was modified for Cycle Two based on our reflections and student feedback, and then re-trialled. Student feedback had indicated that identifying five key points for each source resulted in repetition throughout the task. The range of source types was limited, and scholarly sources were lacking at the early research stage. Students had also relied on internet and government websites for information, so a range of source types were not accessed and evaluated. We recognised open-searching did not encourage students to explore a range of source types, so they could not determine the value of information by comparing sources. We also had no indication of how students were selecting sources, i.e. were they making considered choices, or just grabbing the first few sources they found and trying to justify them?

Figure 8 shows the key changes in the task for Cycle Two to address these limitations. For the modified version, we stipulated source types, and added a reflective element on information search processes. The modification aimed to encourage a focus on how information is presented in different source types. Students could then use or reject the source based on their analysis. Students were given more detail on how to approach the assessment in the course outline (Appendix 7b).

Figure 8: Changes in Source Justification requirements

SOURCE JUSTIFICATION CYCLE ONE - FIRST VERSION	**SOURCE JUSTIFICATION CYCLE TWO - SECOND VERSION**
• Find 5 sources you are planning to use in the essay and justify the source selection	• Find 5 sources connected to the essay topic. • 1 scholarly, 1 government, 1 news, 1 popular, 1 rejected source of any type • Justify the source selection – choose to use or reject • Reflect on what you have learned

There was a mixed response to identifying the source types. Some students suggested that specifying the source types led them to sources that they wouldn't usually use in an essay: for example, a news article. Others felt it was valuable to assess different source types to evaluate which were more useful. An unexpected comment was that some students struggled to find a source to reject:

> *I couldn't find a source to reject for ages because the website had information and like it was a legit website so I got really confused (SFG/1-1/C2/E).*

They could choose to reject a quality source because it wasn't relevant. However, most students didn't reject sources on this basis; the rejected source was mostly Wikipedia "*because it can be edited*". This suggests that we had not clearly articulated reasons for rejecting a quality source.

Student feedback on the task was generally positive. Student discussions showed their beliefs about the key purpose of the task was congruent with our aims. One group indicated it was to focus on evaluation over content and to promote deeper reading beyond content to look for other credibility indicators:

> *S1: To find valid sources for our essay?*

S2: To teach us to evaluate them better instead of just looking at the content I guess.

S3: Like actually reading and seeing if they're biased or not, and stuff like that. I thought that was good (SFG/1-1/C2/E).

Other comments connected to encouraging an early start, and the value of formative feedback was evident:

It gave us a bit of a head start on our essay because I got told one or two of my sources … didn't really have too much to do with my essay, which probably helped me because I went back and found better sources (SFG/1-1/C2/E).

Students in both cycles also recognised how the task required them to reflect on both source selection and personal learning:

Self-assessment I guess, because we are really assessing yourself on how you pick your sources and how you justify picking them and why. I think that finally being assessed on your selection actually helped because it made me … think I am actually looking at the right material (SFG/1-1/C1/D).

It was to get us looking at resources that would be good for our essay and then also to evaluate how well we are doing ourselves ...and say yep this referencing is good or this is a good source or whatever, so it made us look at ourselves as well as the sources (SFG/1-1/C2/E).

These comments suggest that students recognised the task was developed to support their learning around searching for, evaluating, and using information to complete assessment tasks.

A common theme in the reflection section of the modified task was that, combined with the extended library session, it had supported a change in student search habits. An example of this is shown in Figure 9, Q5 (bold emphasis added).

The students' reflections in this task helped us identify where students were still struggling with information searching and source selection, and Georgia could address this in class. Although the completed assessments showed students needed further support to understand how information supports learning, we could see that they were starting to make considered source selections, thus indicating the value of the task.

Figure 9: Student example of modified Source Justification Task

SCHOLARLY SOURCE
Q1. APA reference
Berke, Philip R. (2002). Does Sustainable Development Offer a New Direction for Planning? Challenges for the Twenty-First Century. *Journal of Planning Literature, 17*(21), 21-36. doi: 10.1177/088122017001002
Q2. How did you find this source?
Google Scholar: challenges OR opportunities "sustainable development"
Q3. Identify three key points that are relevant to the essay
The increase of planning participation (particularly in low income areas) An increasingly design-oriented approach to urbanisation (New Urbanism) Ensuring an appropriate balance between environmental, economic and social values The article was written in the United States, and was produced to analyse the origins and applications of sustainable development.
Q4. Reason you chose to use this source
I have decided to use this source because it explores the idea of planning based on a guiding principle: sustainable development. After the Brundtland Commission Report (1987), sustainable initiatives began appearing in statutory policy worldwide, which pushed sustainable development into the political spotlight in many countries. Prior to this, planning was perceived as directionless, and drew criticism from politicians and the public. It also explores the origins of public participation, which is a key aspect of modern planning. This **journal article** explores these ideas in depth, and provides relevant information on the planning process. **I cannot detect any bias in the source**, however a significant **drawback is that it is not a New Zealand source.** Relevant information concerning New Zealand specifically will have to be found elsewhere. The **article is part of the Journal of Planning Literature,** and its **site address ends in .com. This indicates a commercial site**, and the Journal itself is **released quarterly.** The author, Philip Berke, is a lecturer at the University of North Carolina at Chapel Hill and teaches courses in land use and environmental planning and policy, environmental analysis and land use planning, and planning theory. **As a lecturer, Dr. Berke is a qualified source, and based on his area of expertise, is also a credible source.**
Q5.   What have you learned about the information searching process?
Before I came to university **I used to use the first couple of sources that a standard google search spat out.** I had no idea about google scholar, and seldom endeavoured to check out textbooks on the subject. **After the library session I realised that there are so many more sources available than a simple google search.** [Library Search], Google Scholar and the Library Catalogue provide scholarly/academic papers on a range of topics. I also learned that newspapers, magazines and blogging are **not acceptable sources** at a university level. I also learnt about the referencing formats we must use, and about the APA interactive tool.

The timing of the task and lack of connection to the wider purpose of finding appropriate sources for the essay created challenges. At least half of the sources used in the tasks did not appear in reference lists for the final essay. For some students, this could be attributed to feedback suggesting the source was inappropriate. However, others indicated they completed the task before they started thinking about the essay, and then found better sources to use later. Thus, the assessment did not stop some students from taking shortcuts in the task completion:

> *Some of the sources I selected were not ones that I actually ended up using in my essay because I selected them mainly because it was easier to write about for the source justification (SFG/1-1/C2/E).*

The task revealed that source evaluation remains a challenge. Figure 9, Q4 shows this student is starting to use some of the language of source evaluation, including recognising bias, commenting on author's credentials and considering the location of the source (highlighted in bold). However, the message about newspapers, magazines and blogs has been distorted. This indicates we did not clearly emphasise the usefulness of these sources to support the understanding of key concepts and to determine relevancy and appropriateness of other sources found. Rather than such sources being unacceptable, the message for the students should have been to use with caution.

6.8.3 Final Outcomes: Course 1-1 Interventions

Overall the source justification task achieved its purpose of encouraging students to carefully consider and reflect on why source selection matters. One student commented that:

> *No other lecturers have ever asked us to think about the sources we are using before (SFG/1-1/C2/E).*

The extended library session and source justification task integrated an explicit focus on IL into Course 1-1. The introduction of the task allowed us to provide feedback on source selection before inappropriate sources were used. While challenges around source evaluation remain, most students will have completed this course with a solid foundation to build on in subsequent courses in the BEP.

6.9 Jacinta – Course 1-2: Change to Promote IL Development and Reflective Learning

Jacinta's main concerns were that students coming into the second semester in their first year were struggling to write accurately and use information effectively in assessment tasks, and that they lacked reflective learning strategies. Therefore, Jacinta was willing to make significant changes to the assessments in Course 1-2 to increase the focus on IL, critical thinking, writing, active learning and reflection.

As Table 17 shows, Jacinta forfeited the in-class test to create space for the new assessment tasks. She also reordered and added components to the existing assessments, including the new 'Reflection on Values' task (see 6.9.1), group presentation worksheets (see 6.9.3), and i-maps (see 6.6.5).

Table 17: Changes to Assessment in Course 1-2

PRE-RESEARCH	CYCLE ONE		CYCLE TWO	
2009	2010		2011	
15% Group Oral Presentation	10%	Reflection on Values inc. draft submission	15%	Reflection on Values inc. draft submission
15% In-class test				
30% Essay	20%	Group Oral Presentations	30%	Essay inc. i-map
40% Exam			30%	Group Oral Presentations
	30%	Essay inc. i-map	25%	Examination
	40%	Examination		

6.9.1 Cycle One: Developing the Reflection on Values Task

The Reflection on Values was a personal narrative designed to:

- start reflective thinking by encouraging students to consider how their personal values would impact on environmentally focused decisions made as future Planners

- promote learning through exposure to the views of others (Diehm & Lupton, 2012), and promote an early focus on accurate writing.

In Week 2, students submitted a draft for formative feedback on writing in what we considered a low-stakes assessment, as it was a reflective narrative about personal understandings of their values. No research, reading or referencing was required. In marking the draft, Jacinta focused on accurate sentences,

indicating problems using a mark-sheet that explained common sentence-level errors to support students with understanding their mistakes (Appendix 8). She then returned them in class and spent 30 minutes identifying common errors (for example, run-on sentences and sentence sprawl) using examples from the students' work, and showed how to fix and avoid similar errors in future written tasks.

The task required students to engage in collaborative learning (see 3.3.4). Students were expected to clearly identify their values and develop their understanding of what has impacted on these throughout their lives. Feedback on the content of the task came via small group discussions of five to six students. The tasks were read and discussed, and peers could comment on whether other students had clearly and sufficiently explained the origin of their values. An intended outcome was awareness-raising through reflection and discussion of how people with differing values would consider and approach environmental issues. Recognising these differences would support them as practising, decision-making Planners in the future.

Students recognised the assessment was safe and supportive and, thus, was a low-stakes task:

> *It was a completely different type of exercise. It wasn't one where you were supposed to have your statement about what you are going to talk about in this paragraph. It wasn't required which was safe. So it is so much easier to write a nice piece with a nice flow about yourself or about your family … a low-risk, safe assessment (SFG/1-2 C1/C).*

Class survey comments related mostly to how Jacinta's feedback helped identify specific areas to focus on and the importance of clarity in writing. This was reiterated in focus groups:

> *It was good. For the first draft I edited it and made it all nice but I got the feedback and thought oh, actually I didn't pick up on that ... my first paragraph was two sentences, but I just didn't click that it could have been four sentences and made a lot more sense and so that was really good to be able to fix it and to have someone else show me that (SFG/1-2/C1/C).*

The feedback encouraged reflection on learning and supported students to recognise errors in their writing. The focus on writing was also transferred to other tasks, with two thirds of the students indicating that they used this feedback to reflect on the essay task later in the course:

173

It was good how she just put it in the margins. She didn't exactly pinpoint it, so you have to learn to identify it and see where you were wrong. It was really helpful (SSV/1-2/C1/C).

I think it was really helpful for me as well, and, even now, I think about whether I have got run-on sentences or not (SFG/1-2/C1/C).

However, the form of the task and the peer-feedback caused some challenges for the students. There was some confusion over the extent of the draft, with two students only submitting bulleted points they were going to discuss, rather than a full draft. However the value of the task was still recognised by one of these students:

I think these sort of activities are valuable and valid ways to improve writing. It creates some pressure, but it is a part of what we are expected to be able to do. If we only write for ourselves we produce nothing, contribute nothing. As there was little to base feedback on (I only wrote about what I intended to write about in the different parts of the text) it was not very useful to me. I wish there would be more of these kinds of activities since the learning done in them is rather lasting (SJN/1-2/C1/C).

A review of the written tasks showed that some students only made changes where Jacinta had indicated a problem, and errors of the same type appeared elsewhere in the text despite the identification of a specific error. Unfortunately, due to low student participant numbers in the research for Cycle One, I was unable to investigate how students were approaching the draft revision process.

A further challenge connected to Jacinta's feedback. We had expected the feedback on content would come via the group discussions, but Jacinta hadn't explicitly indicated this in class. The absence of feedback from Jacinta on content meant students who could write well were disappointed at getting lower grades than expected because they had no indication that their content wasn't developed appropriately. While some comments indicated the value of the discussions in recognising the impact on core values from upbringing and life experiences, others saw the discussions as a means for less motivated students to get unearned benefits:

My views differed from someone else in my group, so that was sort of, not an attack, but it was a critical speaking of the actual content, so that bit wasn't that helpful. But it was interesting reading other peoples' [ones]. There were some people in my group that weren't as motivated. They were quite slack, and it seemed they were reaping the benefits of us looking at their work when they had gone 'oh yours is pretty good'. I just think it wasn't very helpful (SFG/1-2/C1/C).

A final challenge emerged for Jacinta concerning the increased marking workload and her own challenges in understanding and using terminology to

comment on sentence-level errors i.e. run-on sentences and faulty parallelism. To familiarise Jacinta with this, we discussed several examples of students' errors and categorised them together using the mark-sheet.

6.9.2 Cycle Two: Modifying the Reflection on Values Task

At the end of Cycle One, Jacinta recognised a noticeable improvement in writing competency, for example, in sentence structure from the draft to the final versions and some improvement in the essays. Therefore, despite the challenges in Cycle One, the Reflection on Values assessment was re-used in the same form in Cycle Two with only minor changes:

- The expectation that a full draft should be submitted was clarified

- The mark-sheet was adapted to make the examples more relevant to the Planning context by using examples from previous students' Reflection on Values tasks and essays

- Feedback on content was still provided through peer discussion, but the purpose of the discussion was clarified.

Modifications to the task helped clarify the purpose and supported students with their reflective learning. Students recognised the dual purpose of the assessment, i.e. to improve writing and to understand the values other students have:

> *To understand our own values and how these can influence decision making, and to also understand others values/experiences so have consideration of different cultures, views, impacts from many view-points without being biased (SSV/1-2/C2/D).*

> *I suppose it had quite a few different viewpoints, because, on one hand, it was the writing, you know the way you write. Then there was the way of understanding other people's values, and how you would make decisions based on that paper, you know, with authority and that based on other people's values and knowledge and culture and … sort of understanding other people quite a bit as well (SFG/1-2/C2/D).*

Students also appreciated the early support with writing:

> *I personally found it was really good, because it sort of just pointed out how you write sentencing and paragraphs, and it defined those things. I suppose a lot of tutors will mark an assignment, and they will just put a cross or they'll fix an error or something, but sometimes they won't do anything. I thought that was a really good way of learning how you were writing. I suppose the assignment writing's a bit like riding a bike; you don't remember the first time, but after about 10 assignments you'll start picking up on these things and start writing better (SFG/1-2/C2/D).*

Students identified the benefits of the group discussions in sharing values and seeing how other students wrote the task, and recognised the social value of learning from people in groups:

> *I found that really useful for understanding the diversity of values and cultures and how these impact how we understand the environment and planning (SJN/1-2/C2/D).*

> *Cool to hear the backgrounds of the people that we're going to be around for the next 4 years. Really cool insight into different worlds. Felt kinda closer to the other people too. (ewww sappy ☺) (SJN/1-2/C2/D).*

Others valued the marking and indicated it helped them improve their writing, but they also recognised that improving writing is a process that takes time and effort:

> *I found this very useful to understand my writing style and how one can improve. I see this as a process that would improve over time and knowing (SSV/1-2/C2/D).*

> *Very useful. It made me think of how I was writing. The more I think about it, the more difficult it becomes, but the more I understand, the more likely I will improve, especially with practise. A second version of feedback would be great to see if I did actually make correct adjustment (SSV/1-2/C2/D).*

Despite these positives, some challenges with the task remained. Some students disliked the narrative style of writing and questioned its impact on supporting their academic writing development. They struggled with the broad scope of the task and questioned how investigating personal views and relating to fellow learners through sharing experiences impacted on learning:

> *One thing I noticed was that it depended on which topic of values one may relate to and how open they may be. For example, one person based their values on the environment and others more personal. It can be quite broad depending on what has been their focus: personal, cultural, societal, national, experiences, beliefs, environmental etc. Just a thought that if we all wrote a hundred words for five or six sections, we would all be focusing on the same topic but could distinguish the similarities and differences more easily (SJN/1-2/C2/D).*

The challenge around providing effective feedback without spending excessive time marking remained problematic for this task. As with Cycle One, students who had minimal comments on their writing indicated that they would have appreciated feedback on content because they felt they didn't get appropriate feedback through the group discussions:

> *In the first values draft, I got all smiley faces feedback, you know, 'just change this one sentence, bit of a run-on. So, I changed it and went through and did some punctuation, but I didn't get the grade that I believed that I would get after getting such [comments], you know, 'your writing style is amazing' 'you're great, you're awesome - just fix this one sentence' (SFG/1-2/C2/D).*

I found it was, I don't know whether people were just too scared to say things … I think because it's your peers, you don't want to put someone down by saying 'what about this or this bit?' But none of that really happened in our group, and it was sort of a bit of a waste of time really. We ended up just sitting there talking (SFG/1-2/C2/D).

Comments suggested that students were challenged by having to take responsibility for their own learning and rely on feedback from peers. The value of peer-supported learning may not have been apparent to the students, and could account for the concerns connected to the absence of Jacinta's feedback on content.

A key strength of the action research process is that, although the data collection had technically finished, the conversation was on-going and Jacinta amended the task for the 2012 semester. Following Cycle Two feedback on lack of content support, Jacinta decided a short comment on content would be useful to indicate if more depth is needed, but without going into specific detail of what exactly needs focusing on. She also decided to trial adding an additional paragraph to the task, asking students to reflect on the group discussion and what they learned about their own values in relation to the values of others, so she could immediately see if any of the formerly identified writing errors remained.

6.9.3 Cycle One: Creating group presentation worksheets

The group presentation in Course 1-2 was designed to give students responsibility for researching and presenting a topic that would be assessed in the exam. Students effectively became information sources for each other and the task offered a learner-focused learning experience. As recognised in section 3.3.5, deeper learning results from the process of researching and synthesising information to teach others. However, previous exam performance suggested students were focusing on their own presentation topics and failing to engage with information presented by other groups. To overcome this, I suggested worksheets added to the group presentation task may encourage students to become active listeners, increase listener participation, and build note-taking skills. Jacinta provided a basic table (Appendix 9a) which required the students

to take notes on the key facts being presented, using four 'what' and 'who' questions.

Jacinta observed that the worksheets had the desired effect of ensuring the audience were listening more actively to the presentations and provided practice in note-taking skills. However, she did feel that some of the students may have copied some notes from each other as there were similarities in some of the sheets submitted.

In Cycle One, student feedback on the worksheets was not gathered as part of the research, because they were developed through sharing teaching practice rather than as a tool to support IL development. Because of my developing understanding of IL, the connection to IL in this task was not immediately apparent.

6.9.4 Cycle Two: Reconsidering the impact of the worksheets on learning

A conversation with a third-year student revealed students had not been explicitly taught how to effectively take notes within the BEP programme. This led me to consider the group presentation worksheets from an IL and learning perspective for first-year students. Student presenters were effectively a source of information on key topics within the curriculum. Although the task provided an opportunity for guided note-taking, this had not been made explicit to the students, and greater critical evaluation of the issues, rather than a simple record of what was said, needed to be emphasised. This was an important consideration leading in to Cycle Two.

Jacinta's observations in Cycle One suggested the worksheets had added a greater element of audience participation to the presentations, helping the students become more active listeners. The task also had the potential to support the development of note-taking skills. However, the original worksheet questions elicited factual rather than analytical responses, so the opportunity for critical thinking around issues was lost. Therefore, Jacinta added two 'why' questions to the table to encourage deeper analysis and evaluation of each topic (Appendix 9b).

Survey feedback in Cycle Two showed students were aware that the purpose of the worksheets was to promote more active listening during the presentations:

> *To make sure that the audience is engaged and listening to group presentations. i.e. active listening (SJN/1-2/C2/D).*

Students felt that writing notes helped them to learn more content from the presentations than if they had just listened. They indicated that without the worksheets, and the assessment attached to them, they would not have listened as attentively or remembered information that was presented:

> *I may have initially listened attentively, but probably would have lost attention. Also, if the worksheets were not a percentage of the final mark, I wouldn't have been so attentive (SJN/1-2/C2/D).*

6.9.5 Cycle One: Implementing the i-map task

Research (Emerson, Stevens & Muirhead, 2008; Head & Eisenberg, 2009b, 2010; Walden & Peacock, 2006) has suggested that a focus on the research process is essential for learning development. Head and Eisenberg's (2010) findings suggest that students need to be held accountable for the research they conduct and, as part of the assessment, they should "substantiate their research strategy, evaluation and selection of sources and show hard evidence of critical thinking about information" (p. 39). Yet, as suggested in section 2.5.4, ineffective time management may lead to students bypassing key stages of the research and writing process. To encourage students to reflect on the research process, an assessment tool was needed which would provide an accurate overview of the process, and become a useful tool for completing future tasks. The i-map (Walden & Peacock, 2006, 2008) fulfilled both of these functions.

According to Emerson et al. (2008), "i-maps provide a visual description of the sources students have engaged with over the research stages of a project" (p. 1), and therefore increase an awareness of IL competencies. Although i-maps were a new concept for BEP instructors, they have been used to create an explicit focus on process in two first-year writing courses at one NZ university for the past few years (Emerson et al., 2008). In both writing courses, a series of scaffolded in-class activities contributed to the development of the i-map during the research, planning and writing process. These include brainstorming, developing questions to investigate, identifying keywords for information

searches, evaluating and justifying sources and creating thesis statements (Figure 10). Formative feedback is provided through the teaching and peer-assessment conducted within the courses. While the i-map itself is a summative account of the research process that can be assessed, the activities used to create the i-map are effectively contributing to development of IL within the research and writing process.

In Course 1-2, the i-map was introduced to raise awareness of the key stages in the research and writing process, and actively engage students in starting on their essay task early. Jacinta initially provided instructions (Appendix 10), but a number of students requested models and an outline of the suggested steps to go through, as this was an unfamiliar assessment tool. Unlike the use of the i-map in the writing courses, where progressive tasks are used to support the i-map development, in Course 1-2, the i-map was submitted with the essay; thus, students were required to reflect on their process and construct the i-map without formative feedback.

Student feedback on the i-map was mixed in Cycle One. They recognised the purpose of the task as encouraging them to focus on their research process:

> *S1: To look at your research process. How you think and what steps you took. How your ideas join together and come together at the end in your conclusion. I don't really know. I think for me it's like reflecting on your process that you have taken, but I suppose in real life I'm not that linear; I don't go through a step by step process. I probably start looking for things and then start piecing it all together, so I don't necessarily follow like a linear flow chart sort of pattern.*

> *S2: I don't know why you want it. But for me what it does, I can improve my timings, because if I can do that for every assignment, I can see where I spend quite a lot of time. It is quite easy to just sprawl everywhere and not be so focused, but if I can see and identify different kinds of strategies that I use, then maybe I can improve through time. At least for me, it was really really useful, because at the end I saw that I should have written about this, this, and this, and I thought 'actually, I didn't' (SFG/1-2/C1/C).*

> *I think it's like a smart brainstorm. … It's like a brainstorm and for me it was based afterwards, but I should have done it before. But still, I think it has a lot of value (SFG/1-2/C1/C).*

Figure 10: Example of an i-map
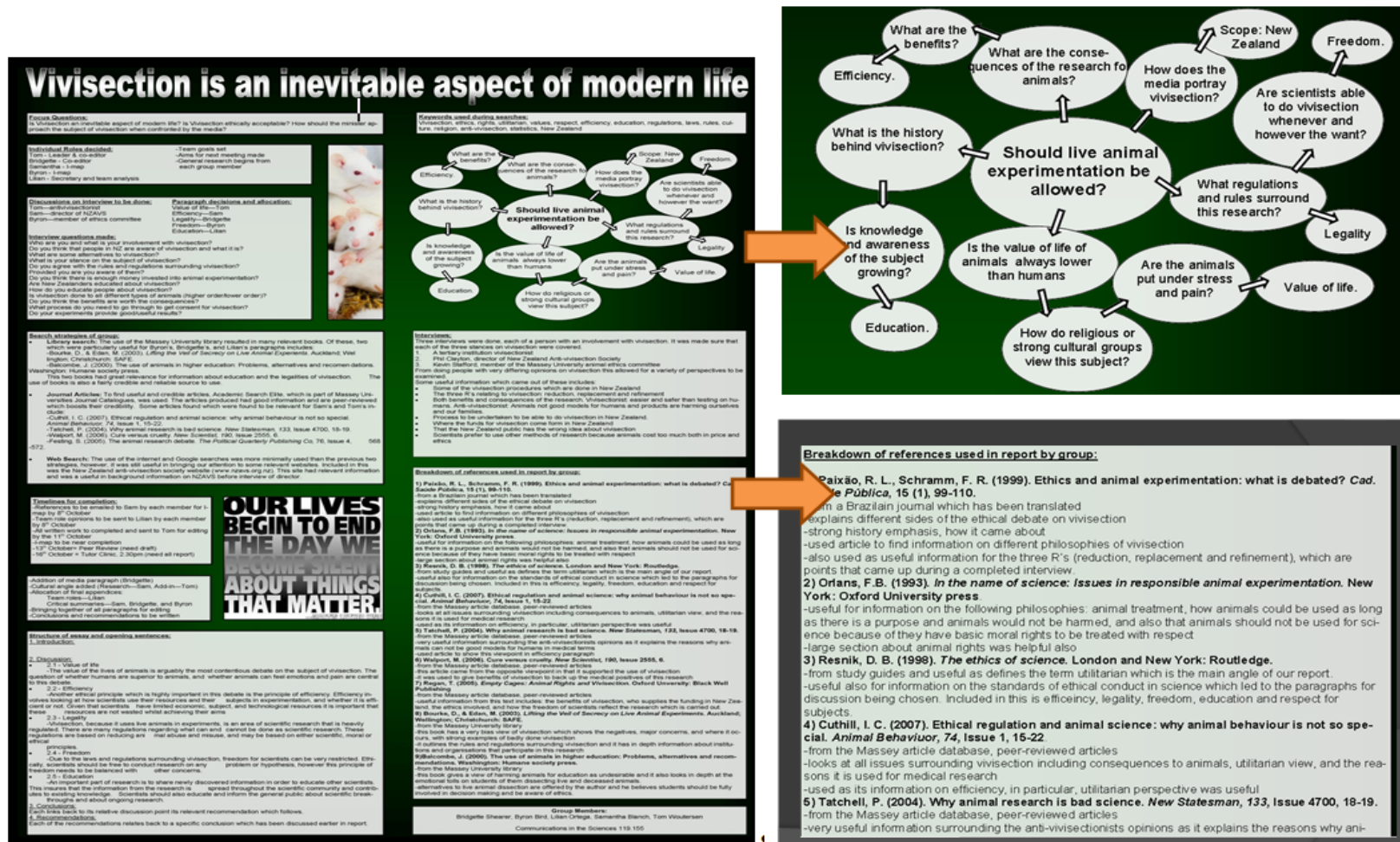
Students who saw the i-map as a useful tool for helping them successfully complete their essay indicated it helped direct the essay and was "*a good tool and fast to create*" (SSV/1-2/C1/C). It seemed that those who didn't have a defined research process valued the way the key steps of the research and writing process were outlined in the i-map task. For example. one focus group student appreciated the tool as a way to focus on the writing process. Although she was a capable student academically, she found planning her ideas logically before writing challenging and found the i-map helped her stay focused. Students suggested that submission prior to the essay with formative feedback on their thesis statements and plans would have made it a more valuable and useful tool:

> *S1: Maybe if you had to submit it before the essay, you know at the end of the research phase, I supposed that might crank on to time management … Maybe that would help if you had to do it while you were doing your research, rather than at the end with the essay.*

> *S2: Hand out the assignment and maybe give people a week to hand back the i-map, and then mark it and give feedback, and then start on the essay (SFG/1-2/C1/C).*

Two key challenges emerged with the i-map task in Cycle One. Firstly, rather than completing the i-map during the process, a number of students completed the i-map retrospectively after the essay was written without fully understanding or engaging with the purpose of the task:

> *I did it afterwards. But I thought about it during my essay. One thing is I really didn't know how to do it. I didn't know what we were meant to be writing, what we should be showing, where to start it, and then [Jacinta] showed us like use keywords and write what you think. I don't really know what I think about keywords; keywords to me, I didn't really understand the point in doing it (SFG/1-2/C1/C).*

> *It was almost an evaluation of what we had done rather than showing the process (SSV/1-2/C1/C).*

The second challenge connected to ownership of the process. Those who didn't like the i-map commented that they had their own ways of planning and writing, and that the i-map just added to their workload. Some found it:

> *S1: annoying and irrelevant.*

> *S2: part of the assessment and I wouldn't do it otherwise (SSV/1-2/C1/C).*

Despite the challenges with the i-map, Jacinta enjoyed seeing the visual depiction of the students' journeys as they completed the essay. She saw value

in having students identify the key steps in their research process and decided to use the i-map again in the following semester. Jacinta recognised that:

> *It was learning for me as well, because I have never done an i-map myself, and had never even seen one before, let alone taught anything about it. So now that I have been through one round, it will be clearer what it is and what I am expecting to see (IMN/Jacinta/C1).*

6.9.6 Cycle Two: Modifying the i-map task

Based on student feedback, Jacinta provided clearer guidelines and explanations of how the i-map is designed to support learning and IL development, and that although models and guidelines were provided, the i-map should represent students' own research processes:

> *It's about saying this is a model of how a particular student, the process that a particular student uses. Your process may be different. So this is an example, but you need to represent your own process. And here are some of the things that you might want to include in your representation of your process (IMN/Jacinta/C1).*

The i-map was used again as part of the essay assessment, but in Cycle Two students were required to submit a draft of the i-map one week prior to the final essay submission to circumvent retrospective i-map completion. The early submission was an opportunity for Jacinta to see the initial sources being used, and to preview thesis statements and essay plans. Jacinta gave general in-class feedback on making clearer thesis statements, avoiding websites as a sole source of information, and clearly planning each paragraph topic, but did not give individual feedback prior to the essay submission.

Student feedback was again mixed, for the same key reasons as in Cycle One, namely the i-map did not represent the students' own research processes. While some students liked the structure, the focus on the process, and the visual representation, others claimed they felt restricted because it was not the way they liked to plan:

> ***Positives***
>
> *I thought it was a great way to get me to conceptualize my essay and see the direction it was heading in. It also was really good for making sure that all aspects of my essay were covered, while allowing student creativity (SJN1-2/ D/C2/2011).*
>
> *S1: Helped me plan my thoughts and the relationships between them.*
>
> *S2: Helped with identifying what I needed to do and the process.*

S3: It helped me overcome the overwhelming problem of starting an essay by breaking each part down.

S4: Was good to have majority of research already done. Less pressure for time (SSV/1-2/C2/D).

Negatives

I do my own essay plan and it makes way more sense to me than an i-map – it honestly was not useful to me at all - I still did my own plan because I don't put it all in nice little boxes and divide it exactly like that. I just jot down all my ideas and how I'm going to put it and then I do my research in accordance to my plan. The i-map was just another thing to do. (SFG/1-2/C2/D).

I found it kind of restrictive too. It was like, it was very linear and that's not how I work (SFG/1-2/C2/D).

Some confusion remained over what the i-map was:

I pretty much did an essay plan and pulled it off as an i-map. I don't know, I actually didn't understand how the i-map worked, and the one that we got given, I felt like it was way too much information on it. The sample one we got given just blew people away and they were 'oh no'. That's why I was like "put that away, I'm just doing an essay plan, I'll hand in that", which I'm assuming is exactly the same thing as an i-map anyway (SFG/1-2/C2/D).

Was that just to show how we plan and where we get our sources and what we're going to use them for, rather than just leaving everything till the last minute and not really evaluating what parts we're going to use our sources for? (SFG/1-2/C2/D).

Part of the success of a learning tool lies in whether students would use it to support their future learning. Again, the response as to whether students would use an i-map if it wasn't assessed was mixed (Table 18). Those who would use one recognised that it helped plan and structure the task. Those who indicated they wouldn't use one either had their own system of assignment planning, or wouldn't plan in as much depth as the i-map required.

The draft submission helped prevent retrospective completion, but again some students still saw it as a task to be completed, rather than a tool to support their learning. Students in Cycle Two took varying approaches to the task completion ranging from an on-going process to retrospective completion:

S1: At the beginning, before I started the essay, then amended a few things right at the end.

S2: As I went. Once you have established all the relevant searches and references, I saw it as a plan of action, rather than a 'where I had been' process.

S3: At the end (SJN/1-2/C2/D).

Table 18: Course 1-2 – I-map Survey and Journal Comments (Cohort D, Cycle Two)

Survey Q5 Comments - *Would you use an i-map for future tasks if it wasn't part of the assessment?*	
YES	*NO*
• *sometimes - sometimes they are useful to complete for complicated assignments* • *They help you structure and organise your ideas, sources and create an effective plan - makes writing easier* • *well not necessarily an i-map, but some sort of plan because I always do.* • *Yes - to help my assignment layout especially if I had lots of things due at once.* • *yes - it helped me overcome the overwhelming problem of starting an essay by breaking each part down.* • *helped me plan my essay and actually start*	• *probably a less detailed variation - not full map - detracts from work.* • *Because I found a brainstorm can be just as helpful* • *I usually do a brief essay plan - less time.* • *because a brainstorm is just as helpful. Also the way I go about doing my research and writing my essays are different and don't work with an i-map and it's a lot of extra work and pressure.* • *I set up my i-map well but it actually confused me more when I was writing my essay.* • *My plan is better.* • *Don't like it.* • *I usually start with an essay plan* • *Because I am lazy*

Journal Comments

S1: No. I do plan my essay structure, but I don't tend to plan the research process because once I know what I'm going to write about, my research will naturally have a focus.

S2: I think I would do one, but not up to the same presentation standard, as that was quite time consuming.(SJN/1-2/C2/D)

The main dissatisfaction with the task connected to the marking. Students felt they received very few or no comments on either the draft or the final version, thus seeing little value in completing the task:

> *I did it for the sake of doing it. I put lots of effort into it and you don't really get any feedback on it, and that felt like a waste of – I keep saying a waste of time – but, you know (SFG/1-2/C2/D).*

> *We didn't get a mark/comments back for our i-map, which is annoying because that was part of the grade (SJN/1-2/C2/D).*

Jacinta realised that there had been minimal feedback on the i-maps, and connected this to additional time taken to mark the essays[24]. However, she had definitely used them when assessing the essay and found it useful to see how the students were representing their process.

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[24] Jacinta had used fully electronic submission and marking of the essays for the first time this semester and found it took more time than marking on paper copies.

The key challenge that remained with the i-map in Course 1-2 is that, while it was designed to help students focus on process, it was being used as a summative assessment. This contrasts with the use of i-maps in writing courses, as mentioned earlier (see 6.9.5), where skills development is scaffolded throughout the course with formative feedback on the research and writing process (Emerson et al., 2008). However, in content papers, the focus is predominantly on content delivery, so students are rarely being guided in the same way.

Overall, Jacinta saw the value in the process being made explicit as part of the assessment, and liked the i-map, but needed to consider the students' responses to the task. She recognised the need to adapt the task so students would not feel it represented an unfamiliar process. Following Cycle Two feedback and reflection, Jacinta decided to trial having one early submission with formative feedback to ensure the i-map captured the process, rather than being completed retrospectively.

6.9.7 Final Outcomes: Course 1-2 Interventions

Jacinta made a number of key changes in her course to add a strong focus on IL development within the research and writing process alongside content knowledge development, and to promote active engagement with assessment tasks through reflective and collaborative learning. It took time for Jacinta to become confident providing opportunities for formative feedback. Modifications to the tasks and Jacinta's increased confidence in Cycle Two allowed for clearer explanations on the purpose of the tasks and their contribution to student learning.

Student responses to the interventions were largely positive in both cycles, indicating that the support around assessment and the research and writing process reduced stress and emphasised the importance of IL, collaborative learning, and writing well early in the programme:

> *The interventions brought the writing of this paper to a higher level and made me more motivated to do them. It seemed like there were expectations on us and a true place for improvement for us as learners (SSV/1-2/C1/C).*

> *S1: It made it less stressful than other papers.*

186

6.10 Fran – Course 2-2: Extending reading to support learning

Fran was concerned by her students' lack of wider reading, and the negative impact of this on class engagement and assessments. She felt several students seemed unable to contribute knowledgably to the class discussions or produce high-level assessments. Therefore, the assessment intervention in Course 2-2 focused on promoting extended reading of quality sources and encouraging critical reflection on learning.

As Table 19 shows, the change to the assessment for Course 2-2 was the addition of the original (Cycle One) and revised (Cycle Two) Professional Reading and Learning Log (PR&LL), with assessment weighting being taken primarily from the report to allow for the allocation of 15% to this task.

Table 19: Changes to Assessment in Course 2-2

PRE-RESEARCH		CYCLE ONE		CYCLE TWO	
2009		**2010**		**2011**	
25%	Report	15%	Report	15%	Report
15%	Practical Ex 1-3	15%	Professional Reading and Learning Log	10%	Professional Reading and Learning Log- two part submission
60%	Exam	10%	Practical Ex 1-2		
		60%	Exam	15%	Practical Ex 1-2
				60%	Exam

6.10.1 Cycle One: Developing the PR&LL

It was hoped that by accessing a variety of quality texts in various formats, students would gain an improved understanding and interpretation of the issues and examples of Planning in real-life situations. Such insights are unlikely to come from the classroom experience alone. This understanding would help students make more informed decisions with greater understanding of the implications of those decisions in other practice-focused assessments.

The PR&LL required students to access a variety of sources relevant to the course, choose one text each week, and use this to summarise and reflect on the Planning issues raised. Fran decided the PR&LL should not be restricted to written texts, because non-text based sources including radio interviews, news items, social commentary cartoons, and certain documentary excerpts on You-

tube are also relevant to the course content, and represent a range of valid and relevant information sources.

Students were introduced to the PR&LL in the course outline as follows:

PROFESSIONAL READING & LEARNING LOG

This year I have introduced a new assignment – The Reading and Learning log that, I hope, will improve your knowledge of planning issues while simultaneously improving your writing skills. It is essential that in your professional life that you learn to keep up with the issues that might affect the area you are planning for and that you can produce concise, easy to read material. I also hope that this assignment will make you think more broadly about what planning is and why it is important to the community and country that we have a planning system. All details are on [the course website].

The Reading and Learning Log has been developed with the assistance of Mrs Angela Feekery, who will be introduced to you at the first lecture (COL/2-2/C1).

A detailed overview of the requirements was outlined on a separate assignment sheet provided in class and on the course website (Appendix 11). Students completed the PR&LL and submitted the task and copies of their sources in their chosen format at the end of the semester. The format was open to students' own interpretation of the task within the guidelines provided.

The PR&LL was successful in terms of achieving its purpose and increasing the amount of reading students did during the course; however, it had mixed results in promoting IL development.

When students were asked about the purpose of the PR&LL in the survey and focus group, a number of themes emerged (Table 20):

Table 20: Cycle One Themes – Purpose of PR&LL (Cohort B)

Theme	No of comments
Expand / broaden Planning knowledge	11
Keep up-to-date with Planning issues	7
Apply knowledge to the real world	5
Encourage more and wider reading / improve reading habits	4
Develop writing	4
Develop critical reading skills	1
Practice accessing good information	1

Most students saw the purpose of the PR&LL as contributing to and expanding knowledge development in the course, helping them keep up-do-date with

Planning issues, and broadening and extending reading habits. It was promising to see that some students recognised its impact on developing writing, critical reading, and information accessing skills. While some did feel the assessment was designed to make them read widely and more regularly, most recognised the purpose of applying classroom learning to real-world examples.

Feedback on the PR&LL indicated the task had impacted on established reading habits. A survey conducted at the end of the course revealed most students read only for assessment, with 9/25 students indicating they read beyond the requirements of assessed tasks. Of those nine students, only two indicated they do extra reading out of interest (Table 21).

Table 21: Cycle One – Students' Established Reading Habits (Cohort B)

Q4. Which statement best describes your reading habits?	
a. I always read all of the recommended and provided readings for my courses to both expand my knowledge and complete assessments. I often search for extra readings as well out of interest.	2
b. I often read the required readings for the course, and find at least 8- 10 sources for any assignment.	7
c. I only read to complete assessments, but often read widely on the topic being assessed (more than 8 sources).	7
d. I only read the minimum required to complete the assessment (often only around 5 sources) and hardly ever read the required readings.	1
e. I hardly ever read the recommended readings and I usually rely on 1-2 key sources to complete assessments.	1

Overall, the task achieved its aim of encouraging students to read more, suggesting that, because the reading was assessed, it was done. Nineteen out of 20 students indicated that, because of this assessment, they read more than they would have otherwise, with 50% of that group indicating they read 'a lot more'.

The challenges that emerged with the PR&LL in Cycle One connected to source quality and relevance, inappropriate format, and neglected course readings. Students indicated they struggled to identify relevance and wanted more guidance on appropriate sources and how to structure the task. One student commented:

> *I prefer to have readings provided for me so I don't waste time finding irrelevant articles (SSV/2-2/C1/B).*

Fran had suggested readings in class for possible inclusion, which students found helpful. Students also wanted clearer guidance on what to write about and how to manage the task. Some students indicated that they struggled with the self-directed learning and time management the task required, and made some suggestions of how this might be achieved:

> *Maybe check with students every two weeks to see if they are up to date, and offer more sources (SSV/2-2/C1/B).*

While students read more, the quality of the reading materials was questionable. These students had had limited or no explicit instruction in evaluating sources, and their random, disconnected source selection was not constructive in building course-related knowledge. An absence of critical thinking around the issues was evident, and it was a case of quantity over quality. The logs were dominated by newspaper articles and not the wider range of source types Fran had hoped to see. This may have been a result of the limited guidance for a new, unfamiliar assessment type. Yet, few students took the opportunity to ask for support despite Fran frequently reminding students that she was available to support students should they need it.

Fran required students to decide on an appropriate, professional format for submitting the task. However, only two students submitted it in a bound format that could be marked easily. Others used clear pockets, or put all the articles into one envelope without any sense of order. This lack of consistent format created a marking nightmare for Fran as she sorted through the piles of paper submitted.

An unforeseen outcome of the PR&LL task was that course readings were largely neglected. Fran had allowed the inclusion of three course readings but specified the task should include predominantly self-selected sources. Because students focused on PR&LL readings, they neglected the course readings, so found themselves cramming before the exam:

> *It didn't encourage you to do the reading for this course, because you had to find all your own articles. By the time you had done this, you had already done a lot of reading, so it persuaded you to not actually do the set readings each week in the library (SSV/2-2/C1/B).*

To improve the assessment, students suggested the more important course readings be included in the task to ensure they were read.

Fran was not impressed with the PR&LL in Cycle One. Students found numerous sources, but the majority were from newspapers, and few students used non-text-based sources (for example, radio interviews) or scholarly articles. She recognised that extra reading was done, but the dates the articles were printed indicated that many PR&LLs were completed in the week they were submitted. With only one source per week being commented on, she could not determine whether or not students had actually read the piles of texts submitted. She was also frustrated by the poor quality writing, and the lack of critical reflection and ability to identify the Planning issues.

6.10.2 Cycle Two: Modifying the PR&LL

In Cycle Two, the PR&LL assessment was re-used, but was substantially modified and reduced to a 10% weighting. The revised log had a clearer focus on IL development and reflective learning. Adjustments were made to ensure that it became a more useful assessment and learning tool for both Fran and her students.

Students were provided with clearer guidelines on appropriate sources, but the onus remained on them to identify relevant sources and seek help should they need it. In the modified PR&LL, Fran specified five types of sources to use, including a section from her new course textbook (written specifically to complement this paper), a journal article, a *Planning Quarterly*[25] article, a newspaper article from a selection posted on the course website, one course reading and one source of their choice. The journal and *Planning Quarterly* articles were self-selected, but Fran also suggested relevant sources in class.

The modified PR&LL consisted of 10 sources assessed via a two-part submission process. The changes to the task aimed to reduce quantity and focus students on quality. Five sources were submitted mid-semester (5%), and Fran provided formative feedback on any lack of critical analysis or concerns over quality and type of sources being selected. The remaining five sources

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[25] A NZ professional Planning publication.

were submitted at the end of the semester (5%). Fran looked for evidence that the feedback from the first submission had been applied and, if the quality of the second submission had improved (showing learning had taken place), then students received the higher mark; for example, 3/5 on the first submission and 4/5 on the second resulted in 8/10 overall.

Student feedback in Cycle Two suggested that the inclusion of the PR&LL supported extended reading and helped them connect their course content to the real-world. When asked about the purpose of the PR&LL in the survey and focus groups, similar themes to those identified in Cycle One were seen (Table 22).

Table 22: Cycle Two - Purpose of PR&LL Themes (Cohort C)

Theme	No of comments
Expand / broaden Planning knowledge	7
Keep up-to-date with Planning issues	6
Assess / identify / analyse Planning issues	6
Apply knowledge to the real world	3
Encourage more and wider reading / improve reading habits	20
Develop writing	1
Develop critical reading skills	3
Practice accessing good information / become familiar with Planning articles and papers	2

In Cycle Two, most students saw the purpose of the PR&LL as broadening and extending reading habits. Expanding and applying knowledge and keeping current with Planning issues were also identified, along with the impact of developing critical reading and increasing familiarity with Planning resources.

This group identified additional purposes including being able to identify the Planning issues within the sources, and being able to assess and analyse the extent of the issues. This suggests exploring fewer sources in more depth aligned the task more with the outcomes it was designed for:

> *It confronted you with the issues; it said "tell me a Planning issue – give me knowledge", and it made me read more to do with Planning. Instead of just reading something and going 'oh that had Planning issues', [we had] to actually go 'what was the Planning issue? Tell me, explain it to me, give it to me in depth'. So I found that really helpful for understanding (SFG/2-2/C2/C).*

The two-part submission process was viewed as very valuable by most of the students (96% of respondents indicated it was very (36%) or extremely (60%) useful). Survey comments suggested it allowed the students to clarify expectations for the task, reduced pressure, made the task more manageable, and allowed students to spread the workload across the semester (SSV2-2/C/C2/2011). Feedback helped students improve the second submission:

> *It's noticeable in what I ended up producing that it wasn't really the way to go because the issues weren't very good to write about. I didn't have a range of information. The next time I looked at it, I wouldn't say I grabbed heaps and then read them and picked a few, but I'd read one and go 'oh no I can't use that' and so instead of just writing about it, I went and found a better article to use … and picked one from the ones I'd read, the ones I wanted to write about (SFG/2-2/C2/C).*

The promise of being awarded the better mark of the two submissions provided motivation to use the feedback to learn. One student said:

> *I thought it was pretty fair the way she decided to give you whatever mark was the higher of the two; I thought that was a good system and it's fair and works for me. It gives people an incentive to improve (SFG/2-2/C2/C).*

Following the feedback from the first submission, students indicated they:

- added more detail on content and relevance to Planners

- did more critical analysis

- adjusted source selection to find texts more connected to Planning

- identified distinctions between academic and professional journals

- focused on writing clearer summaries

- reduced repetition and focused on better editing for spelling and grammar.

When presented with the option of a model or exemplar rather than the earlier submission, most of the students preferred the two-submission process so they could get feedback directly related to their work:

> *I liked the feedback. I would prefer the feedback … to a single model and then you hand it all in. I liked having a checkpoint. As to whether that reflects on my mark or not, I found I personally did better in the second half (SFG/2-2/C2/C).*

The new format of the assessment meant that the need for guidance was not a strong theme in Cycle Two. Students appreciated direction towards relevant sources, but also valued self-selecting two items that interested them, even though they were not always confident with these selections.

Table 23 shows that students' established reading habits were similar to the Cycle One students; that is, most read to complete the course requirements or assessments, but few students extended reading beyond assessed tasks.

Table 23: Cycle Two - Students' Established Reading Habits (Cohort C)

Q4. Which statement best describes your reading habits?	
a. I always read all of the recommended and provided readings for my courses to both expand my knowledge and complete assessments. I often search for extra readings as well out of interest.	1
b. I often read the required readings for the course, and find at least 8- 10 sources for any assignment.	8
c. I only read to complete assessments, but often read widely on the topic being assessed (more than 8 sources).	12
d. I only read the minimum required to complete the assessment (often only around 5 sources) and hardly ever read the required readings.	2
e. I hardly ever read the recommended readings and I usually rely on 1-2 key sources to complete assessments.	2

Similarly to Cycle One, most students indicated they read more than they would have otherwise because they were being assessed for it:

> *[The PR&LL] is worth having. I talked to people who took the course last year, and they didn't really do any reading. One of the reasons was because it's in the library and a pain to go and get it out. They'd only do one or two (SSV/2-2/C2/C).*

However, this time 14 /25 students said they read 'a little more' and only 8 indicated they 'read a lot more' than they would have otherwise. Four students indicated that the PR&LL had had no impact on the amount of reading they would usually do. This difference may be due to having to complete only 10 items, rather than the mass of articles presented in Cycle One. The one student who felt there was little impact on the amount of course reading done indicated it was because few of the course readings were part of the PR&LL.

However, on the whole, the inclusion of key course readings in the PR&LL meant more were read. This may also have been because the readings were accessible from the course website, therefore more easily accessible than the book held on library desk reserve previously.

A positive outcome was that students indicated the extended reading had contributed to knowledge development because they had become more aware

of Planning issues, particularly Māori issues and other real-world considerations, and had identified interesting ideas and new concepts. One student had recognised the importance of developing a regular habit of reading for learning and future professional development:

> *Throughout the semester, [Fran] kept bringing up news stories and stuff about changes to the RMA, sort of 'Who's read this?' and no hands would go up. So it shows that you can't just do the work at university, and then just forget about it and go about your daily business. There's going to have to be on-going professional development otherwise you'll soon be at a disadvantage or not be able to do your job properly if you don't keep on top of that. So it sort of establishes that habit (SFG/2-2/C2/C).*

The only student who said the PR&LL didn't contribute to knowledge development commented that this was because s/he:

> *didn't indulge in the readings fully (SSV/2-2/C2/C).*

The main challenges with the task were not connected to students, but rather to Fran's impressions of the outcomes of the task and the increased pressure from the two-submission marking process. Student feedback and Fran's reflections revealed inconsistent views of actual learning. While student feedback was largely positive around the impact the PR&LL was having on their learning, Fran did not see this supposed extension of knowledge being applied in other assessment tasks or in increased participation in class discussions.

> *One of the problems we have is that I certainly never saw any evidence of much reading. And I think certainly nothing came through in the exam that suggested much reading (IMN/Fran/C1)*

The marking of the PR&LL also remained a concern for Fran. It took some effort, and time for reflection over the summer break, to convince Fran that formative feedback would support students' learning. Initially, she was very reluctant to have an early submission due to the extra marking and concern over spoon-feeding students:

> *I'd rather throw out the assessment than have to do that (IMN/Fran/C1).*

However, after further discussion on the support students needed to benefit from this task, Fran decided that a two-part submission was a better alternative to a model of the task, as she saw models as:

> *an opportunity for students to mimic what others have done and not think for themselves (IMN/Fran/C1).*

Although the new format significantly reduced the amount of paperwork submitted, the marking workload did not significantly reduce, because a comparison of the two submissions was needed to judge any improvement. Although the PR&LL was retained, the value of the task weighted against the marking workload remains a concern for Fran.

6.10.3 Final Outcomes: Course 2-2 Interventions

The introduction of the PR&LL gave Fran insights into the types of sources students were accessing and an understanding that, even at second year, students needed guidance towards appropriate information sources. In Cycle One, it became obvious students were relying on newspapers and website information and were selecting very short readings. Fran could see that the journals students were accessing were not the ones she had expected. In the following class, Fran explicitly introduced them to the range of Planning journals available, and advised which were suitable for their current level of understanding. This was to help those students who relied on the internet to recognise accessible scholarly sources, but also to warn of the complexity of some higher-level journals even she struggles to read and would certainly expect second year students to avoid. She had assumed that students would have been introduced to journals earlier in the degree and saw this as another example of the lack of understanding and communication within the programme.

The PR&LL was developed to encourage students to read more and to make connections between course content and the real-world. Fran had hoped extended reading would allow students to make more informed decisions when conducting the more practical assessments within the course. Formative feedback gained through a two-submission marking process helped clarify requirements and improve the quality of the second submission. While this process added to the marking workload, Fran recognised enough improvement overall to keep the PR&LL as part of the assessment.

While students indicated that the PR&LL task was useful in encouraging extended reading and connections to the real world, the level of critical thinking Fran hoped to see in their analysis of the issues was still missing. Therefore,

196

she continued to modify the task in the semester following the completion of this research by adding a reflective component to encourage further thought around the learning gained from completing it.

6.11 Carl – Course 3-1 and Course 4-1: Focusing on Research, Writing and Reflective Learning

Carl taught third and fourth-year students, and had been repeatedly disappointed with both the content and lack of critical thinking displayed by the students in his courses. Teaching at the higher levels meant Carl had high expectations that students would engage with content and apply learning to the assessment tasks. However, although the academic demands on learning for BEP students increased at third year, limited scaffolded support was in place to support students to understand the changing expectations. Through discussions, we were able to link the concerns Carl had to students' under-developed IL competencies, particularly evaluation and critical thinking. Because his expectations were not being met, and he felt continually frustrated by student performance, Carl was willing to explore the more holistic focus of IL to support his students to discover what being information literate in the Planning discipline meant.

Modifications were made to assessments to support IL development and reflective learning in Course 3-1 (Table 24). One of the key assessment tasks in Course 3-1 was a group report, including an oral presentation, with each group made up of five or six members. Over three previous semesters, Carl felt students were not accessing appropriate quality information and a small number of students were doing the bulk of the work. The group project created an opportunity to focus students on their research and learning processes for group work, research and idea development. Thus, the key assessment change for Cycle One was the addition of a group i-map to make group processes visible. In Cycle Two, reflective, formative learning tasks were added to the existing assessments.

197

Table 24: Changes to Assessment in Course 3-1

PRE-RESEARCH		CYCLE ONE		CYCLE TWO	
2010		**2011**		**2012**	
25%	Essay	25%	Essay	25%	Essay
25%	Group Report (inc. 5% oral presentation)	25%	Group Report (**inc. group i-map** and 5% oral presentation)	25%	Group Report (inc. 5% oral presentation)
25%	Field Trip Report	25%	Field Trip Report	25%	Field Trip Report
25%	Viva voce exam	25%	Viva voce exam	25%	Viva voce exam
					5% from each assessment is for reflective learning tasks.

The following section outlines the individual interventions for Carl's two courses, 3-1 and 4-1, and then a seminar attendance initiative integrated into both courses.

6.11.1 Course 3-1, Cycle One: Developing the interventions

In Cycle One, a group i-map was implemented to encourage students to carefully consider source selection, plan the presentation, and reflect on on-going group processes. The i-map had been successfully used for this purpose in group report projects for a first-year science communication course (Emerson et al., 2008), and had been implemented in Course 1-2 as part of this research. Feedback from Course 1-2 had shown that submitting the i-map with the final task had made it an ineffective tool for focusing on the process during the task completion (see 6.9.3), and offered students no opportunity for feedback prior to submitting the main assessment task. Therefore, I suggested that the group i-map be used in a 15-minute tutor clinic with Carl before groups did their presentations, so he could monitor source selection and give constructive feedback on content prior to the assessed oral presentation. However, due to time constraints, Carl decided it should be submitted with the report and discussion on the group-work processes would be part of the final oral examination.

Students were introduced to the group i-map in the course outline as follows:

> Each group will also present its own information map (I-Map) that presents visually the process of gathering information and developing ideas for the group report. It is a work in progress and should be created as the group proceeds and not at the end. The I-Map will be handed in with the final report and students will be asked to talk to their group's one as part of the oral exam. See [the course website] for material preparing and examples of i-maps (COL/3-1/C1).

The use of the i-map to support the research process for the group presentations was not successful because it was not used to its full potential

and students completed the task retrospectively. As with Course 1-2, the task was used as a summative view of the process rather than as a process-focused formative feedback tool. There was no discussion in lectures about what the i-map was and how it contributed to students' learning. It was handed in with the group report with no formative feedback during the process and, therefore, it effectively held no purpose for the students:

> *S1: I did it a day before it was due. I found it quite easy and fun to do. I thoroughly enjoyed it, but I only did it because it was a requirement to hand in.*

> *S2: It just took time to do something that didn't really teach me anything. I didn't see how it was beneficial (SFG/3-1/C1/B)*

Student feedback echoed the comments of the Course 1-2 students: they completed the i-map retrospectively and felt it didn't represent their process or support them in the presentations. The lack of formative feedback meant they were still unsure of the expectations around the group project task, including the oral presentation and the i-map:

> *If we did have it for our presentation, I think it would have been easier, and if we had done it properly before we did the report, it would have made everything so much easier. But we didn't know we were meant to do it entirely beforehand (SFG/3-1/C1/B)*

Carl liked the visual aspect of the i-map, but he didn't feel that it contributed to significant improvement in the group projects and he was still disappointed with the presentations and reports overall. He recognised he didn't use the i-map to its full potential. Once the course started and content delivery became the priority, the group i-map was neglected. Carl hadn't realised the amount of guidance students would need to make this a useful tool for visualising the research process and encouraging critical thinking. He also didn't see potential in early submission and discussion of the i-map to monitor progress within the group task. The group i-map was not used the following semester.

6.11.2 Course 3-1, Cycle Two: Rethinking how to focus on process and reflective learning

Although the i-map had not promoted a focus on process and reflection, Carl realised that students needed to think reflectively during task completion to support their learning. Reflective activities provide learning for both the students and instructors: when we can see what our students are thinking, we can

identify gaps in both their knowledge and learning processes (see 3.3.7). Therefore, we decided to add reflective tasks that would require students to focus on the research and writing process as part of each assessment.

Reflective and critical thinking began in the first class with a simple activity which asked students to write down three questions they wanted answered during the course. The questions were then put up on the whiteboard and grouped by theme. This activity meant that students were immediately asked to consider what they wanted from the course – even the student who asked "*What is this course about?"* and another who asked "*How do you pass this course?"* Carl then typed up the questions and revisited them in the final class to see if the students could answer them. Carl was impressed with the outcomes of the reflective task:

> *This was a simple exercise that I should have thought of before. However, it is one I shall continue using. Frankly, thinking about it, my lecturing style is a bit like a jazz performance – I have my chord chart, the tune and then jam over the chords! Hopefully this can lead to more exciting sessions with the students as I am able to, as a performer, feed off the audience – but not all days are so inspired! Anyway, I mention this, as on Monday, with the 3rd years I suddenly realised that the material the students were providing (i.e. writing up on whiteboard the top questions) was actually very good material for introducing the paper. I ditched my original exercises (the prepared riffs, if you will), and went into improv mode! I hope that it helped the class connect more – demonstrating how what they wanted fitted into the course. I then typed up and grouped the collected questions after class – **and gave me a good idea where they were coming from, the generality of their understanding and expectations. Very useful.** (IRF/Carl/C2), bold emphasis in original)*

Carl's key concern was students' apparent lack of critical thinking, which strongly connects to a lack of reflective thinking about learning. Therefore, Carl allocated 5% of each of the four key assessments to reflective activities that focused on source use and learning processes in Cycle Two. The students were introduced to the tasks in the course outline as follows:

Professional Reflective Learning Log

The learning log:

- is a record of **your thinking**
- can help you make connections to your previous knowledge and new information you are learning.
- will ask to make informed choices when selecting information sources to use in your assessments. It will also ask you to reflect on your information seeking behaviours as they develop throughout the course.
- will help you make sense of the reading you are doing for the course and to make deeper connections between what you are reading.

Your log entries can be:

Personal - self-understanding and meaning
What am I learning about myself?

Subject - subject-matter understanding and meaning
What am I learning about the subject being studied?

Critical - contextual understanding and meaning
What are the broader implications of my learning?

The log will include guided entries and your own personal entries. Your entries should be descriptive and critical / analytical – both what I am learning? and Why? + How?

The guided entries will be submitted **as a part of the assessments they are connected to**, and the personal entries will be summarised into a short, reflective essay to be submitted at the end of the course before your oral exam (COL/3-1/C2-bold in original).

Carl and I created a detailed information sheet that provided the rationale for the reflective tasks and suggestions on how to complete each of the reflective components of the assessment, which was provided on the course website (Appendix 12). Tasks were scaffolded so that students would receive formative feedback on the first task, but as they progressed through the course, the reflection would become a tool for supporting their own learning rather than a formative feedback exercise.

Students recognised that the reflective tasks were introduced to encourage reflection on learning. They indicated that they recognised the purpose as being asked to focus on process, better engage with sources, and reflect on their learning:

> *I think it might encourage some better work habits because you have to have done some planning and looked at some sources or thought about the task probably much earlier than I probably would have (SFG/3-1/C2/C).*

> *The purpose was to analyse those sources in more depth rather than just picking ideas from them and chucking then straight in the essay … actually thinking about them (SFG/3-1/C2/C).*

In the Course 3-1 survey, 21/25 students indicated they would not have reflected on the process learning in this way if it was not part of the assessment. It was useful for exploring the question and planning the task in more detail than they would have if the task didn't require it.

The most value for the students came when they received formative feedback on the first task. However, they did not value reflection without formative

feedback, because they did not know if they were approaching the task correctly, and assessment marks did not improve despite them keeping a record of what they did. This suggests students did not know how to be reflective (see 3.3.7). They felt the feedback could have been more detailed:

> *[It was] useful by proving reflection on our work and, through reflection and feedback, realising strategies to improve my research and writing (SJN/3-1/C2/C).*

> *It is good for those people who have completely missed the mark, but for people that are still wanting to improve as they go through the course, they still need, like 'this is relevant but have you considered this aspect?'… It helps encourage and broaden what you are doing. If he is just reading it and saying it's fine, but not really giving any ideas or encouragement of how you can improve from a B-grade to a B+ or A- … that's what we really want to achieve (SFG/3-1/C2/C)*

However, most negative comments related to the task being time-consuming and repetitive, particularly the source justification section as there was no feedback on whether they were actually selecting appropriate sources or not:

> *The second and third ones were useless really. We didn't get marked on them or feedback so they were just an extra bit of work really (SFG/3-1/C2/C)*

The support needed to understand *how* to effectively reflect on learning was missing from the reflective learning tasks, and some students indicated a clear lack of purpose for the task. I discovered during the focus groups that most students did not understand the purpose of the continued reflection, and several had not seen the information document provided. Reflecting for self-development as an aspect of learning had not been emphasised for these students since they began university. Therefore, keeping records of processes and reflecting on learning was seen only as extra work.

Student concerns around time taken to complete the tasks and the marking meant that Carl opted to drop the reflective tasks from the assessments as the course progressed. Carl was not willing to mark each of the four submissions, as the reflective tasks were supposed to encourage students to reflect on their own learning without needing extensive feedback from him.

6.11.3 Final Outcomes: Course 3-1 Interventions

Unfortunately the intrinsic value of learning from reflection did not emerge for these students, despite being in the third year of their academic degree. Developing reflective learning habits takes time and was an aspect of learning

these students had not been required to explore in the previous two years of their degree. They seemed to lack a clear understanding of how they learned, and rather focused on the content and getting the assignment done. Student comments suggested that they take a strategic or surface approach to task completion, rather than engaging with the task at a deeper level, which reflective learning requires (see 3.3.6).

Although the research is completed, Carl has recognised that reflection on tasks is where learning happens, and is willing to develop ways to better use reflection to support learning and develop critical thinking. Our conversations are on-going.

6.11.4 Course 4-1, Cycle One: Experimenting with Experiential Learning

By the fourth year of the degree, Carl was expecting students to be competent finders and users of information, and to be able to evaluate, critically analyse and reflect on sources they were using. He wanted them to think critically and use information to create knowledge and produce new information and ideas for their discipline. They also needed to be able to communicate this information effectively in an appropriate format for the given task. These expectations connected with the more holistic views of IL. However, during his three years of teaching, Carl had been repeatedly disappointed with his fourth-year students' performance both with class engagement and assessment tasks, particularly those requiring critical thinking and quality source use. Therefore, in 2011, he decided to completely revamp his fourth-year course and assessment, and put the onus of learning on students via an extensive group experiential authentic learning exercise.

Carl organised a contract for an investigative report from one of the NZ local councils for the students to conduct. The task gave the whole class of 25 students the opportunity to work collaboratively on a report for a client in a real-life context. Carl recognised that this was an experiment and that it would be challenging for both himself and his students.

Students were introduced to the task in the Course Outline as follows:

Introduction

This course explores natural and physical resource planning and policy within the New Zealand context. This year [C4-1] is largely self-directed study emphasizing experiential learning within a class and group work environment. The focus and core work of the course is preparing and delivering our contracted class Report to [the client]. This will require understanding and applying that understanding to address how different economic sectors use natural resources, the environmental consequences of that use and how resource users' behaviours are managed in New Zealand. I would expect knowledge of both Resource Management Act and Department of Conservation and minerals legislation to be developed and applied (COL/4-1/C1).

The project had both knowledge and skills learning objectives, with a strong focus on developing both IL and communication competencies:

Knowledge Objectives

At the completion of this course students will

- have a critical understanding of key principles for managing natural resources;
- understand intentional influences on natural resource planning and management in New Zealand;
- be able to evaluate different processes and approaches to natural resource planning in New Zealand;
- have a critical awareness of the role of decision-making processes in natural resources management;
- have a strong awareness of group interaction and dynamics and leadership necessary for completing team-based projects successfully.

Skills

Students are expected to become competent finders and users of information, able to evaluate and critically analyse and reflect on sources they are using. Students need to:

- use information to create knowledge that they then apply critical thinking to in order to produce new information and ideas for their discipline;
- be able to communicate this information effectively in an appropriate format for the given task;

Students will also learn skills for working effectively in groups both through understanding group dynamics and how they individually participate within collectives (COL/4-1/C1).

While Carl had designed the report task and set up the context for the research to take place, he was unsure how to assess the experiential learning involved in the task completion. The final report was only one outcome of the process – the main learning would come from the self-directed experiential learning of working as a group, negotiating deadlines, keeping effective records and learning reflectively. Thus, the focus of the interventions for Course 4-1 was on creating and designing the new assessment for the experiential learning project (Table 25).

Table 25: Changes to Assessment in Course 4-1

PRE-RESEARCH	CYCLE ONE	CYCLE TWO
2010 20% Essay 40% Report 25% Oral exam	**2011** 20% Essay 10% Group Project - Timeline 40% Group Project - Report (inc. Video presentation /Final written report) 20% Group Project - Client Folder 10% Group Project - Reflective Practitioner	**2012** 20% Essay 10% Group Project - Timeline 40% Group Project - Group Report Video presentation / Final written report 10% Group Project - Client Folder 20% Group Project - Reflective Practitioner

The assessment was designed to highlight and support key competencies that students would need as Planning practitioners, including professional IL, time-management, record keeping, and reflective practices. The 2011 course outline presented the group report assessment tasks as follows:

Project Timeline (10%)

Groups will create a timeline and have a **3 weekly submission** to show what has been completed, and what is not done and why. This will be used to ensure each group is completing their section of the workload. Groups will present on key findings so far in the one hour class. This is an opportunity for resource sharing - as students research for their section, they may find something relevant to the other groups' topics to pass on.

Client Folder (Portfolio) (20%)

Each student will provide a Client Folder. This should include all meeting notes; source evaluation and critique; records of correspondence between group members and with outside bodies. This may take form of a print-out of the blog perhaps as a record of the discussion that took place. I would suggest MS-Office OneNote as an ideal means.

The Reflective Practitioner (10%)

Personal and professional reflection on the process of your learning and completion of the task at hand. Successes/Challenges/Techniques/Skills Development. What have I learned from doing a project like this in terms of both successfully completing the task and about myself as a Planner? (COL/4-1/C1)

The successes and challenges of this experiential learning task are discussed together here, as the successes were often connected to a challenge. Student engagement in the project was high as the realism of this project caught their attention and they put huge efforts into ensuring they had a successful outcome:

For our group anyway, they were always concerned about wanting [the client] to actually read it and take away something from it rather than it just being a project from [university] (SFG/4-1&D/C1/A).

205

The students were advised that if the report was written to a high standard, their findings would be used by the client, and this could go on their curriculum vitae. While the prospect of delivering to a real client both excited and scared the students, it definitely engaged them throughout the whole semester.

However, this effort did come at the expense of their coursework in other courses, particularly the Course 4-D capstone research projects and a large design project in another fourth-year course. By the middle of the semester it was clear that the majority of the students were not managing the workload and were neglecting their capstone projects:

> *I feel I am being bogged down with other assignments and have not spent very much time on my honours in the last couple of weeks. This worries me very much. The other two planning papers this semester have quite large group projects which I feel I spend all of my time on (SJN/4-1&D/ /C1/A).*

> *I keep putting off Honours for other projects because I know next semester I'll only have 3 papers instead of four (SJN/4-1&D/C1/A).*

The students' focus on this one project at the expense of other coursework caused discontent among other BEP staff. Staff complaints about the task to the programme coordinator, and to me as the researcher, were relayed to Carl. He thought the workload hadn't increased and students would have sufficient time do other course-work if they were managing the task effectively. He did, however, recognise that the experiential learning focus was experimental in this context and for these students, and considered the implications of this going in to Cycle Two.

Towards the end of Cycle One, faced with the reality that students were not managing their workload, Carl recognised students needed much more guidance, particularly around selecting quality sources and managing group relationships. It seemed some students who were used to 'being taught' struggled with the self-directed aspect of the project:

> *The students have not engaged with the information sources as much as I had anticipated and only now am I getting requests for information, and so I am actually asking for information, anticipating their needs. I would do more of this, sooner, next year in retrospect. They don't necessarily grasp what is needed, the length of time that getting real-life data and reports take, and also they were not really engaging in the project in any depth to realise what was needed until about two weeks ago (week 5) which is too late for a 12 week semester.*

The 'on-demand' lecturing has not been particularly successful – they have appreciated the lectures that I have given them (ethics, ETS[26]), but they are not stepping back to think about the wider, scholarly component of this work. I will have to be more proactive next half-semester (IRF/Carl/C1).

Student comments to Carl also suggested that student groups maintained a competitive rather than collaborative approach to the task completion. Furthermore, drafts of the report showed more guidance was needed on what to write in a report of this scope and size. Carl summed up his thoughts in the following reflection:

I have the final 4th year 'individual' group reports in and am going through them – they wanted me to have them before they compared reports to combine to make a final report, to stop any group free-loading (their request!).

I have looked through them, and realise that I have left them alone a bit too much in their report writing: there is a lot they do Not understand. I had expected them to go and look at published reports (they have read them after all) and use them as models, but this has not happened.

I have decided to go through some aspects tomorrow (Tuesday) of their reports, not to castigate, but point out how to sharpen up – that they can also use to sharpen the final report, as well as learn from.

I am concentrating on:

- *The purpose of a report and consultant*

- *Intros – setting clear purpose and clearly identifying client*

- *Conclusion – needs to be one*

- *Recommendations – they need to nail down quite specifically who does what.*

I am also rather surprised and disappointed to see that in the background sections they have completely avoided using any hard data. I had made verbal comments early on about using Statistics NZ data, but while they write about how dairy herd has increased, they don't quantify it, even though there are lots of data available (MAF[27] and Statistics NZ). I suspect this reflects a fairly widespread significant numeracy weakness – [an instructor] who takes Planning Methods …focuses on basic excel spread sheet, which is where they are at. It is pretty concerning, though.

Also, they are also fairly timid about pushing the boundary. This might be across the board – in my third year group seminars, one group gave a bold but very sensible "ideal" recommendation, but then said, well this won't work, so this is what we suggest instead – which was weasel words. Aargh!

I think next year I will spend time in the class progressing the basics week by week and spend workshops on things like writing recommendations. I will also spell out much more my expectations of what should be in the report – like numbers!!! (IRF/Carl/C1).

Despite the challenges, Carl felt overall the experiment with experiential learning was a success. It inspired a level of engagement not seen in previous

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[26] Emissions Trading Scheme
[27] Ministry of Agriculture and Fisheries

classes, and encouraged students to move beyond surface and strategic approaches to task completion. Although challenges arose around supporting students through such a high-challenge task, the ensuing reflections were used to make key changes for Cycle Two.

At the completion of the project, and on reading the students' Reflective Practitioner tasks, Carl realised that there were common challenges identified by the students. He felt that there needed to be some closure to the task and learning. As feedback, Carl created a detailed 'Reflection on the Reflections' document (Appendix 13). One student's comments on the document showed how the feedback was beneficial at a personal and professional level:

> *The feedback [Carl] gave was amazing. I read it all thoroughly- it's the best feedback I have ever gotten for a piece of work. It was really constructive and insightful. I have saved the feedback documents, and plan to refer to them in the future. Furthermore, the entire document(s) were beneficial to read - not just the info that was directly applicable to my group. … [Carl's] feedback on the reflective practitioner is good for many reasons. It showed me what others got out of the project, and other's views on dynamics within the class. The feedback could potentially come in useful in a job interview when asked scenario questions such as 'give me an example of a time you did something challenging that you thought you may fail at, and how you achieved it' or 'give us an example of a time you experienced conflict, and what you did to resolve it', etc. (SJN/4-1&D/C1/A).*

Carl recognised that, although we can provide opportunities and provide feedback on reflection, the onus lies with the students to engage with reflection to benefit from it.

> *Those who put in the effort really got personal benefit out of it. And those who just did two pages of tripe just wasted two pages of ink (IMN/Carl/C1).*

6.11.5 Course 4-1, Cycle Two: Greater support for experiential learning

Minor changes were made to the Group Project for Cycle Two, and a contract with a different council was established. In the first class, Carl repeated the introductory task he had done with his third year class, but focused on topics students wanted reviewed. Again, these were used as a guideline for where students needed support in content development. This activity allowed Carl to see gaps in the knowledge he had expected the students would have brought to the class.

> *The 4ths were a bit different – we didn't write [the questions/topics] up on the whiteboard. I identified some ambiguity in intention when I typed them up – some were*

208

looking for big questions to have answered, some were just nominating a lecture (though the two are related!!) The questions were much more specific and focused, unlike the 3rds, so clearly they must have learnt something from last year! But also I was a bit surprised that some of the questions I had expected to have been answered last year – so either I didn't get it across, or they have only realised subsequently that they didn't fully get it – or both!!!!! (IRF/Carl/C2).

Where he explained the rationale of the project, Carl used students' reflective comments from the previous semester to indicate some of the challenges former groups faced, so current students could pre-empt them

The main change in the assessment was reversing the weighting of the Client Folder (10%, formerly 20%) and Reflective Practitioner (20%, formerly 10%), so that the reflective aspect of experiential learning was emphasised over the recount of the process. The purpose of each of these assessments was provided in the course outline:

Client Folder (Portfolio) (10%)

Due: 1 June

Each student will provide a Client Folder. This should include a timesheet, contribution to project all meeting notes; source evaluation and critique; records of correspondence between group members and with outside bodies. This may take form of a print-out of the blog perhaps as a record of the discussion that took place. I would suggest MS-Office OneNote as an ideal means.

The Reflective Practitioner (20%)

Due: 1 June (about 1,500 words)

Provide a personal and professional reflection on the process of your learning and completion of the task at hand in completing this course and the project. Reflect on:

- Successes/Challenges/Techniques/Skills Development
- What have I learned from doing a project like this in terms of both successfully completing the task and about myself as a Planner?

You need to review your own performance within your group and class and reflect on your own growth as a young planner.

This is a substantive piece of work that should not be taken lightly nor left to the end of the semester. To undertake this exercise successfully you will need to note your thoughts and experiences as a diary as you undertake the project regarding why you think the project and your group is performing the way it is, and more importantly, how you are performing and growing. (COL/4-1/C2)

Learning from observation and reflection, Carl was able to provide greater support to students throughout the experiential learning process in Cycle Two. The activity in the first class, where students identified topics they wanted reviewed, allowed Carl to tailor the point of need lectures to the specific needs of the students. Carl was also aware of challenges previous students had faced,

particularly around time management, and was able to promote 'working smarter' over 'working longer' using a time/cost analysis as part of the Client Folder.

Again the realism of the project from working with a real client impacted on students' approaches to source selection and information use:

> *I think the importance of it not just being a scenario, but actually producing it for someone. You didn't want to get the wrong information and you didn't just want to take everything everyone said. You want to make sure it's correct, especially when you are working with their plans, they'll know if you miss something (SFG/4-1&D/C2/B)*

The reflection themes mirrored those from Cycle One, particularly around group communication and working productively towards a common goal. A key challenge Carl and I identified was the extent to which students struggled with self-directed learning. Carl provided more guidance on structure and group management, but the onus was still largely on the students to manage the task. Despite the increased support, feedback indicated that students felt the guidance Carl provided was minimal. This class struggled with group dysfunction initially, but managed to implement strategies to overcome this. The following focus group excerpt suggests that, by the end of the project, students recognised that having to navigate the process largely unguided contributed more to their learning:

> *S1: Well, at first it was quite frustrating with [Carl] just not doing anything; just like sitting back and waiting for us to make a move and then we kind of thought that he was the lecturer so he would steer things and then we went and talked to him and he was like 'no, I want you guys to have control, [and] steer it yourself' and that's when we started the class discussions.*
>
> *S2: I don't think we fully understood the concept at the start.*
>
> *S3: We didn't realise it was for us to take into our hands to produce, to work as a class, to get it together. We thought it was still like that lecturer-student kind of mentality and that he was going to lead us and tell us kind of what to do next.*
>
> *S2: And there was no formal layout or anything like that.*
>
> *S1: But once we realised, we started getting communication going. I think we progressed, but it would have been better if we had at the start.*
>
> *S2: But in hindsight it was helpful for us to figure that out ourselves (SFG/4-1&D/C2/B)*

During their studies, most students appeared not to have acquired the level of independence needed for such a large group project. One student recognised this weakness in the class as a whole.

Challenges – about 80% of the class are sheep, and it makes getting a decision that is logical and takes into the good and bad sides of it VERY difficult. And half the class hardly talks unless forced to, and half of them have very little opinion (SJN/4-1&D/C2/B)

Some students felt stronger students were controlling the project and wanted Carl to take control of the class. However, the following excerpt from Carl's 2012 'Reflections on Reflections' shows how he addressed this tension:

As I lecturer, I purposely refused to intervene to direct the class, believing that the students had to take responsibility for the project. This paid off:

…there were some points where I wished the lecturer would intervene. This was when we could not make a decision as a class. However, when we finally did resolve these issues it was far more rewarding

Another also thought at first the lecturer needed to give more guidance and even guide group formation, but came to realise:

That this would be counterproductive and that we need to start taking responsibility for our own learning *(CHO/4-1/C1 - Carl's comments with student comments bolded)*

In reflecting on Cycle Two, Carl recognised that students in this class were having similar problems as the previous class, particularly around group work, communication, and working independently with little instructor guidance. However, the experience gained in problem-solving and working in groups made the task worthwhile.

Although the benefits of learning through reflection were evident, Carl recognised in their reflections that students focused on the negatives and what to do better next time, but did not celebrate the success of completing the report to a satisfactory level on time. Students seemed to view reflective and critical thinking as focusing on the negatives rather than recognising strengths in their learning. This may have been in part be due to the reflections being completed after the task was completed rather than during the process. Overall, Carl felt allocating 20% to reflection over record-keeping was beneficial.

6.11.6 Seminar Attendance: Considering information beyond printed texts

In 2012, Carl added a new component to both Course 3-1 and 4-1 to encourage students to become more aware of actively participating in the wider university context by attending research seminars offered in other disciplines to gain a broader perspective of research being discussed, with a view to connecting to

Planning if applicable. In connecting to IL, the seminars were seen as an information source on key ideas that have not yet been published, but which represent the most up-to-date research being conducted in the university. Attending seminars also allowed students to see how to present their own research, particularly for the fourth-year students who were engaged in other larger projects.

The task was outlined in the course outlines as follows:

1) Course 3-1: **Seminar attendance - bonus marks! (5%)**

Attendance sheet due: at oral exam

As third year students, you are now established junior scholars and should be participating in activities as part of the university community of scholars. Part of this is attending seminars presented at the university by visiting academics, staff and postgraduate students on their research. These seminars present cutting edge research and ideas, mostly not yet published. Most are held Wednesday 12:00 – 1:00 at different venues around campus.

If you attend **any** 5 seminars over the semester and provide a sheet giving for each seminar you attend the: date, time, seminar title, presenter, location and two key 'take away' lines that you took away from the seminar, you will receive 5 bonus marks! Concert recitals given as part of the Music Department series can be included. Note: this is a '5 seminars for 5%' offer or nothing! (COL/3-1/C2).

2) Course 4-1 - **Seminar attendance (10% at stake)**

Attendance sheet due: 1 June

As fourth year students, you are now in many ways part of the postgraduate body of students and should be participating in activities as part of the university community of scholars. [Description continued as paragraph one above].

I expect you to attend **any** 10 seminars over the semester and provide a sheet giving for each seminar you attend the: date, time, seminar title, presenter, location and two key 'take away' lines that you took away from the seminar. Concert recitals given as part of the Music Dept series can be included.

No marks are given for attendance, but 1% point will be deducted off your final grade for each seminar missed (e.g. attend 10 seminars, keep your final grade; attend 3 seminars, lose 7% points off your final grade) (COL/4-1/C2).

As shown in these descriptors, the task was presented as an optional task for the third-year students, but with the offer of bonus marks for attending. For the fourth-year class, attending the seminars was allocated 10% of the final grade for the course, and, therefore, an expectation to attend was evident. The grade allocation seemed to encourage students to participate, but overall, it made little impact on the final grades:

> As they all did it, it became a 'grade qualifier', and so was only important if not undertaken. The net effect was that it made no difference to grades, but it helped make

them better scholars and interesting people … so I shall continue the requirement!!!! In future I will only penalise non-attendance! (IRF/Carl/C2).

The third-year students enjoyed the seminars and valued the extra marks gained for attending. The fourth-year students, however, had mixed feelings about the seminar attendance requirement. They found them an additional pressure on their time but also recognised that they were contributing to wider learning:

> *S1: I think we were a wee bit frustrated. I think everyone kind of did it. And I think that when I wrote up my learnings, they weren't necessarily great learnings, but they were definitely something I took away from it.*
>
> *S2: From my perspective I thought it was like an easy piece of assessment which is quite beneficial to us, maybe as a bigger person as opposed to anything, any course related learning. It was good (SFG/4-1&D/C2/B)*

Carl recognised the value of the seminars and he made explicit connection to key ideas into his classes to cement the value of the seminars as valid sources of information:

> *Several said that they had wished that they had attended seminars before, and that attendance made them feel more being a student and part of university life (ie 'junior scholar' in my words) … I made a point to go to seminars the entire semester, as if it was good enough to ask them, it was good enough for me, too - and to be seen to be doing my bit! In the process, I regularly saw a fair number of my students at the different seminars (different students each time, pretty much), and several times had interesting discussions with them as we walked back to SST afterwards. I was also able to reference points made in several seminars in class, that I knew a fair number (and me!!) had attended, to make a point in my own class (not the Greek vases!) (IRF/Carl/C2).*

6.11.7 Final Outcomes: Interventions in Courses 3-1 and 4-1

The thread of reflective and critical thinking was an important addition to both of Carl's courses, and when it worked, it worked well. The changes in Course 4-1 encouraged students to experiment and reflect on learning through the extended experiential learning task. As students worked in groups, they discussed ideas, shared resources, negotiated meaning and collaborated on an extended written group report. The emphasis on reflection for learning gained from the experience highlighted the process of research and collaborative writing and offered a means to reflect on challenges in group projects before students enter the workforce. Some students saw the value of reflective learning, but recognised it came too late in the degree. One student suggested that longitudinal reflection throughout the BEP may benefit learning:

The interventions developed for Course 3-1, however, did not effectively support students in developing and understanding their research and writing process. The group i-map was not successful in Cycle 1, and the reflective tasks developed for Cycle Two were not used to their full potential. This was in part due to Carl's initial lack of ownership of the tasks, and the balance of high-challenge, high-support not being met. Fortunately Carl sees value in modifying the Cycle Two reflective tasks for his 2013 course. Our discussions are on-going.

6.12 Jane – Course 4-D: Supporting Honours-Level Research Writing, and Learning

Course 4-D is a double-semester capstone course for all fourth-year Planning students, and is classed as an honours-level research project. Students are able to choose a topic to research based around a Planning issue they have identified and write an 8000-10000 word report. Students are assigned a supervisor to support them through their research project. Tutorials in the fourth-year course were designed to develop IL, research and writing competencies by offering a series of workshops on the research process including library skills (see 6.4.3), academic writing, developing research questions, and creating research designs. The workshops were taught by BEP instructors, librarians and student learning consultants.

Students were advised on the course website and in the course outline that the key outcomes of the course were to develop both research skills and the ability to understand research papers they will eventually use in the Planning profession:

What you are learning in this course is not just for the purposes of your own research project but in order to equip you to do research when you graduate and work as a planner. It will also help you to make sense of research which you will inevitably use in your work as a planner (CWS/4-D/C1).

As the learning objectives below suggest, doing research is just part of the work involved in this course. Other vital components of the Planning project include becoming familiar with research design, managing a project, and crafting a final report.

When doing the timeline for your project it will be necessary to allocate sufficient time to all aspects.

LEARNING OBJECTIVES
To conduct a study of an approved Planning topic which:
- Demonstrates the planning significance of the topic;
- Clearly defines a planning problem as a research question;
- Situates the planning problem within planning practice;
- Utilises research and analysis of relevant information;
- Reflects good project management skills; and
- Presents findings in a coherently written and well-structured report that is produced within the required timeframe, using appropriate written expression. (COL/4-D/C1).

6.12.1 Cycle One: Observing the existing course

Jane was a new member of staff in Planning, and new to teaching as well, coming from a professional Planning and consulting background. She inherited co-ordination of this paper and taught it in the existing format for the first time around, and thus Cycle One was an observation of this format with no changes made to the assessment. Data was collected from students to provide feedback on the course for possible future changes.

Observations from the Course 4-D workshops, and in Carl's Course 4-1 assessments, had indicated that while these students had progressed to the fourth year of study, the equivalent of an honours year, they were still not confident writers or information users. They still tended to rely on the internet for information and seemed to struggle with searching databases, preferring the more familiar Google and Google Scholar. They did not seem to understand the limitations of these search engines and what they were missing out on by not searching across all the different platforms available to them. As mentioned previously, student comments indicated they were also reliant on immediate full-text access, choosing to find something else if the text they wanted wasn't available online even if it did look like a relevant one for the task. The inability to access text online was one of their major frustrations (see 6.4.4.2). Student feedback on the existing workshops and assessment for Course 4-D suggested that changes were needed to support their learning. The students' main

suggestion for change linked to the first 20% deliverable[28] and a request for more deadlines during the research process to help them manage the task more effectively. Students felt the first deliverable was too early and that they hadn't clearly worked out their research questions with their supervisors by this stage. It was also due before the library workshop, and so the annotated list of key sources was required before they had been introduced to the skills needed to access quality information. They also felt that the assessment weighting of 20% was too high for this early stage of the research, and that a 10% deliverable would be fairer to those not progressing as quickly as others.

Following the first deliverable, there were no other set deadlines prior to the final report submission. Although students were working with supervisors, the supervisors were often busy themselves and allowed students to miss deadlines that had been set in the first semester due to the students' heavy workload in other courses. Therefore, students suggested that the first deliverable be later in the semester and be connected to the stage of the research process they should be at by the point of submission.

The second recommendation for change connected to the timing and delivery of the workshops. Students felt that having all the workshops spread throughout the first semester did not complement the timing of each stage of the research process. For some students who were progressing quickly, the workshops were too late; for those progressing more slowly, the workshops were too early and not relevant to their stage in the research process:

> *There were some at the start where they expected so much from us. We've only just figured that out later (SFG/4-1&D/C1/A).*

However, because students worked at different paces on their individual projects, it was difficult to schedule the classes to meet everyone's needs. In terms of class delivery, students suggested more time working on their projects in the workshops would be useful:

> *It would be handy if in those two hours I wasn't just sitting there listening to [the presenter] but actually doing something. Most people didn't even want to go to them because we weren't learning anything to be honest. If we had to work on our project that would be more helpful (SFG/4-1&D/C1/A).*

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[28] The tasks submitted as part of the assessment are called 'deliverables' in the course, connecting to language used in the profession for tasks submitted during a larger project.

Students indicated that two other large Semester One group projects (including Course 4-1) were negatively impacting on their progress on their research projects. The majority of those in focus groups said they had not made as much progress as they would have liked, but recognised the double-semester course allowed time for them to catch up during the mid-semester break and in Semester Two:

> *It's very challenging balancing the workload with all my papers, especially [4-D], a view I believe I share with the majority of my classmates (SJN/4-1&D/C1/A).*

6.12.2 Cycle Two: Changes to assessment

In Cycle Two, feedback from students was used to make small but significant changes to the assessment for the 2012 year. Because this was the capstone course, these changes needed to be supported by the programme coordinator, co-paper coordinator, and all the instructors involved in student supervision.

The changes in the assessment (Table 26) were designed to address the request of previous students to have more deadlines throughout the research process.

Table 26: Changes to Assessment in Course 4-D

PRE-RESEARCH		CYCLE ONE		CYCLE TWO	
2010		**2011**		**2012**	
20%	Problem / issue identification and annotated list of key sources End of Week 4, 3000 words	20%	Problem/issue identification and annotated list of key sources End of Week 4, 3000 words	10%	Draft Introduction & Literature Review & project timeline, End of Week 8, 2000-3000 words
				5%	10 Minute Oral Presentation of findings of literature review and value of research question, including brief outline of proposed methodology to answer question 2, Week 12 Semester 1
80%	Final Report 8000 words	80%	Final Report 8000 words	5%	Full Draft , Week 1, Semester 2 Project Management 7000- 8000 words
				80%	Final report, Week 5, Semester 2 8,000 words

The new assessment format spread the 20% weighting of the previous first deliverable across three smaller tasks throughout the research process. The first deliverable was moved to Week 8 and changed to a 10% draft literature review. The library workshops and literature review workshops were offered in Weeks 3 and 5 respectively, allowing students to have the following five weeks

217

(including the mid-semester break) to draft the literature review and meet with supervisors to discuss the draft prior to the submission.

An additional 5% task was added to the assessment for a 10-minute oral presentation in Week 12, Semester 1, to ensure the research was progressing at an acceptable rate and to provide an opportunity for students to obtain critical feedback on their research from their supervisors, Jane, and a third panel member unfamiliar with their topic.

A further 5% was allocated to a full draft submitted in Week 1, Semester 2, which allowed sufficient time for supervisor comments on the draft, and final editing by the student before submitting the final report four weeks later. The supervisor awarded marks up to 5% that reflected students' project management skills.

Student feedback on the Course 4-D assessment changes was generally positive. Although students still felt pressure from the other larger projects, they were able to meet the deadlines, and the timing was appropriate to help them progress through the literature review process during the first semester.

Focus group students indicated the oral presentations were a useful opportunity to clarify topics and they valued the feedback and direction from Jane and other panel members. Questions posed during the feedback helped students recognise areas that needed further clarification:

> *S1: I thought it was really useful talking about your topic. Because I had only ever had discussions with [supervisor] and then I now had [Jane] who was giving me different ideas and I got new things to work with.*

> *S2: [They] asked about heaps of other aspects I should be looking at and so I got all these different perspectives that's strengthening it but it created a whole lot of work for me. But yeah, it's really worked in quite well so I think it was good doing the presentation (SFG/4-1&D/C2/B)*

However, not all of the supervisors supported the new assessment and students recognised this:

> *I found this a little, I don't want to say this, but pointless, because my supervisor couldn't see the point in it. So I was sort of like 'Why do we have to do this? (SFG/4-1&D/C2/B)*

Therefore, clarification of the purpose and benefits of the task needed to be communicated to supervisors to increase support for the task.

Overall, Jane felt the changes to the assessment design in Course 4-D had helped make the process more transparent and manageable. Discussions on how to improve the workshops are continuing.

6.13 Overview of the Resulting Interventions

Planning instructors collaborated with librarians and the researcher to integrate IL development across the four years of the BEP. Table 27 indicates the final structure for the interventions developed, trialled and modified over two semesters per course in Cycle One and Two.

Table 27: Final interventions developed for each participating course.

COURSE	YEAR	SEMESTER	INTERVENTION
Course 1-1	1	1	Library Workshop – 2 hour introduction to information searching and evaluation Source Justification
Course 1-2	1	2	Reflection on Values – draft writing submission, group discussion I-map – research and writing process - visual model Worksheets for oral presentations – active listening / critical thinking
Course 2-2	2	2	Reading and Learning Log – critical review
Course 3-1	3	1	Voluntary Library Workshop Reflective Logs – learning process / critical thinking
Course 4-1	4	1	Assessment for Group Project Report – Reflective Practitioner, Client Folder
Course 4-D	4	1/2	Library Workshop – 2 hour advanced information searching and evaluation for research (modification of existing course component).

* KEY – White=Library workshops; Grey = Class / Assessment-based interventions.

Course assessments that promoted formative learning and emphasised the importance of developing a robust research and writing process, and reflection on learning were developed. The programme is structured so that cohorts of students generally move through the courses together; therefore students who entered the BEP from Semester 1, 2012 will progress through each intervention in the order shown.

6.14 Reflections

Throughout the two action research cycles, the participating instructors and I collaborated to design interventions to increase awareness of IL competencies central to learning at university. Although I initially provided suggestions for the forms the interventions could take, as the research progressed, the participating instructors took more ownership of the interventions and the form they would take. We were able to create a focus on process over product, facilitate formative assessment, and encourage reflective and experiential learning. We had aimed to support students to understand the importance of IL in learning, particularly the necessity of carefully considering source selection and evaluation for assessments tasks. A thread of reflective learning was woven into the curriculum and assessment, so future students would have a sustained focus on IL development and reflective learning within the four-year degree. A promising outcome of this research is that instructors viewed the interventions as a valuable addition to the BEP curriculum, and they continue to modify and create new interventions to ensure students have the opportunity to develop IL and engage with reflective learning.

CHAPTER SEVEN

Participating Instructors

A strong message from librarians and from the literature on IL is that success in developing IL within students' research and writing process depends on the attitude and willingness of academics to engage and promote IL development within their courses. As mentioned in section 4.7, some ideal practices were difficult to implement given the time and resource constraints participating instructors faced. The process of working with the BEP instructors revealed key factors impacting on the level of change they were willing and able to facilitate. Thus, a key aspect of this research was to understand the participating instructors' expectations and concerns around student performance and learning, views of teaching and learning, attitudes towards supporting IL development, and expectations of students' independence. The research captured the key shifts in attitude towards teaching and supporting learning experienced by all five instructors.

This chapter considers how participating instructors juggled their ideals with the realities of their workloads as we endeavoured to make changes in pedagogy and curriculum to support students' IL development. It outlines key characteristics of each participating instructor, the support they needed to make change, and the implications of this on participation in the research and the interventions developed for their courses.

Selected quotes are taken from the initial BEP instructor interviews (IIN), and meeting notes (IMN) and instructors' reflective feedback (IRF) from the two action research cycles.

7.1 The Research Participants – Common Points of Interest

Five BEP instructors volunteered to participate in this research. They were at varying stages of their academic career, from a beginning teacher in a senior tutor role, through to an associate professor with 21 years' tertiary teaching experience (Figure 11). All were formerly Planning professionals or consultants and/or had worked in local or regional government. None were trained as

teachers, and any teaching development came via voluntary university professional development workshops, shared practice, or trial and error.

Figure 11: Research Participants- teaching experience and academic rank.

21 years	15 years	3 years	6 years	New
Associate Professor	Associate Professor	Senior Lecturer	Lecturer	Senior Tutor
GEORGIA	FRAN	CARL	JACINTA	JANE
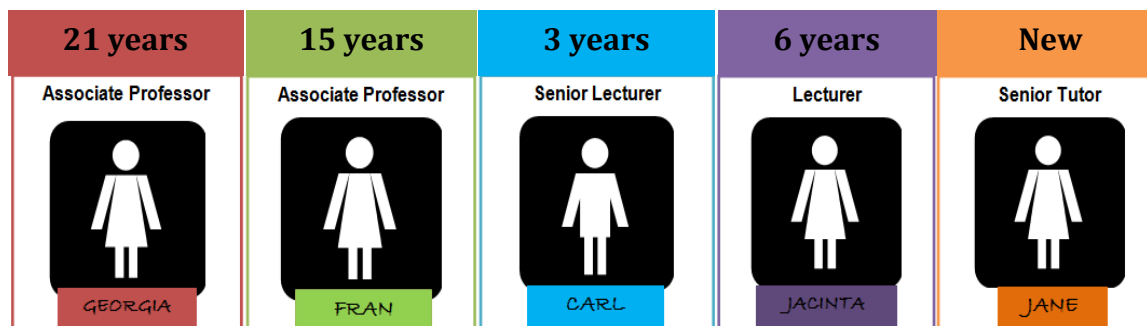
All participating instructors had concerns about student performance within their courses and across the programme as whole. They had a strong sense that change was needed, but were unsure how to address the academic literacy needs of their students. As mentioned in section 5.3.5, the instructors knew very little about how skills were being developed in other courses; therefore, the focus for each instructor was to identify key competencies being developed and assessed within their course. I collaborated with each instructor individually to design interventions appropriate to their concerns and aims for IL development within their courses. Although we did not work as a group, due to instructor autonomy and time constraints, I was aware of the overall thread of IL development and reflective learning being woven throughout the programme. My role as researcher was then to align IL development across the programme and ensure that activities and assessments at each stage of the degree extended students' IL development. I kept all BEP instructors informed of the developments at three programme meetings throughout the two-year research process.

Two key factors contributed to successful outcomes in this PAR experience:

1. the effective building of trusting relationships during the research process which enabled the open and honest communication needed to support instructors to develop students' IL within their content courses

2. the participanting instructors' ability to recognise where change was needed, and willingness to make that change.

The participating instructors voluntarily gave their time to participate and committed to two cycles of action research, even though they could have opted out of the research at any time. Willingness to participate in the research was not dependent on teaching experience; all participants were concerned about teaching and learning within the BEP and were willing to collaborate with me to facilitate change. This research brought a fresh perspective on their role in supporting students' IL development and learning within their discipline. Throughout the research process, the instructors freely discussed the teaching challenges they faced in the current climate of higher education in NZ (see 3.1). They were committed to teaching and concerned about helping students achieve successful learning outcomes in their courses. They were open to having an observer in their classes at any time during each cycle, so I can confidently say they were not putting on their best performance because they were being observed. Throughout the research process, we engaged in open, honest discussions, negotiating the parameters of my involvement, but ultimately the decision to make any changes was at the instructors' discretion. There were several common factors for the participating instructors:

1. The BEP instructors were initially unfamiliar with the term 'information literacy', and didn't explicitly promote the development of research or writing skills within their content papers in the existing curriculum (except Course 4-D).

2. All of the instructors felt restricted by the 12-week semester teaching schedule. Most courses had only three contact hours per week, which allowed for approximately 30 hours of teaching when considering the first week is usually course set-up[29] and the final week exam revision. They tended to schedule their teaching commitments into one semester of each academic year so that the remaining semesters could be used for research, administration and supervision

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[29] Introducing the course outline and assessments, content schedule and getting-to-know-you activities.

223

responsibilities. This meant that they were under pressure from marking over multiple courses they were teaching, and had little time during the teaching semester to consider how to completely revamp their courses towards a more learner-focused, interactive learning experience.

3. The participating courses were scheduled as lectures, with no tutorials. Some Planning skills-related workshops were offered in the more practice-focused courses. For most, the teaching style was predominantly lecturing with the focus on delivering content. Although all recognised the value in supporting learners through learner-focused approaches, they felt restricted by university systems and tended to fall back into familiar teaching habits when under pressure. Those with less teaching experience were more open to the idea of learner-focused pedagogy than those who had developed a strong teacher-centred focus over a longer period of time.

4. Although high-quality teaching is valued in the university, all instructors felt that the PBRF system (see 3.3.2) promoted research over teaching. Pressures to publish research in discipline-specific publications took time away from professional development on teaching.

5. Conversations on ways to continue modifying and developing the interventions are on-going with all participating instructors despite the research phase ending.

A key point of difference was that each participant had differing teaching styles, views on student independence, and awareness of their roles in supporting student learning. Some were easily convinced change was needed, while others were initially reluctant to make change and needed extra persuasion. Shifts in each instructor's approach to IL development and their views of teaching and learning emerged as a central focus of this research.

7.2 Individual Characteristics and Involvement of the Participating Instructors

Sections 7.3 to 7.7 capture the characteristics of the participating instructors that impacted on their participation in the research. These characteristics are shown collectively in Table 28 and depicted individually in Figures 12-16. They are categorised according to:

- *Participant Characteristics* – a key characteristic connecting to involvement in the research as determined by my interactions with the participant

- *Key Foci in Teaching* – each instructor's focus for teaching and student learning as determined by my observations and discussion with them

- *Researcher Challenges* – the key challenges of both collaborating with the instructors and implementing change identified as the researcher

- *Shifts* – the key change in the instructors' attitudes, views or practices that resulted in the successful implementation of the interventions developed, as I perceived it and discussed with participating instructors

The implications of the instructors' characteristics on changing attitudes towards embedding IL development into their courses are discussed. The representation of the participating instructors does not reflect a criticism of their practice, but rather aims to depict the reality of the teaching and learning environment, both as I observed it, and as was discussed with them. The initial approaches to teaching, which were predominantly content-focused and teacher-centred, align with numerous studies on traditional methods of teaching in higher education (as outlined in Chapter 4).

Data for this chapter were collected via the initial BEP instructor interviews (IIN), and through participating instructors' reflective feedback (IRF) and meeting notes (IMN). Data are coded by data type, instructor's name and cycle. For example, IMN/Georgia/C2 indicates notes taken from a meeting with Georgia in Cycle Two.

Table 28: Participating Instructors – Characteristics, Challenges and Shifts

PARTICIPATING INSTRUCTOR	TEACHING EXPERIENCE	RESEARCH CHARACTERISTIC	KEY FOCUS IN TEACHING		RESEARCHER CHALLENGE	SHIFT
			BEFORE	AFTER		
GEORGIA Associate Professor	21 YEARS	Time-conscious	Content / independent learning	Content / skills / support towards independence	Working and communicating effectively with a busy person	Recognised the importance of supporting students to develop competencies to become independent learners
FRAN Associate Professor	15 YEARS	Weary / Reluctant	Content / Professionalism	Content / Professionalism / Reflection	Encouraging a person reluctant to make changes to embrace change and see what the outcome is	Saw value in giving explicit instruction and using formative feedback for skills development
CARL Senior Lecturer	3 YEARS	Will to change	Content / Critical Thinking	Critical Thinking / Reflection	Changing a person's attitude towards students' developmental needs and learning	Saw value in high support, high challenge tasks, and reflective learning
JACINTA Lecturer	6 YEARS (part-time)	Shared Practice	Content / Values	Values / Reflection / Skills	Supporting an instructor who lacks experience in teaching academic competencies to teach IL	Saw importance in developing academic skills while learning content
JANE Senior Tutor	NEW TEACHER	Mentored	Practice / Research Skills	Practice / Reflection / Research Skills	Supporting a new teacher to take risks in teaching and engage in reflective practice	Recognised the value of learner-focused pedagogy and reflective learning

7.3 GEORGIA

Georgia, an associate professor with 21 years' tertiary teaching experience, was the first person to become involved with this research. She was programme co-coordinator when the research commenced and was charged with improving student learning outcomes by implementing change to develop students' communication and critical thinking skills as recommended by the institution's NZPI accreditation report (see 5.3). She was keen to become involved in the research and set up meeting opportunities with colleagues she believed would also be interested in participating. The research was conducted in Georgia's first-year course, Course 1-1.

Figure 12: Georgia – Characteristics, Challenge and Shift

Associate Professor GEORGIA	TEACHING EXPERIENCE 21 years	
	KEY FOCUS IN TEACHING	
	BEFORE RESEARCH	AFTER RESEARCH
	Content / independent learning	Content / skills / support towards independence
	RESEARCH CHARACTERISTIC Time-conscious	
	RESEARCHER CHALLENGE	SHIFT
	Working and communicating effectively with a busy person	Recognised the importance of supporting students to develop competencies to become independent learners

Georgia had the most tertiary teaching experience of the five participating instructors, but had only been teaching in the BEP programme for five and a half years. She was very confident and passionate about teaching her content. Her curriculum followed the same focus and content coverage each semester, with a bank of PowerPoint presentations ready to use for each topic, updated as required. She gave informative, interesting lectures supported by key points on the PowerPoint slides while students listened and took notes, but, when she engaged students in discussions, she often ran out of time to cover the content prepared for each class:

> *Sometimes the reason I run out of time was that we would have too much dialogue at the start, but that was more about them giving their thoughts rather than reflecting on what they have just been hearing in the lecture, so that's a different sort of reason for*

> *getting them to reflect. But half an hour out of an hour class, you just can't do it (IMN/Georgia/C1).*

Georgia was focused on teaching content, but also felt pressured to teach students about writing and referencing because her course was the first core course offered in the BEP. She struggled to make time in the curriculum to teach research and writing skills without sacrificing content, so instead relied on giving extensive feedback on summative assessments. However, this meant she was indicating problems when it was too late for students to fix them. Although she felt students should be able to develop academic competencies by responding to the feedback she provided, she often didn't see any sign that they had transferred learning from feedback in subsequent assessments:

> *I make it very clear that it's important they understand the feedback, and I know that they often don't, and I suggest they talk to me… I don't hear from many of them (IIN).*

However, she also recognised that change takes time:

> *When looking at the impact of the changes made to the assessment and the additional resources and assistance provided, I think we need to keep in mind that the benefits do not necessarily show up immediately in the assignments in this course (IRF/Georgia/C1).*

When discussing her understanding of IL, Georgia connected to the widely recognised aspects of finding and using information (see 2.1), and the significance of information in shaping our everyday lives:

> *People accessing information and knowing what to do with it and how to assess the value of it and recognise that we are sort of a knowledge-society, an information-society, so our lives are very much shaped by the availability of information and communication technology (IIN).*

Although she recognised that IL was important for both students' academic and professional development, she made no explicit reference to it as a learning outcome for her course. She was aware of the range of information BEP students have to access, and wanted to promote the use and value of scholarly sources to students from the outset of their academic study.

An important aspect of student development for Georgia was independent learning. She strongly believed responsibility for learning lies with the students and that those struggling to learn academic conventions should independently seek help from university services to improve research and writing skills.

Throughout the research, she questioned whether the development of research and writing skills belonged in the content courses of the degree:

> *One thing I often ponder is how much students need to be taught specialist IL within a single paper or programme as opposed to being expected and/or required to develop their own awareness and skills in relation to appropriate writing and research for tertiary study. Librarians and learning consultants offer generic (and sometimes programme-specific) training, advice and resources. I tend to think that students need to take more responsibility for using these generic services, which I feel provide appropriate support for students from professionals. That leaves me free to focus on the course content (IRF/ Georgia/C1).*

Georgia wanted students to become independent learners; however, her focus on delivering content allowed few opportunities for learner-focused in-class activities or discussions. Her restricted time to cover content, combined with a lack of tutorial time meant that the learning in the class, while engaging, was largely teacher-directed.

Throughout this research, I characterised her as being extremely time-conscious, and she was incredibly efficient at planning her time. Her vulnerability lay in in her need to carefully balance her workload to ensure all tasks were completed:

> *I've ended up being really busy in my job as programme coordinator, and my teaching really does suffer because of my heavy admin load. My teaching load isn't really reduced at all because I do a huge amount of supervision and I do the oversight of the Honours and Masters research report papers, Honours Planning project, and I'm quite involved as programme coordinator in lots of other ways on the curriculum, so it's just being stretched with this particular role (IIN).*

Georgia was willing to try new things but was also very aware that focusing on developing IL and other academic competencies development would take time away from content and create extra marking.

> *The more interactive stuff you do, the less time you have to deliver other content, so what they are learning changes, and how they are learning changes. We could add more assessment, but that creates work (IMN, 25/08/11).*

She taught me about many of the constraints that university instructors are under in terms of teaching, research and administrative responsibilities, and openly discussed why my initially proposed changes may not have been feasible in her course. Georgia's involvement in the research occurred during time she had allocated for professional development. She strongly felt the university needed to create more space for professional development in workload policies:

University workloads need to be managed and measured to ensure staff can undertake professional development in pedagogy, new technology etc. to support quality learning. Without that, the student learning experience will not be optimal (IRF/ Georgia/C1).

The limited space in her schedule for professional development meant we were restricted to one-hour meetings to discuss and reflect on the research. Unfortunately, this meant our interactions always felt hurried and ended abruptly as she had numerous back-to-back appointments scheduled. The implication for the research was that our conversations were not as in-depth as I would have liked. There were few opportunities for informal chats about the research over coffee, which was a key feature of my interactions with some of the other participants.

During the research, Georgia was reflective when providing feedback, and she enjoyed hearing student feedback. She welcomed suggestions for change, and also continually considered how the interventions we were developing in her first-year course could be adapted for use in her post-graduate courses:

Even though they have rather different needs, I am seeing lots of value in incorporating some of the insights from this work with my [BEP] first year paper into my [Master's programme] teaching as well (IRF/ Georgia/C1).

However, enthusiasm in meetings was sometimes not followed up in practice, largely due to the time pressure she was under. I sensed a willingness in Georgia to do things differently in the classroom when we spoke after the initial semester observations had ended. However, once the Cycle One teaching semester started and time pressures re-emerged, changes were not made to the extent we had hoped. The incredibly tight schedule Georgia worked within meant that the interventions we developed that required formative feedback and quick turnaround created extra time pressure. Unfortunately, in both cycles, challenges with technology and the marking rubric meant that Georgia was put under extra pressure and undue stress. The limited time for discussing the changes also meant that trouble-shooting possible complications with the task did not take place.

The key challenge in working with Georgia was learning to work and communicate effectively with an extremely busy person. Her teaching commitments needed to be balanced alongside numerous other research and professional commitments both inside and outside the university. Georgia's

busy schedule also created extended time between meetings[30]. Accordingly, much of Georgia's feedback came via requests for written reflections following the implementation of key interventions in her courses, as she could write these outside work hours when she had more time to think.

Georgia made a commitment to supporting students' IL development as part of this research. We did this by modifying and extending the library session in her course and creating a source justification assessment that encouraged students to reflect on source selection (see 6.8.2). The key shift for Georgia was that she recognised her role in more explicitly supporting students to develop skills, and created space within her curriculum to do this. She also realised that first-year students are unlikely to seek out support for learning independently. This resulted in a shift towards formative learning. Georgia actively engaged in developing and implementing interventions for her course; however, she felt that an increased focus on formative tasks for skills development within content courses added extra time pressure. It was very important to balance time and effort:

> *The challenge for me (and some other staff) is to manage the demands on our time from changes to our courses to allow for new IL skills development. Aside from the initial 'start-up' costs of the time involved in liaison with Angela and re-design of assessment packages, there is the more significant demand associated with new, more labour-intensive forms of assessment. Any instructor has a finite amount of time for professional development, for marking, for delivery of course material. If more time is needed for IL skills development, even with 'economies' that come from the use of technology, then other aspects of teaching may be compromised (IRF/ Georgia/C1).*

The experience of working with Georgia highlighted that, although an instructor may value learner-focused pedagogy in theory, the realities of academic life often make putting good ideas into practice difficult. Nevertheless, Georgia maintained a high level of support for both the research and for me as the researcher, and we developed a strong, mutual respect for each other. She saw value in the contribution the research was making to the BEP programme and her own teaching approach, and appreciated the opportunity to get feedback from the students and gain greater insights into their learning. She also questioned some of her assumptions around factors affecting student performance:

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[30] For example, I sent a meeting request in early April and received a meeting time from Georgia for mid-May.

I have appreciated the opportunity to benefit from expert advice on IL skills through participation in the action research project… I am grateful for what I have learned from Angela. In the first instance, I really appreciated and enjoyed the opportunity to reflect on how students learn and the assistance and encouragement to experiment with new approaches to internal assessment. The interaction and engagement around assessment (preparation, implementation, debriefing, written analysis) was very rewarding for me as the paper coordinator. I am confident the students also benefitted (IRF/Georgia/C1).

This has been a really big part of my professional development over the past two years … and I have taken a lot out of it in terms of reflecting on the assessment and I suppose getting encouraged, stimulated, prompted to view assessment a little bit differently and come up with a different assessment package. But I haven't made radical changes, and it might seem like I am a bit hard to change, but again that's a juggling act too. I can't have too much assessment because I am just not work-loaded to do that kind of marking. I think there have been incremental shifts with the source justification and the library session and I think the students are getting much better value out of that part of the learning and assessment (IMN/Georgia/C2).

On-going discussions with Georgia suggest she has valued the insights gained from the research and that supporting students to develop IL competencies and a shift towards independent learning has become a key focus in her teaching:

I really would love to keep building on this, and not to actually just stop because it's still kind of new and fresh and we have really got to build on it (IMN/ Georgia/C2).

7.4 FRAN

Having taught in the programme for 15 years, Fran was the longest serving instructor in the BEP. Georgia initially suggested Fran as a possible participant, and Fran became interested because she had concerns over student performance in her second-year course, Course 2-2.

Fran's key focus in teaching was on professional skills development for professionalism in the workplace. Her teaching focus was on content, but due to the nature of the practical aspects of the course, the scholarly focus was secondary to the practical aspects of the course:

Because I know they are getting the academic stuff rammed down their throat in other papers, I try in my papers always to present the alternative practitioners' viewpoint and something like Planning Quarterly is a nice level for students. And I know that I'm on the editorial board and that is quite useful because I know about articles coming up well ahead of time and I know what it will be useful for. Some of the stuff in my book is written for students. So I thought that because I had taken that more practical practice-oriented approach to what literature I directed them to, they would be more willing to read (IMN/Fran/C1).

Figure 13: Fran – Characteristics, Challenge and Shift

	TEACHING EXPERIENCE 15 years	
Associate Professor FRAN	**KEY FOCUS IN TEACHING**	
	BEFORE RESEARCH	**AFTER RESEARCH**
	Content / Professionalism	Content / Professionalism / Reflection
	RESEARCH CHARACTERISTIC Weary / Reluctant	
	RESEARCHER CHALLENGE	**SHIFT**
	Encouraging a person reluctant to make changes to embrace change and see what the outcome is	Saw value in giving explicit instruction and using formative feedback for skills development

Fran had several concerns around student performance in her course. She felt students' lack of reading and critical analysis meant they had little input into class discussions and often made uninformed decisions in practical assessments. Despite various ways of providing course readings, Fran felt that performance in assessments suggested very little reading was done, and students were not self-motivated to learn through reading:

> *In terms of what they 'have to do', they probably don't have to do anything. , I don't make any part of their readings that are provided compulsory because there's not much point there and you will do quite meaningless assessment if you are going to make them read such and such and do something with it. The presumption is that they see the point of doing some or all of the readings as a way of enhancing their knowledge and achieving a better grade (IIN).*

Fran was also concerned about students' lack of motivation, engagement and independent learning, and a strong theme that emerged in conversations was that it was not her job to 'spoon-feed' students through the degree. She believed many second-year students were "lazy" and, like other instructors and librarians (see 5.2; 5.3.3.1), saw this as a flow-on from secondary education:

> *I guess essentially what I find, my experience over the last 15 years, is that a good 80% of students are bone idle in that they don't want to do any more than they have to… And to some extent they have learned to do that at school, and it's certainly getting worse with NCEA. They are just trying to work out exactly what they need to do in a package and get the best mark possible … I could treat them like school kids again. But I thought they wanted to be treated like adults, like thinking people. Because if I think for them then what's going to happen in the workplace when everybody says 'think for yourself boy'. Because that is not what a professional is. So what are they going to do when somebody comes in and says 'I need an answer on that' and they say 'oh sorry I haven't read that chapter on the district plan, I'm not scheduled to read that until week 13 and this only week 10'. Yeah right. You won't last for a long time on the job. I mean*

> *this is professional practice; this is supposed to be about what it is like to be a practicing Planner (IMN/Fran/C1).*

She felt her students had very narrow views of what it means to learn, and learning outcomes often depended on how much 'mothering' she was willing to do:

> *They have a very narrow concept of knowledge. That knowledge has to be directly in a straight line relevant to what they are doing at this point in time, and they feel no obligation to retain that knowledge. The biggest problem I have between second and fourth year, is that I optimistically worked on the assumption that they got basic information in second year, built on it in the third-year law paper and then they would come to me in fourth year and we could have proper conversations. Then I was discovering that I had to re-teach a lot of stuff from second year because they just cleaned the memory banks out (IMN/Fran/C1).*

She was also disappointed that very few students approached her outside class hours to ask for support with their learning, despite her consistent offers of support in class:

> *The old laugh is you know your office hours are the time you can be assured of never seeing anyone and having a quiet two hours to yourself (IIN).*

A further concern for Fran, and other BEP instructors, was the *'long tail of weak students that just seems to be getting longer'* (IIN). She questioned open-access university entrance and the impact this has when the university graduates students unsuited to a particular profession, Planning in particular:

> *Too many students come to university and they are unsuited for what we do here and I think that the worst thing you can do for these kids is to nurse them through a degree, because if they can't cope with the university they are most likely going to be crap practitioners. I have more concern for my profession than to want that to happen (IMN/Fran/C1).*

In describing her understanding of IL, Fran connected to the more widely understood IL skills including information retrieval, evaluation and use:

> *Well, I probably don't have a formal understanding of [IL], just a working understanding. It would be about their ability to use information appropriately and to achieve the best outcomes in terms of how that information is used. And also their ability to both locate and assess information. So in other words, to be able to distinguish the useful from other un-useful stuff (IIN).*

Once IL as a concept was extended to more holistic models, Fran was aware of the importance of its development, and recognised elements of it as an inherent part of her courses:

> *Now that I have been introduced to the concepts, I have to say I have probably always had elements of it in my courses (IMN/Fran/C1).*

To support IL development, she recognised the importance of extending students beyond written texts into multi-media sources of information, for example radio interviews and political / newspaper cartoons. She wanted students to access a range of information, particularly professional Planning publications:

> *But I will keep my eye on things like that, because I want them to learn from multiple media, and certainly for my master's course that I am developing in Planning History, believe it or not, there's loads of stuff on you-tube that I'll be using… there's interviews with Le Corbusier. Now they are old, they are black and white and they are crackly, but they are actually really good. And this is THE person speaking about what they do. And I think they quite like that, they quite like to hear people speaking about those kinds of thing, so there will be something that I'll find that will be equivalent. I think that the academic journal aspect, they get plenty of elsewhere, so there will always be at least one journal thing there but to some extent with Planning they need to keep up with what's happening and that tends to happen through practice journals. I might try and use the 'Australian Planner' a little bit more because they have a level a bit above 'Planning Quarterly' but not to an academic journal so they are quite good (IMN/Fran/C1).*

However, she also felt that the vision of creating all students as information literate graduates prepared for lifelong learning perhaps wasn't suited to the diverse range of students entering university:

> *I think a lot of our visions of how people access information is based on a nice middle-classed, well-resourced confident person who if they have any issues with access would let you know and try to do something to improve it. It's the ones who don't have those skills or background who will very easily slip through the system and given the system is going to hammer the ones who fail even more, that problem may only become worse. But as I say, I'm getting old and these things worry me, but I don't think they pass through the imaginations of most people (IIN).*

As a teacher, Fran was confident and committed to her teaching and she wanted her students to succeed. From the students' perspective, Fran was the 'rule-keeper', because she strictly adhered to the rules and statutes guiding the profession. They found her consistent and professional in her delivery of the course and appreciated the extensive feedback on their assignments. Students expressed a great deal of respect for Fran's knowledge and experience.

Fran engaged in this research, and spent considerable time discussing ways to support student learning throughout the action research process. Initial discussions indicated she had a certain level of resistance or apprehension to change that would impact on how far she was willing to make changes to add a focus on IL development into her course. Building trust and confidentiality was important and we developed a mutual respect for each other. She needed

convincing that second-year students would benefit from more explicit guidance around tasks as she was concerned about 'spoon-feeding' students and having to lower expectations, rather than giving greater support to meet her high expectations. We had some lively debates around the value of alternative learner-focused pedagogical approaches. Fran was dubious about the value of 'interactive' lectures and peer-work opportunities, because she felt her job is to teach and not entertain students, and she considered peer work at second-year level as "*the blind leading the blind*". This view impacted in the levels of scaffolding Fran was willing to create within her assessment.

Fran's resistance to change seemed to stem from 15 years of teaching where she perceived that students had become less independent and pro-active in their own learning. She felt she had "*tried it all*", and was "*too old and tired*", and student achievement depended more on student attitude towards learning than what the teacher did or didn't do. She felt she had spent years teaching unmotivated students and held no optimism that the next group would be any different from the previous. However, she also recognised the challenge to remain innovative, and was open to new ideas. Therefore, she was willing to keep trying if student feedback and results indicated that the changes were worth the effort involved:

> *I think I've been here a long time, 15 years, and I have always tried to keep changing my stuff, keeping up to date and changing the approaches, but you do get to a point I suppose after a certain length of time where you run out of ideas ... also the first time you do anything is really a pain in the neck because it does take such a lot of time (IMN/Fran/C1).*

The key challenge in working with Fran was encouraging someone wearied by continuous change to embrace more change. Changes were made with a pessimistic view rather than optimistic belief that they would effectively achieve their desired outcomes. However, Fran did make every effort to support the interventions we designed, despite apprehension that they would make minimal difference to students' attitudes towards learning. Once the interventions were developed, she was committed to seeing them through. She was willing to amend the interventions based on my research-based feedback, and from her personal observations as an educator. However, her responses to student

feedback were mixed; she accepted some points but was willing to dismiss others.

The key shift in Fran's approach to teaching was that she came to see value in giving formative feedback and being explicit around IL development. However, despite this shift, she remained unconvinced that our efforts had resulted in greater student independence and improved learning outcomes in her course, although a slight improvement was recognised in Cycle Two:

> *I certainly never saw any evidence of much reading, and I think certainly nothing came through in the exam that suggested much reading. It was just the usual, increasingly difficult to read handwriting (IMN/Fran/C1).*
>
> *AF: The whole point was getting them to read stuff that would hopefully cross-over into what they were doing with the content they were learning. Did you see some of that this time?*
>
> *F: I think maybe a little bit, probably more in terms of discussions in class, and yes, perhaps a bit more in the exam (IMN/Fran/C2).*

While she recognised that our efforts may not have led to immediate improvement in her course, she hoped the benefits would filter up to the higher levels of the degree, and she would see this when students returned to her as fourth year students:

> *I suppose to some extent that the issues with [Course 2-2] is what are the opportunities to actually demonstrate some of that in the work in the course? It probably isn't there to a great extent because it's a fairly compressed course in terms of the amount of stuff they are supposed to cover. And I think that the problem was that I think, where in fact you probably get the benefit is in the next year, is how they are able to perform in third and fourth year more than how they actually do in that particular paper, so you see what I mean? Because it is such a full paper (IMN/Fran/C2).*

Fran remained committed to the research throughout the two cycles of action research. On reflection, Fran recognised her initial reluctance in making changes but also saw some benefit from the changes from being part of the research:

> *AF: I think it's fair to say you were a bit resistant at first.*
>
> *F: Not enthusiastic at first, no … I think that it has been a good thing and I'd like to thank you for your efforts, you know, because it must have been a pain in the neck to deal with people who didn't really want to do things. But look, I did do it. I did do it (IMN/Fran/C2).*

Fran's experience in the research showed the benefit of reflection in the action research process. She started Cycle Two with a much more positive view towards the interventions we had developed. However, she assured me that her

optimism may well be short-lived and that no doubt the pessimism would be back again by the end of the semester once we saw again that, regardless of our efforts, students still "*produce crap*". Ultimately, the benefit of participating in the research was that, despite her self-reported pessimism, Fran was still willing to try to make a difference in student learning outcomes.

7.5 CARL

Carl volunteered to participate in the research after I presented the research outline to the BEP staff. Although he was in a similar age group to Georgia and Fran, he had only been teaching at the university for three years. Thus, he was a prime example of an expert practitioner, hired for his expertise in the profession, but with little teaching experience[31]. He was immediately interested in using the research as an opportunity to focus on his teaching and students' learning in his third and fourth-year classes, Courses 3-1 and 4-1.

Carl's main focus in teaching was delivering content and encouraging critical thinking. Developing critical thinking was important because in the 'real-world' there are no right answers – there are just decisions based on the information you have at hand, and those decisions can have far-reaching consequences in the future:

> *I see my role as a instructor in partially providing content, but more importantly, provoking critical thinking and intellectual skills associated with university. Content will change ... so rather we need to be developing thinking brains. IL seems an important part of this skill set (IRF/Carl/C1).*
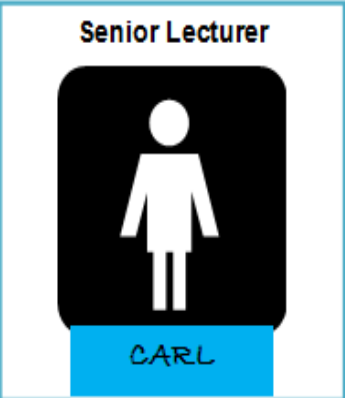
Like Fran, Carl attributed poor performance to students being inherently lazy and not doing any more than was required to pass. He was concerned about his students' lack of engagement and intrinsic motivation to learn, lack of critical thinking to connect coursework with the wider world, and an apparent inability to find and use quality sources in their assignments. He held numerous assumptions about what students should have already learned, and had very high expectations for his third and fourth-year students:

> *I struggle somewhat, in that I am teaching 3rd and 4th year students, and I think that much of this work should have been already undertaken earlier in the students' programmes, so that they could be developed and applied earlier. If anything, I should*

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[31] Faculty members in NZ universities are not required to have a tertiary teaching qualification (Wang, 2007).

be developing more advanced and sophisticated IL strategies for them in my classes built on this knowledge and skill base (IRF, 17/04/11).

Figure 14: Carl– Characteristics, Challenge and Shift

Senior Lecturer	TEACHING EXPERIENCE 3 years	
	KEY FOCUS IN TEACHING	
	BEFORE RESEARCH	**AFTER RESEARCH**
	Content / Critical Thinking	Critical Thinking / Reflection
CARL	RESEARCH CHARACTERISTIC Will to change	
	RESEARCHER CHALLENGE	**SHIFT**
	Changing a person's attitude towards students' developmental needs and learning	Saw value in high support, high challenge tasks, and reflective learning

When outlining his understanding of IL, Carl recognised that it involved finding and using information, but also connected to the more holistic elements of the concept (see 2.1.2) in terms of adding the contextual, disciplinary perspective when analysing and using information:

> *I can conjure any number of meanings out of it. IL for me it just starts off cybernetics and stuff talking about computers and that sort of information electronic stuff, but IL, I presume, it's really talking about in this case, for my courses it's less numeric stuff but sort of words and ability to actually understand what's been said and being able to analyse it and think about it and actually reflect it back again if necessary for added value. … Being able to sort of suck it in, think about it, process it add value. What I am trying to say is putting on that lens as a Planner. Any idiot can actually just regurgitate it and parrot stuff but you actually have to put your value in why people want to hire you instead of somebody else and then come out with something coherent, cogent and sensible (IIN).*

However, IL was not a learning outcome that he explicitly included in his course even though it was one he implicitly hoped to see.

Carl was knowledgeable and passionate about his content area and often shared stories of experience (theory in practice) and questioned students repeatedly to promote critical thinking. While having a broad curriculum of topics to cover, Carl's classes were semi-structured and continuously evolving. He didn't use PowerPoint, and the whiteboard at the end of classes I observed represented his flow of consciousness. As a result, each class on the same topic would be different each semester. His teaching approach was more

teacher than student-centred, but he employed a range of techniques and tasks so that teaching did not become mundane:

> *Part of my cunning plan for some of this is that I do have a bit of an arsenal that, I mean, the two years that I've been teaching these papers I've changed them every year anyway so it's still stayed fresh, kept me on my toes too I have to say; a bit exciting and I don't know how I'm going to get, to retire or not, but I would like to have a range of different tacks on the same course that I can run through any one year which will keep me fresh and be useful to them as well (IIN).*

Carl was perceived by students as being very demanding and a number of students mentioned they *"feared looking stupid" (SFG/3-1/C1/B)* if they asked him simple questions. They didn't like to approach Carl for help outside class. However, Carl was not bothered that students feared him; he felt it would make them work harder. Students contrasted Carl with Fran and cast him as the 'rule-breaker', and as somewhat unpredictable. They were constantly challenged by his insistence not to take anything at face value. However, his unstructured approach to teaching often left students wondering what the point was. They found his method of answering questions with questions to promote critical thinking incredibly frustrating as it didn't clarify what they wanted to know. Therefore, a challenge for Carl was to recognise when to push for critical thinking and when to just answer the question and move on.

As a participant in this research, Carl was willing and enthusiastic, open to trying new things and being one of my "*guinea pigs*". From the start, he was open to making changes and hopeful that the students would benefit from a more structured approach to the IL development and assessments in his course. However, he mentioned the vulnerability he felt at opening himself and his teaching up to my scrutiny, and having his flaws exposed as part of this research:

> *I have enjoyed being involved in the research so far. At first, it felt a bit like skinny-dipping down at the beach, feeling rather exposed as an instructor. However, on reflection that did not matter: even if I could put a good spin on my lecturing performance to Angela, I was unlikely to maintain it over the semester for my students. In short, the students know what I do and don't do, and this is an opportunity to find out for myself and lift my game (IRF/Carl/C1).*

Since starting teaching at the university, Carl had not had anyone discuss his teaching with him, but had sought support through teaching circles[32]. Therefore, I took more of a mentoring role around teaching with him. As he had had ample experience with being a mentor himself in the profession, he saw value in the process and was open to discussing and making changes.

Carl was initially challenging in terms of changing attitudes towards students and seeing that they need support even at higher levels of the degree. However, he was also one of the staff most open to experimentation. This was demonstrated in the Course 4-1 experiential learning task (see 6.11.8).

The main challenge for students was that he had high expectations but offered little support, which led to frustration for both Carl and students. His assumptions around skills students should have developed by third year meant he tended to blame them for their failures:

> *I refuse to provide [readings] in paper. This is partly me being bloody minded perhaps and going back to the good old days when I was a student, we just got given the reading list, and in knowing that was actually beneficial. In those days photocopying cost a lot of money anyway relatively and there was no such thing as literary journals… I explicitly say it in my reading guide that these are what I have found useful. While you are going through trying to find these things you just might actually find something even better or even more interesting on the way. And for God's sake at this stage it's 3rd and 4th year; we should be well past the nappy changing and spoon feeding stage (IIN).*

Therefore, the focus for Carl was in providing better support for his challenging tasks, and supporting him to recognise where third and fourth-year students still required developmental assistance. He showed the greatest shift in promoting reflection in learning, by both being reflective himself and encouraging students' reflection to support their learning.

The second key challenge connected to ownership of the tasks created. In Cycle One, I designed tasks based on Carl's concerns and desired learning outcomes. He would then lift ideas I presented verbatim into the course, but then not fully implement them with sufficient support or formative feedback. There was some mismatch between how I intended the interventions to be used in a formative way and how Carl approached them. This meant students often

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[32] Teaching and Learning Circles are groups of about six to eight people who come together once a month to learn and share ideas about teaching, solve pedagogical problems, and create networks across disciplines.

did the tasks without timely feedback and couldn't always see the relevance. The interventions, particularly those that required self-reflection, sometimes seemed to be busy work rather than scaffolded support for challenging tasks and learning development (see 6.11.1).

Throughout this research process, Carl realised the importance of focusing on the process of learning and the value in providing increased support for high-challenge tasks (see 3.4). Following our initial discussions he understood critical thinking to be part of the broader, holistic view of IL. In Cycle Two, he started to take a developmental, more learner-focused approach, particularly in his fourth-year course. The research helped him become more informed about teaching and change his focus from delivering content to learning:

> *I realise now that I am not teaching Planning, I am teaching students (IMN/Carl/C2).*

Carl and I had an easy rapport from the first day we met to discuss his involvement in the research. He was looking for support to help overcome some of the challenges in engaging students to *"preserve his own sanity"*. As mentioned, having been a mentor in his professional career, he was very open to constructive criticism and reflective thinking. He valued the PAR process in allowing him to explore his teaching, and he felt the professional development time was well spent:

> *The involvement in this research has had negligible impact on my time – and in fact it has saved me time, by helping me design a smarter and more constructive lecturing programme (IRF/Carl/C1).*

7.6 JACINTA
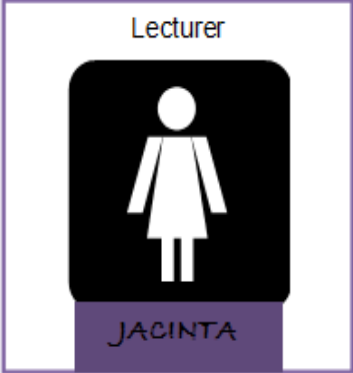
Jacinta was also recommended by Georgia as a potential participant in the research. She was keen to be involved as she wanted to learn more about supporting students to develop competencies needed to succeed at university. The research took place in Jacinta's first-year course, Course 1-2.

Jacinta was initially focused on delivering content, and had predominantly teacher-directed lectures, but she immediately saw value in the learner-focused pedagogy when I discussed it with her:

I've never really done anything differently so I only ever taught courses where I have delivered lectures. I've never taught a course where I've delivered a mixture of lectures and tutorials, so to be honest, I don't know any different (IIN).

She felt constrained by the timetable of three 50-minute lectures per week and felt she had little time for collaborative learning activities in class.

Figure 15: Jacinta – Characteristics, Challenge and Shift

Lecturer	TEACHING EXPERIENCE	
JACINTA	6 years part-time	
	KEY FOCUS IN TEACHING	
	BEFORE RESEARCH	**AFTER RESEARCH**
	Content / Values	Values / Reflection / Skills
	RESEARCH CHARACTERISTIC	
	Shared Practice	
	RESEARCHER CHALLENGE	**SHIFT**
	Supporting an instructor who lacks experience in teaching academic competencies to teach IL	Developing academic skills while learning content became important

She was sometimes concerned over classroom management during peer-discussions in terms of keeping students engaged and on task. Her key concern was students wasting the limited time she had with them, and she was keen to focus on strategies to make discussions meaningful and engaging:

I think the lecture format doesn't necessarily or doesn't naturally allow for a lot of discussion… it really depends on the year. This year my cohort has being quite a vocal cohort and has been quite open to discussion when I have provided for it and facilitated it within lecture time, but last year's students were not so vocal (IIN).

Jacinta was initially not familiar with the term IL; however, we had discussed it prior to her interview, which had helped clarify her understanding of the more holistic nature of it as a process rather than a discrete set of skills (see 2.1.2):

For me it means students being able or being cognizant of the process of researching for assignments, like essays and reports, and being able to find information and evaluate and use it (IIN).

She also recognised students lacked IL competencies that would support their learning, and that they therefore needed a greater level of support for IL development than she was currently providing. When asked if it was included as a key learning outcome for the course, Jacinta responded:

I do now! And I think I'm learning about it too because it's not something I have thought about consciously before (IIN).

243

Jacinta saw participation in the research as an opportunity to share practice. She was confident and passionate about teaching her content, and valued the opportunity to have support in decision-making and advice on ideas she was developing. She engaged in discussions around learner-focused instruction, and she was eager to make changes to enhance student learning and gain greater personal satisfaction from her teaching. Our discussions revealed she was keen to support students to understand their values, and how information impacts on learning, which enabled opportunities for reflective learning within her course (see 6.9.1):

> *They always have to be aware of their own values, and they have to be aware of other people's values and the positions other people are coming from (IIN).*

> *I really see value in them having to identify and select sources, and then identify the ones that are most relevant and why. I think that's really important (IMN/Jacinta/C1).*

Jacinta was also open to learning from students' feedback throughout the action research process and was aware of her strengths as a teacher, but she was also striving to continually improve as both a teacher and a learner.

Jacinta took ownership of all the interventions developed for her course and committed to the extra time needed for marking and formative feedback required by the new process-focused tasks. Revisions of the interventions were openly discussed. She was very aware of workload for both herself and her students but also saw the value in focusing on process to support learning:

> *It was a big time commitment, mainly in terms of the marking. Contact with you as the researcher, I thought was good; it wasn't too little and it wasn't too much, so the main time commitment came from the additional marking (IMN/Jacinta/C1).*

The conceptual shift for Jacinta happened early in the research. Throughout the action research process, content became a lesser focus, and developing skills while learning about content became important:

> *J: At the beginning I knew nothing, and now I feel like I have a basic understanding of IL.*

> *AF: How about your responsibility for developing these skills in your students?*

> *J: I hadn't consciously thought about that before becoming involved in the research and now I see that I have quite a clear responsibility in terms of their learning to teach them about IL, and how to be information literate, and how to actively incorporate that into the lectures (IMN/Jacinta/C1).*

Jacinta became aware that the content can be learned more thoroughly with a focus on the process of learning embedded in the course.

The challenge in working with Jacinta related to supporting a person without experience in teaching academic skills or designing formative learning tasks to implement desired changes connected to these pedagogical aspects. Even though she was keen to embed the development of IL and other academic competencies, she found it challenging because she was not aware of the theory or pedagogy around them. She was also unsure how to emphasise the process in learning, and was unfamiliar with discourse to discuss writing errors. Despite these challenges, she recognised the benefits of focusing on learning in her courses:

> *The changes to the assessment have also changed my lecture schedule and the content of my lectures, because I've had to include sessions from the Library and Student Learning Development Centre, a class discussion on Assignment 1, and also instructions on i-maps. I think it's a positive change because we tend to be so focused on teaching our content that we overlook teaching the basic mechanics of learning, which includes finding, evaluating and using information (IRF/Jacinta/C1).*

Jacinta's focus on values within the course content prompted her to consider her own values around teaching in more detail than she had before. Participation in this research highlighted the benefits of focusing on learning rather than teaching. As we progressed through the action research process, she was deeply reflective on her own practice and was able to clearly articulate her own learning. She had insightful input into the development and modification of the interventions during both research cycles. Jacinta valued the opportunities within the action research process as a means to reflect on change and make informed decisions:

> *I look at some of my other colleagues and they are experimenting with stuff … but they don't get any assistance with their assessments and they don't get this kind of opportunity to reflect on how it's all going. So, I think it's really good … When I am working with you, it's not random. It's not just me trying it out to see how it works. It's actually designing these elements of the course, which are then integrated into the course. They have a purpose; they are purposefully designed and then they get measured by me, by you and by the students. So, it's a really good process (IMN/Jacinta/C2).*

7.7 JANE

Jane was approached as the new paper coordinator for the Course 4-D capstone project, and became involved in the research from 2011 onwards. The

Course 4-D final project provided insights into strengths and challenges fourth-year students had as they entered the final year of their degree. Jane had heard about this research from her colleagues and she was keen to benefit from the discussions around teaching and learning that were part of the process.

As a new university instructor, Jane had not developed a strong focus or any major concerns around teaching and student performance. However, she was aware of her colleagues' concerns around student performance and soon developed her own conceptions of student ability when the first assessments were submitted.

> *One of the key challenges that soon became apparent in teaching this course was the time pressures that students were under in the first semester. As well as their research project, time pressures were compounded by two other core papers requiring the students to work on and deliver a group project. The research projects seemed to be put to one side, as the demands of these other papers took over. In the first year of delivering this paper the assignments reflected this through a lack of critical engagement with the literature that they were reviewing (IRF/Jane/C1).*

Figure 16: Jane – Characteristics, Challenge and Shift

Senior Tutor JANE	TEACHING EXPERIENCE New Teacher	
	KEY FOCUS IN TEACHING	
	BEFORE RESEARCH	**AFTER RESEARCH**
	Practice / Research Skills	Practice / Reflection / Research Skills
	RESEARCH CHARACTERISTIC Mentored	
	RESEARCHER CHALLENGE	**SHIFT**
	Supporting a new teacher to take risks in teaching and engage in reflective practice	Emphasis on student-focused pedagogy and reflective learning

Being involved in undergraduate research teaching, Jane was familiar with the basic competencies needed to be information literate, and she had developed some familiarity with the term through conversations with colleagues about this research:

> *I think it's being able to critically evaluate information that you have. It's being able to find relevant information and also being able to identify gaps in the information… When I joined [university] I was talking to [Fran] and [Jacinta] about how you were involved in the courses, then I went along to your confirmation seminar, so I've sort of become more aware of it as a term (IIN).*

In working predominately with fourth-year students, she recognised where students were still struggling with effective selection and use of information and could address this in the workshops offered as part of Course 4-D (see 6.4.3). She felt it would be useful to include IL as an explicit learning outcome for future semesters:

> I've inherited these papers and so I would probably look to include [IL as a learning outcome] in there going forward, but in saying that, I think it is inherently implied in outcomes that we would expect people to be able to take some information, work through it, and come up with … where the gaps are and critically analyse it. So, it's inherently implied, but it would be better if we could explicitly state it (IIN).

Her focus on teaching became centred on Planning practice and research skills due to the content-base of her courses, and thus, she supported a strong focus on IL development:

> On graduating from this programme the students, once employed as planners, will be expected to critically engage with the information that they're presented with. Such information will range from comprehensive policy discussion documents to submissions on planning matters from lay persons. Developing the skills to evaluate information and then use it for their particular purpose will be essential in their role, as will determining what additional information is needed. IL is central to the purpose of this paper – but has far wider implications for their learning (IRF/Jane/C1).

The key challenge in working with Jane as a new teacher was supporting her to take risks in teaching and engage in reflective practice. Like other instructors, Jane's experience of learning at university had been teacher-centred lectures (see 3.3.1). Having had no formal teaching background, she was unfamiliar with teaching pedagogy, and her teaching style was largely trial and error; however, she was willing to explore learner-focused pedagogies. She lacked the experience of trialling a range of learning tasks and was nervous about how students would engage with them. Evidence of Jane's developing teaching pedagogy could be seen in her reflections from early on:

> This was my first 'proper' lecture and it went ok. [It] finished a little early, however, which for the first day back was probably not a bad thing.

> I think there was too much of me talking, and having been to subsequent lectures run by others and various teaching and learning courses/groups, would like to make this a little more interactive next year. ALTHOUGH I did ask them to introduce themselves to me and give details (as much or as little as they wanted) about their choice of planning, where they'd like to work and what their research topic might be. This was useful for me in terms of getting to know them, but I think it'd be better to do this as a 'think-pair-share' type exercise (IRF/Jane/C1).

Careful planning and preparation were important for Jane, but she was also keen to develop flexibility and innovation in her courses to promote student

engagement in their own learning. She indicated she had been reflective as a Planning practitioner and this had crossed into her academic role. She recognised that there is always a level of uncertainty when developing and modifying existing course structures, and believed her confidence would increase once she had taught the courses two or three more times. The increased confidence was apparent in her final reflections:

> *I feel more comfortable in my teaching role. I've used different techniques in the classes I've taken for this paper, but because of my limited class time for this paper, it's actually my other papers where I feel I have more scope to be creative in terms of student engagement (IRF/Jane/C2).*

Jane was a willing, enthusiastic, self-reflective participant in the research and was striving to continually improve as a teacher and learner. As mentioned, the research engaged Jane at an early formative stage of her teaching career, and resulted in her being open to experimenting. She was drawn to learner-focused and reflective teaching pedagogies, and she appreciated my opinion on ideas she was considering trialling, particularly related to creating opportunities for student discussion and reflection to support their learning:

> *Having left a corporate Planning environment, where even the most basic letter was peer reviewed for quality assurance purposes before being sent, I felt fairly strongly that any new ideas that I had should be run past a more experienced teacher before being implemented – both for the student's sake and for mine! Having your support was invaluable, particularly for the teaching I was doing for this paper, but also for more general things like ideas for generating marking rubrics … I feel much more confident in applying new ideas aimed at increasing student engagement to my teaching, although to be fair – I'm still a strong supporter of getting these peer reviewed! (IRF/Jane/C2).*

Jane was pro-active in adopting learner-focused pedagogy and reflective learning and indicated that had she not participated in this research, she would likely have adopted lecturing as her main mode of content delivery. However, as a result of our discussions and idea sharing, student interaction in the classroom became an important focus for her courses:

> *My involvement in this research was really useful, both in terms of having Angela as an independent sounding board for ideas, but also because it led me to explore further the importance of learner-focused teaching. Again, this wasn't reflected so much in [Course 4-D], but rather in my professional practice courses, for which I sought specific advice from a Teaching and Learning Consultant. Although my teaching will still involve an element of 'lecturing', this will be supported through in-class activities aimed at engaging the students more. I will also be using a specific topic as a lens through which to look at planning practice, in the hope that we will effectively be learning together about opportunities for this particular topic as it relates to planning practice (IRF/Jane/C2).*

Our on-going conversations around teaching and learning were, and continue to be, informal:

> *I've thoroughly enjoyed our discussions over coffee and will miss them once your research is finished! It's been a real support for me to have you as a sounding board – particularly as you've had the 'student learning hat' on – so you've challenged my thinking (IRF/Jane/C2).*

7.8 Reflections

Throughout the research, I saw a significant shift in the way participating BEP instructors viewed their roles in developing key IL and academic competencies within their content courses, from either no focus or a deficit focus on skills development to creating explicit, developmental, active learning opportunities. Although all participants engaged with the notion of learner-focused pedagogy (the ideal), we did see the impact of constraints within university workloads and support for teaching, and the impact these have on staff pedagogical development (the reality). A successful outcome for the research is that the commitment to change and conversations with these instructors has continued beyond the research.

CHAPTER EIGHT
Key Factors Determining Students' IL Development

A key purpose of this research was to identify ways that explicit instruction and discussion around IL would contribute to student learning. While much of the focus in this thesis is on the teaching approaches and interventions developed to support IL, it is also important to recognise student factors that impacted on their ability to develop IL competencies. This chapter offers a brief snapshot of six factors which emerged as key determiners in BEP students' acquisition of IL.

Data for this chapter were collected from five cohort groups across four semesters from August 2010 to July 2012 (see 6.1, Table 13) through surveys, focus groups, reflective journals and a review of marked assessments. The number of student participants is outlined in Table 10 (see 4.8.4).

Quotes have been selected to represent common themes from students, and to capture individual, yet significant ideas. Consistent with Chapter Six, data are coded by data type, course code, cycle and cohort; for example (SFGC1-1/C1/D) indicates: Student Focus Group, Course 1-1, Cycle 1, Cohort D. Fourth-year students discussed both Courses 4-1 and 4-D within the same focus group, and data are therefore coded as C4-1&D.

The seven key factors that impacted on BEP students' IL acquisition are identified in sections 8.1 to 8.7. These factors connected to students' existing competencies and approaches to learning, and to the provision of support for developing IL and other academic competencies at secondary school, during the transition to university, and throughout their undergraduate degree.

8.1 Students' Understanding of IL

Like the instructors, most BEP students, even third and fourth-year students who had experienced two or three years of learning at university, seemed unfamiliar with the term 'information literacy' before it was introduced in this research. A number of students connected IL to the idea of information 'gathering':

> *AF: What's your understanding of information literacy?*

S1: Nothing. But what I gather from the journals and stuff it means how to gather data for research. Like how you organise it (SFG/4-1&D/C1/A).

S2: I'm still a bit confused … trying to broaden our techniques of research and gathering information and processing it? (SFG/2-2/C1/B).

S1: I don't actually know what that means, speaking totally honestly. Like how you understand literacy?

S2 :Is it how you gain information? You know, research stuff.

S3: It'll be the process you go through to find information to use (SFG/4-1-2/C1/C).

Literacy that is informational? (SFG/1-1/C1/D).

Those who returned to focus groups in Cycle Two seemed to have a better understanding of the broader aspects of IL including evaluation:

S1: Just about how you go about finding and using different resources available.

S2: Isn't it like evaluating the sources as well and not just taking it at face value, and looking at whether it is credible or not? (SFG/3-1/C2/C).

8.2 Preparedness for IL Demands at University

Student recollections of how they learned IL and other academic literacies indicated that few had developed any systematic approach to developing academic competencies. Several students indicated that high school had not prepared them for the demands of university assessment and learning, a concern expressed in the literature (see 3.1.4). The step-by-step assessment requirements of the NCEA standards-based assessment did not require the critical use of information. Furthermore, accepted information search practices at high school did not encourage the active engagement with information that university research requires:

I don't really think that school helped me very much for coming to university, at my school anyway. The gap is so different. There is nothing that really leads you in to university, like finding scholarly sources and referencing ... I didn't know any of that (SFG/1-1/C1/D).

High school didn't really teach me much because they were just like "You can find this on the internet or find it in your encyclopaedia and copy it exactly right back out again (SFG/3-1/C1/B).

We were allowed to use Wikipedia back then. You didn't really need references back then as well (SFG/3-1/C1/B).

Once students entered university, there was limited collective introduction to effective research strategies and no sustained and extended IL development over the course of their undergraduate degree. Few students in Cohorts A and

B received library instruction beyond the 50-minute 'one-shot' introduction to database search strategies as first-year students. Any additional library sessions offered in other minor subject areas repeated the introductory sessions rather than extending the research and cognitive abilities that supported students to engage with information to learn.

As a result of having no sustained IL development, student information-seeking behaviours were individual and complex, and few students seemed to have developed a robust research process (see 6.3.5.2). Some commonalities in search behaviours included using Google as a starting point and having a strong reliance on immediate access to online, full-text electronic resources, which is consistent with student approaches outlined in other studies (see 2.5.1). Furthermore, many students struggled to access academic articles through the library website and databases, and were not keeping up with changing tools for finding and accessing information, including Google Scholar and the federated search tool 'Library Search' introduced to the library in 2010. Although students had developed basic IL skills over time, Cohort A and B students' IL practices could not be considered effective research strategies appropriate for honours-level study by their fourth year at university.

8.3 Instructor and Student Mismatches

A clear mismatch between instructors' assumptions and students' approaches to learning became apparent as this research progressed. Cohorts A and B were the students BEP instructors had described as 'lazy', who struggled to write well, find appropriate academic sources for assessments, or think critically. They had been expected to develop essential academic competencies on their own but, apart from a few able students, most seemed to have struggled to do so effectively. Some third and fourth-year students perceived that the instructors lacked interest in their learning. Very few students attributed their lack of academic literacy to laziness and indicated they didn't want to be spoon-fed; they wanted clarification and consistency to support their learning:

> *I don't want to be mollycoddled the whole way through. I do want to step out and I do read. I do find stuff interesting, so I will include it and go in my own direction. But then if a hit a wall, I want something to be able to turn to, to be able to work out how to get around it. I just want that there (SFG/2-2/C2/C).*

This mismatch led to students becoming frustrated at the perceived lack of clarification of instructors' expectations, and was compounded perceptions of instructors' apparent differing expectations. This mismatch impacted on students' approaches to getting support with learning and the value they saw in using feedback to learn.

8.3.1 Getting support with learning: people vs print resources

A further mismatch was found between the instructors' belief that university learning advisory services provided adequate support for the development of students' IL and academic competencies (consistent with research outlined in section 3.4), and the students' actual use of these services. Most students did not independently seek support to develop academic literacy. Instead, they tended to use print resources like the university's online writing and learning resources or generic writing guidelines (websites and books) rather than librarians and learning advisors, and they rarely asked lecturers for advice:

> *I don't really go and get help I don't think. I maybe look at Hacker[33] a little bit and then [the online resources] but that would be it. I don't really go and ask other people. Probably should but not at the moment (SFG/1-1/C1/D).*

First-year students had no consistent understanding of the support services offered by the university. Cohort E (first semester, first year) students hadn't sought support as they did not realise they had writing problems until the assessments had been marked and returned with feedback. Those who did know about the services lacked time to utilise them:

> *I generally don't have time to go. Everything else is happening and you don't really have time to go and sit down with someone and say "where do I need to go with this?" unless you are really struggling. I'm just going constantly, so you think about it once you get home and you can't turn around and come back (SFG/1-1/C1/D).*

At the higher levels, the few students who used the learning support services in first year no longer accessed them from second year onwards, as they had increased confidence in their research and writing abilities. However, one fourth year student did highlight that, with the benefit of hindsight, she could see the value of being pro-active in seeking support to develop writing skills:

> *I went to a couple of the academic writing ones from the Student Learning because I'm not going to be here next semester, and I wish that I'd gone to more of them when I was*

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[33] Diana Hacker's (2009) *Pocket Style Manual* is a recommended course text in Course 1-1.

younger because they are really helpful. I don't know, I think it's that mentality when you're younger and in the first couple of years, it's like produce the bare minimum sort of thing (SFG/4-1&D/C2/B).

A key factor limiting the use of academic learning advisory services was that some students felt the generic advice did not match the lecturers' expectations. Because learning advisors did not know the lecturers' preferences, they were limited in what advice they could offer. Furthermore, students tended to focus on product over process and saw learning advisory services as a means of getting an assignment edited, rather than as an opportunity to learn how to research and write effectively.

8.3.2 Using feedback and models to learn

Another mismatch concerned the expectations of using feedback on summative assessments to learn (see 3.5). While BEP instructors believed that providing feedback on assessments was a key means of supporting students to learn to research and write effectively, students found it of limited use in supporting IL and academic literacy development. As mentioned previously, students indicated that differing lecturers' expectations created a barrier for using feedback to improve. One student indicated that simply telling students repeatedly what they should be doing doesn't mean they can do it. In response to what she perceived as particularly scathing feedback, she said:

> *When they give us feedback, you know like [instructor] did, I know [s/he] thought we didn't know it, but it was nearly insulting because we've been told it so many times, we just suck at it … It was highlighting that we were really bad at something. We knew it and no-one really likes being reminded of their faults (SFG/4-1&D) C1/A).*

Consistent with the literature (see 3.5.2), the main restriction students experienced in using feedback to learn was that it was often provided on summative tasks. While it may have been useful, it often indicated problems but offered no opportunity to address them in the same course:

> *Like for mine, she said "you need better content", but what does that mean? I had 12 different sources all contributing something. I didn't really know what that meant I guess (SFG/1-1/C2/E).*
>
> *S1: There's feedback on the assignments, but sometimes by the time you get that feedback then it's possibly too late, or is maybe not enough.*
>
> *S2: I don't think the feedback is enough. I just think there is not much to help you. You have to go out and do it yourself ... improve yourself (SFG/2-2/C1/B).*

255

They were like "here's your question. I don't want to tell you anything about it, I want to know what you have to say". I had no idea what to write. I was completely lost and my marks reflect that, and then we get all this feedback afterward, and it's like "oh cool, but I wish I had known that beforehand". Although you are learning, and you've still got a mark that's worth something, I want as much help as I can get to get a great mark and so you know the information by the end of it, but there's no reflection (SFG/2-2/C2/C).

A further challenge connected to the use of formative feedback and models or exemplars to support learning. Very few instructors initially had formative feedback opportunities connected to the major assessments, often seeing the provision of such resources as 'spoon-feeding'. The main constraint on using formative tasks was the additional marking time and necessary quick turn-around for the feedback to be beneficial (see 6.8.1 as an example). Instructors were also reluctant to provide models and exemplars because they were concerned that students would feel constrained by them, or (rather than discovering the appropriate task requirements for themselves) would mimic the structure and style which would lead to surface learning. Therefore, Cohort A and B students had had few models for unfamiliar writing genres or to indicate standards required at each level of study:

S1: I remember in your little session you gave us an example of a previous student's honours thing and having that helped, just showing how you had the multiple sources of references.

S2: Yeah, that was the first time I'd ever been shown an example, and that was really helpful I think (C4-1&D/FGC2/ B).

Students valued scaffolded support through formative feedback and models or exemplars provided through interventions in this research because they clarified instructors' expectations, indicated standards required, and provided the structures of unfamiliar writing genres. This was particularly important for first-years, which is unsurprising considering that reliance on such models and exemplars is a perceived feature of the high school NCEA assessment (see 5.1). First-year students indicated that without the models and feedback opportunities, they would not have been able to complete the assessments successfully:

I think because the outlines in the study guide were so vague, it was really down to those model sheets that actually made us know what we were doing. If it wasn't for those, I probably wouldn't have passed anything (SFGC1-1/C1/D).

Higher-level students also appreciated scaffolded support as they progressed through their degree and expectations on them as learners increased.

256

However, they felt any models needed to be representative of the level of academic writing they were currently working at (for example models of previous A-level student work), as examples of professional reports they were encouraged to look at were perceived as being beyond what they could realistically achieve:

> *S1: But also like when [instructor] says "to see what a report is go to the Ministry of Environment". And they are so farfetched from what we would do, I mean those are pitched to the public, to politicians, everyone. I think we should be given more reports on the basis that we would write, or even if the lecturers could do up one of what they expect from us.*
>
> *S2: Or maybe like an A-student from the year before and ask them if they wouldn't mind and everything is anonymous, like using their structure ...But, you know, ask their permission. Of course I don't want them going back two years later and finding that people have been using it (SFGC3-1/C1/B).*

Students also felt that formative feedback on their own work was more valuable than generic or discipline-specific models. They suggested it would have been beneficial to have insights into key problems emerging in their research and writing process provided through formative learning prior to completing the task:

> *S1: Often when they give feedback on an essay you're like "that's nice, pity it doesn't matter anymore".*
>
> *S2: Yeah, you kind of just don't care anymore … you just want to know your grade and that's it (SFG/4-1&D/C1/ A).*
>
> *Especially because quite a lot of the stuff would be common, I assume, throughout the students. So instead of having an 'after' things it would be better to have like a lesson or something on kind of what's expected and common speed bumps that students have to try and nip them in the bud before you get the bad marks and then can't fix it (SFG/4-1&D/C2/B).*

8.4. Assessment Design and Acquisition of IL

Students' understanding of how to learn at university was clearly influenced by their instructors' approaches to teaching and assessment (see 3.3; 3.5). The focus on content and assessment was evident for students in the BEP, and therefore the design of the assessments impacted on how students developed IL. At the start of this research, almost all courses had traditional forms of summative assessment (essay, report, test exam) which became the focus of student learning. The innovative tasks that each instructor designed accounted for 15% or less of the overall marks, and were still only graded on a summative assessment of the final product (see 5.3.2). Students' task-oriented approaches to the assessment were often strategic or utilitarian (see 3.2), with the main

focus on content and summative assessment products. The design of the existing traditional assessment structures that focused on product over process meant deeper engagement in learning, and particularly developing IL and writing skills alongside learning content knowledge, seemed to be missing for the majority of the BEP students.

Traditional assessment designs impacted on how students developed IL and other academic competencies. The deadline for assessments, which tended to accumulate in certain weeks of the semester, created challenges for most students. Ineffective time management often led to last-minute assignment completion, which meant students were not allocating adequate time to develop and reflect on their research and writing processes. Cohort B students indicated they consistently neglected editing, a key aspect of the writing process, even though spelling and grammatical inaccuracy was often penalised in marking:

> *S1: I think you over think it when you have it too long in front of you. You over think it and you try to get too fancy and stuff.*
>
> *S2: And then in saying that, you might want to block your ears again, I've never once proof-read anything.*
>
> *S1: See she's worse than me.*
>
> *S2: Type it. Print it (SFG/3-1/C1/B).*
>
> *It depends if I started early enough, then I'll have not stopped thinking about it enough to actually read it through and edit it. Otherwise I go to proof read it, and I just end up skimming over stuff because I've already written it and so I already know what it says (SFG/3-1/C1/B).*

Prior to the interventions in this research, students perceived that instructors spent little time discussing assessments in class, and students were often confused by what the assessment tasks required. However, few students sought clarification prior to the task completion, often resulting in disappointing assessment outcomes, particularly when their efforts did not meet instructor expectations:

> *S1: You can kind of see why they are doing it [not clarifying expectations] but then it's a bit harsh when they are like "you've got a fresh scope but that there really isn't what I was looking for.*
>
> *S2: Anthropology lecturers are quite good because they actually tell you what they want, while Planning lecturers they don't tell you anything. They'll say there is no wrong answer and you'll be "sweet", but you get it back and apparently there is a wrong answer (SFG/3-1/C1/C).*

The interventions were designed to refocus the design of assessment to support students' IL and academic literacy development, integrated through workshops and formative assessment. This resulted in greater awareness for both the instructors and students of the importance of developing IL to improve research and writing outcomes. Scaffolded support via process-focused assessments involving formative feedback opportunities created a noticeable shift in student approaches to assessment tasks and led to deeper engagement with IL development earlier in the research and writing process (see Chapter Six).

However, a tension emerged between knowing that engaging in the process was important, and the time it took to complete the process-focused learning tasks. While students generally valued formative and reflective tasks when there was feedback prior to assignment completion, most students admitted they would not focus on the process in such depth if it was not part of the assessment (see 6.11.2).

Despite these tensions, students seemed focused on developing their IL and academic competencies as part of their learning. Students felt that they were encouraged to put more effort into the tasks and that the process was much less stressful:

> *The interventions brought the writing of this paper to a higher level and made me more motivated to do them. It seemed like there were expectations on us and a true place for improvement for us as learners (SJN/1-1/C1/C).*

> *Everything that we have had to do or been exposed to has made us think … about ourselves and what we are doing, and if it's good enough and if it's going to get us to where we think we should be or where we think [Georgia] wants us to be (SFG/1-1/C1/D).*

> *I think, too, it's what you really focus on. So if that's been pulled into the degree, you're going to focus more on writing … whereas I've got quite a habit of focusing on subjects and the knowledge of that subject … and the writing's more in the background … This has sort of more pulled it more into the front … which has been a little bit more challenging but it's learning and growing at the same time (SFG/1-2/C2/D).*

8.5 Instructor Autonomy and Students' IL Development

The key challenge in creating the interventions across the four years of the BEP programme was that the courses were run independently and autonomously by each instructor. This limited the coherent, deliberative graduated development

of IL and other academic competencies. Although there was an overall curriculum to be completed as students progressed through the BEP degree, instructors were largely unaware of what was happening in other papers, both regarding content and academic literacy development (see 5.3.5). As Fran alluded (see 6.10.3), this may have been due to a lack of communication in the BEP. The discussion with instructors through this research revealed crossovers and gaps in both knowledge and skills development that had partially resulted from changes in staff over the past six years as each new instructor modified the courses towards their own strengths and interest areas. Therefore, student learning was affected by the autonomy of individual papers that limited a deliberative, coherent, graduated development of IL and other essential academic competencies.

An impact of instructor autonomy within the broader programme was the resulting inconsistency in instructor expectations. As indicated previously, a strong theme that emerged from focus groups with students at all levels of the BEP was that successful learning depended on understanding instructors' expectations for assessment tasks:

> *[Georgia] absolutely loved my writing style in first year, but then in second year I had [Fran] and she hated it, but still liked me. It just shows you have to learn how the lecturers want it done before you start (SFG/3-1/C1/B).*

While the assessment structure within the BEP was common across the courses (essays, reports, tests and exams), the variation within each writing genre created challenges for students:

> *S1: Everyone seems to want different things from a report, so it's hard to get one structure rather than everyone – like for the one we did for [instructor name], he wanted methodology and contents pages. It was only like 7 pages long but ones we've done for [Fran] in the past have been like 7,000 – 'oh I don't want a contents page and I don't want this.' So it's real hard.*

> *S2: I think it's probably quite crucial that we're all going through Planning, so I think if they decide on a structure right at the beginning that you follow through the whole course then I think you're not going to be worried so much how it's going to be set out (SFG/3-1/C2/C).*

The differing expectations meant students struggled to successfully transfer learning and feedback from previous tasks as they advanced through their degree. Students saw this as an inconsistency that inhibited their learning and they wanted greater consistency across the programme.

Another outcome of instructor autonomy was that students were not prepared for the changing demands of each academic level as they progressed through their degree. The impression gained from talking with Cohort A and B students was that they had been learning in hindsight throughout their degree. By the end of each academic year, through feedback and experience, they had discovered the competencies they needed to be successful for that year. However, they then entered the next level of study with competencies appropriate for the lower levels, and were struggling to meet the new expectations at the higher levels of the degree. They strongly felt more support was needed to meet the lecturers' expectations, task requirements, and standards to become better learners:

> *I think something definitely needs to happen at first or second year because there's really nothing guidance-wise for writing. Nothing was showing us the expectations (SFG/4-1&D/C2/B).*

This was particularly noticeable for Cohort B who, as second-year students, were still adjusting to the demands of university study, and wanted clearer explanations of what was required of them. As suggested earlier, instructors in the programme teaching at the higher levels valued independent learning and viewed supporting learning as 'spoon-feeding' (see 5.3.3.2). Therefore, students progressed through the BEP without sufficient scaffolded support for IL development beyond information-seeking strategies:

> *I guess some of the sessions [I] have been to through the library have been quite helpful for searching, using the search engines, and things like that. A couple of lecturers have provided some guidelines for sources that you should probably go and use, and others have been extremely vague on it. Then there's just been the process of start off with basic Google searches and then try and go from there (SFG/3-1/C2/C).*

8.6 Interactivity and IL Development

A key aspect of the interventions developed within the research was learning-by-doing (see 3.3.6). This meant creating assessments and skills development workshops which connected to tasks immediately relevant to the students at point of need (see 6.2.2.2). While the workshops were focused on the assessment tasks within each course, the broader research and writing process was highlighted and explored to support potential transferability of skills learned to other tasks. Interactivity is connected to the more cognitive elements of learning, including problem-solving, analysis and reflection (see 3.3.5).

261

Therefore, workshops involved students' interaction and discussion. While the discovery process was important within interactive sessions, time restrictions meant the desired level of interactivity was not always achieved.

Interactivity was a key focus of the modifications to library workshops created and modified as part of this research (see Chapter 6, Part I). The workshops aimed to reduce instructor-directed sessions (lectures) and focused on understanding and extending students' existing knowledge. There was a noticeable difference in students' IL development, particularly in their approaches to information searching, following the interactive library workshops; while the Cohort A and B students, who had been introduced to database search practice through library lectures, exhibited unrefined search processes, students in the focus groups for Cohorts C, D and E reported that they had immediately modified their search habits. These students used a wider range of search tools and were more aware of careful consideration when finding, evaluating, and using information sources:

> *I've been using [Library Search] quite a bit also. [It] seems to come up with pretty good results and [I've been] using the advanced Google search thing as well that we were shown in the tutorial (SFG/3-1/C2/C).*

> *I definitely think I use more scholarly sources … like from maybe chucking in one or two … that would have made me happy. Now, I just try and use all scholarly sources as much as I can and find very little of anything else (SFG/1-1/C2/E).*

8.7 Reflection and IL Development

Opportunities for reflection on learning are essential for developing IL (see 3.3.7); however, a key observation in our research was that most students did not naturally engage in reflective learning practices. Students had rarely been required to reflect on learning at high school or since they entered university and, as a result, it seemed they had no real sense of how they were learning. Learning IL competencies was 'just happening' through feedback and practice rather than intentional reflective processes leading to change:

> *S1: I've been thrown in the deep end and just worked it out for myself at university. I was terrible at school so that didn't help.*

> *S2: I think we have just absorbed it from working at school, and then through here you just figure out what you need to find, what you need to do … I have just picked it up and learned as I go as well (SFG/1-1/C1/D).*

I think now with [named course] that this semester has taught me to be so much more critical of what you have because everything is also from one's person's perspective. So that's where I think the majority of my skills are coming from now. Before it was just hit and miss; if you got it, you got it, if you didn't, you didn't (SFG/3-1/C1/B).

To encourage students to be more reflective, interventions that promoted reflective practice around IL and the research and writing process were embedded throughout the BEP programme (see Chapter Six). The reflective, process-oriented tasks encouraged students to record and reflect on information-seeking processes, source selection, and key aspects of the writing process as they completed summative assessment tasks. An aspect of IL discussed in the library workshops that supported reflective thinking around source use was connected to the idea of research as conversation (see 2.4.3). Librarians and BEP instructors endeavoured to promote this idea in library workshops by identifying search trail techniques (see 6.3.5.2) and creating process-focused assessments including the Course 1-1 Source Justification, the Course 1-2 i-maps, the Course 2-2 PR&LL and the Course 3-1 reflective tasks. While fourth-year students engaged in the capstone research projects connected to the idea of a research conversation, students at lower-levels seemed to struggle with it and would require further explicit promotion of the concept to support IL development as they progressed through their degree.

As Bruffee (1984) indicated, merely requiring students to be reflective does not mean that they can. In the first attempts at reflective learning attached to assessment in Course 3-1 (see 7.6), it became clear that Cohort B and C students were not accustomed to being reflective learners. They tended to be product-oriented and strategic in approaches to assessment. Self-reflective practice is closely connected to engagement in learning, yet a number of BEP students seemed to be task-focused rather than learning-focused. Responses to reflective tasks indicated a surface review of learning processes, rather than a deeper analysis of strengths and weaknesses. Even though they saw value in reflecting on the process during and after assessments, they found it too time-consuming and not something they would likely do in so much detail if it wasn't part of the assessment. Therefore, activities that did not have sufficient scaffolded, formative support were perceived as 'busy work', particularly those designed to encourage self-reflective practice with no instructor input (see

6.11.2). Because reflection on learning was not being expected in other courses, it seemed to be extra work in Planning courses. Therefore, justifying the purpose and learning outcomes within tasks was important.

The positive impact of encouraging reflection to learn was observed in the Course 4-1 experiential learning project, where the Reflective Practitioner assessment encouraged students to reflect on what they had learned, rather than simply focusing on the group report produced (see 6.11.10). The extensive feedback provided by the students was viewed as the best part of the assessment for some students (see 6.11.9). Their experiences indicated that a stronger thread of reflective learning throughout the BEP would be beneficial to support the development of IL and other academic competencies.

The benefits of action research were also evident for the students. The process prompted students participating in journals and focus groups to reflect actively on their learning. They recognised the positive impacts participating in the research had had on their IL understanding and learning processes, as comments from three different cohorts show:

> *S1: Now when I go looking for resource, I think about it because you asked us where we got it and how we evaluate our references … It's just raised our awareness, which is definitely a good thing ((SFG/3-1/C2/B)*

> *I keep coming back and doing [focus groups] because I do find it helpful. I find it makes me think 'why do research? Oh, it's because of this'. I understand why I am personally doing this and I think that this had really helped me, like made me more aware of how and what I do (SFG/3-1/C2/C)*

> *S1: There's probably so many things you do that are just a process and you can go through the motions without really thinking about it. But this does make you go back and kind of analyse it and what you are doing, so it has been helpful*

> *S2: I think I am open to spending more time on research. I'm viewing it as more like and experience of something to gain , rather than, you know, bamming through it to write an essay (SFG/1-1/C2/D)*

8.8 Reflections

Student voices were central to understanding the challenges students face with IL and learning at university and in determining the value of the interventions. This research allowed me and the participating instructors to address our assumptions about student approaches to learning. Our discussions helped participating instructors realise that 'lazy' students were often struggling to learn

and needed support to become independent learners. I was excited to see that student responses to the interventions (as outlined in Chapters Six & Eight) suggested explicit instruction had made the research and writing process visible, and interactive library workshops and reflective learning opportunities had increased their awareness of the importance of developing IL competencies to support learning. This was a promising outcome and validated the changes we had made.

SECTION IV

LESSONS

LEARNED

CHAPTER NINE
Promising Outcomes and Lessons Learned

The key purpose of this research was to support BEP instructors to identify ways they could embed IL development into their curriculum and assessment to support students' learning during the transition into and through tertiary study. To achieve this aim, academic instructors, librarians and I collaborated to develop interventions for the participating courses. These included modifying existing library sessions and creating new and modified assessments to support IL development within the research and writing process. Key changes in assessment and shifts in instructors' and students' perspectives of teaching and learning were needed to ensure that supporting students' IL development was effective. A shift to a learner-focused, process-oriented view of learning guided this research. This shift involved reconceptualising writing concerns as developmental, creating opportunities for formative feedback, and promoting reflective teaching and learning practices. Active participation by BEP instructors in PAR contributed to significant change in the understanding and development of IL competencies within the programme.

This research sought to address the gap in research on how IL is perceived by academic instructors at NZ universities, and to explore pedagogical practices surrounding its teaching. Using PAR, this research aimed to identify ways academics could take a more active role in supporting students' IL development through the design of curricula and assessment and a focus on learner-focused and reflective pedagogy.

This final chapter explores emerging themes significant to this study that contributed to promising levels of embedded IL development we were able to achieve across the four-year BEP programme. The key question underpinning this research was:

> *What factors impact on the successful embedding of IL across the four-year BEP programme to support students to be effective learners in higher education?*

As outlined in Chapter One, six research sub-questions (RSQ) were explored within this research (see 1.1):

1. *How is the development of information literacy currently situated within the BEP?*
2. *Which factors support or hinder the successful embedding of information literacy development into BEP content courses?*
3. *Do BEP instructors need support to embed information literacy development into their content courses, and if so, what form will this take?*
4. *What constitutes effective teaching and learning at the university?*
5. *How does assessment impact on the way students learn?*
6. *How can we change the focus of information literacy instruction to move beyond skills and promote informed learning?*

Question 1 was significant in establishing the context (Chapter Five) and setting up the research. The remaining questions emerged as significant to the broader issues of integrating IL into the disciplines. Factors central to answering these questions are explored in section 9.1. Then, section 9.2 revisits the effectiveness of PAR methodology in facilitating and achieving change. The implications, limitations and future research directions identified within this research are outline in section 9.3. The chapter ends with final reflections on this research in section 9.4.

9.1 Factors Supporting and Hindering IL Development in the BEP

The focus on IL instruction in universities has traditionally connected to information-seeking and retrieval skills taught through 50-minute generic library sessions (see 2.1.1). However, post-2000 literature has reconceptualised IL as a range of competencies including critical thinking, evaluation and reflection, which engage students in actively using information to learn (see 2.2). This research connected to these broader holistic views and aimed to actively promote students' IL development within the BEP context. Central to achieving this change was firstly recognising that IL is central to learning, and then

embedding its development across the four-year BEP programme. The successes and challenges that contributed to the promising level of change we achieved are identified in sections 9.1.1 – 9.1.7.

9.1.1 Recognising that IL is central to tertiary learning

This study confirmed the centrality of IL in supporting students towards becoming informed learners in higher education (see Chapter Two). Two significant studies that informed this research were Bruce's 'Informed Learning' agenda (see 2.2.1), and Secker and Coonan's ANCIL framework (see 2.2.2). Both recognised key IL competencies (skills, behaviours, knowledge and attitudes) and emphasised the use of, and interaction with, information as central to learning. NZ librarians reported a widespread lack of understanding of the importance of IL for student learning in their interactions with academics. In this research, all participating instructors recognised the value of IL in supporting learning once the competencies it represented were highlighted as an essential way of learning at university. The explicit connection between IL and critical thinking in recent literature (see 2.3), and in this research, was central to cementing its value for learning for participating instructors. Overall, encouraging BEP instructors to recognise and accept that IL is fundamental to learning was a relatively simple aspect of this research. However, embedding it into the programme proved to be more challenging.

9.1.2 Embedding IL to support learning

The literature suggests that the most effective way of supporting students' IL development is to embed it within the disciplinary context (see 2.6.4). As mentioned above, through engagement in this research, the participating instructors and I recognised that IL is essential to learning and needs to be fostered within all academic learning situations (see 2.2). However, several studies (see 2.4.1), interviews with NZ university librarians (see 5.2), and the findings of this research identify several challenges that impact on whether it can be explicitly and effectively embedded into the curriculum within the current context of higher education.

The first challenge is that embedding IL relies on the motivation of academics to explicitly integrate it within their courses (see 2.6.2; 5.2) rather than relying on students to learn independently through trial and error. Embedding an explicit IL focus depended on whether participating instructors could shift their focus away from delivering content. Creating space for IL was initially seen as sacrificing content for skills. All BEP instructors initially perceived it was the students' responsibility to independently use university library and learning support services to develop IL and other academic competencies essential to success in learning. However, research suggests that many students entering university are not independent learners (see 3.4), and BEP instructors had recognised that previous students exhibited a lack of independent learning strategies throughout their undergraduate degree. As identified in the introduction to this thesis, a key concern when academics rely on students to independently develop IL competencies is that the academic integrity of universities is being determined by novice learners and the extent to which they are successful in discovering effective IL and learning strategies for themselves.

A second challenge related to the limited time allocated to library instruction. As suggested in Chapter Two, introductory library sessions often focus on tools and strategies to find information through introducing students to databases, with a limited focus on how information is used once it has been found. Yet, BEP students seemed to have no trouble accessing information, albeit often not through ideal methods. However, consistent with the literature (see 2.3), they did have trouble evaluating the information for quality and relevance, concepts that involve critical thinking and reflection on choices. Students suggested that, prior to this research, they had not been asked to consider source selection and use carefully in any of their degree courses.

A further challenge was developing a consistent framework to support students' IL development across the four-year BEP programme. Instructor interviews identified that staff changes and instructor autonomy had created gaps for students in both content knowledge and academic literacy development within the BEP curriculum (see 5.3.5; 8.5). The gaps had appeared due to incremental changes in courses as they were adapted to the interests of those teaching them. While the interventions designed in this research created scaffolded IL

development across the programme, they were created with individual instructors specifically for their assessments. Therefore, we recognised that the connections across the programme still needed to be strengthened. Although the interventions clarified expectations within each course (see Chapter Six), the transfer of skills and knowledge was not immediately noticeable within our research timeframe. The evidence of progressive IL development may emerge as Cohorts D and E (see Chapter Seven) progress through to graduation at the end of 2015; the positive impact of the interventions for these students had started to emerge in the data (see 6.8; 6.9).

One of the goals of this research was to address these challenges and make the connection between IL and learning explicit within the BEP. We did this, firstly, by adopting the ANCIL definition of IL that extended IL competencies beyond library skills and connecting IL to critical thinking, reflection, and learning within the discipline (see 2.2). Then, to explicitly support students' IL development we integrated face-to-face IL workshops into the first, third and fourth years of the BEP programme (see Chapter Six, Part I). The small cohorts of students allowed us to embrace the opportunities offered by face-to-face, interactive IL instruction.

Students then extended key IL competencies as they progressed through their degree through process-focused, formative, reflective learning opportunities (see Chapter Six, Part II). IL-focused assessments encouraged students to focus on process over product. Continued explicit IL development aimed to ensure that fourth-year students entering the capstone projects would be prepared to undertake the extended research required (see 6.5.4; 6.5.3). A promising outcome was that both the extended library workshops and the assessment tasks had raised students' awareness about how information use impacts on learning, and they had modified their research and learning behaviours (see Chapter Six & Eight). However, student approaches to assessment remain a challenge; despite recognising the benefits of IL and reflective learning opportunities, most students indicated that they wouldn't engage in the process as fully if it was not assessed. This suggests that the intrinsic benefits of focusing on process to enhance learning, without extrinsic reward (grades), had not been internalised.

Central to embedding IL in the BEP was establishing a thread of reflective learning across the programme through experiential and reflective learning tasks and assessments. However, I worry that this thread is fragile. Because I worked individually with participating instructors, the changes remain isolated in the participating courses; therefore, most BEP instructors still lack awareness of how IL competencies are being developed across the curriculum. If any participating instructors were to leave, the incoming instructor may not understand how IL development within their course fits into the overall programme. They may decide to drop the interventions we designed because they lack ownership of them, and, as NZ librarians had experienced (see 5.2.3), gaps in developing key IL competencies to support learning may once again appear. Maintaining the reflective focus on developing IL to enhance learning within the BEP curriculum will hopefully continue under the guidance of the five participating instructors who recognised the value of IL in learning and made a commitment to support students towards becoming informed learners.

9.1.3 Supporting academic instructors to embed IL

To effectively embed IL in the BEP required the participating instructors to not only accept its centrality in learning, but, more importantly, to recognise their crucial role in developing students' IL competencies to a level that promotes effective learning at tertiary level (see 2.6; 5.2.3). Consistent with the literature, BEP instructors were largely unaware of the term 'information literacy' but highly valued the competencies it represented (see 2.6.2). While librarians can teach students' information-search behaviours, basic evaluation strategies, and information management (for example, teaching EndNote), the higher-level cognitive IL competencies that connect more broadly to learning need to be fostered by academics within the context of the discipline (see 2.6). The literature suggests that, because academics control curriculum and pedagogy in their content courses, design the assessment, and determine the time allocated to developing academic competencies alongside content knowledge (see 2.6.2), they are well-positioned to explicitly support students' IL development and learning. Therefore, the challenge lay in understanding the barriers that prevented participating instructors from taking an active approach to IL development, and then supporting them to make changes that would enhance

274

student learning and address the deficiencies in graduate competencies recognised by both the BEP instructors and the NZPI.

This research found that the participating instructors needed explicit, on-going support to embed IL development into their content courses (Chapter Seven). As mentioned previously, BEP instructors were largely unaware of their potential role in supporting students' IL development explicitly within their curriculum and assessment, which aligns with McGuinness' (2006) findings. However, participating instructors were keen to explore ways to embed IL development within their courses. Throughout this research process, all participants came to realise they had a significant role to play in guiding and scaffolding skills development throughout their courses and the BEP degree as a whole. As untrained educators, they were keen to explore ways they could enhance student engagement with information to promote deeper learning (see Chapter Seven).

In exploring RQ3, the research found that the key factors that contributed to supporting BEP instructors to embed IL development into their courses included: fostering relationship-building and collaboration, exploring learner-focused pedagogies and assessment, challenging assumptions of independent learning, and recognising constraints on teaching in the university context.

9.1.3.1 Relationship-building

Supporting academics to embed IL was facilitated through relationship building and collaboration inherent in PAR methodology (see 4.3.2).Throughout this research, I saw a significant shift in the way instructors viewed their role in developing students' IL. This was achieved through building professional, collegial relationships based on mutual respect that fostered effective communication, helped maintain trust and confidentiality, and allowed us to engage in open and honest discussions. I learned as much from them as they did from me.

A key aspect of communicating effectively was that, as a participant researcher, I needed to listen to the instructors' concerns. Listening carefully helped me understand what they valued and where their concerns lay, and helped guide

the development of appropriate interventions for their individual courses. Any suggestions I made for change needed to be pedagogically sound, as we were developing and trialling activities and assessment formats with real students in real courses. The increased focus on IL and formative learning had implications for how the students would respond to both the interventions and the instructors throughout the semester.

Collaboration between BEP instructors, librarians, and myself was also essential to supporting academics to embed IL into their courses. Librarians taught the skills to find, access, and begin to evaluate information. Then, beyond the library workshops, content instructors fostered critical thinking around information use. The benefits of such collaboration are widely discussed in the literature (see 2.6.3) and emphasise the partnership between the library and the academics, as well as with learning support services and the wider university. It could be argued that, ideally, embedding IL into any academic programme needs to be supported by those in higher positions in the university to make sure it becomes part of the teaching and learning policies (see 2.6.4). However, within this research, although initial encouragement came from the NZPI, the change happened from the bottom-up with instructors making individual changes which, if sustained, will support the programme as a whole. My role in facilitating the collaboration between instructors and librarians involved supporting conversations, as instructors did not initially know what questions to ask.

This research emphasised that IL development opportunities needed to be directed by academics rather than being library-driven, cementing the central role of content instructors in supporting students' IL development. Although collaboration allowed us to pool strengths and share expertise, as the research progressed, BEP instructors realised that the librarians at the participating institution lacked the discipline-specific knowledge needed to direct students towards appropriate sources for a particular task (see 6.5.1). NZ university librarians had also indicated that, while they were familiar with discipline-specific resources the library held, they were less familiar with the content knowledge of the discipline. Librarians who had prior experience studying in the discipline, and those who had had extended relationships with specific disciplines,

recognised that they were better able to support students to engage with discipline conversations than those who were simply overseeing the subject (see 5.2.3).

9.1.3.2 Exploring learner-focused pedagogy

This research has cemented the essential role of learner-focused pedagogies in enhancing student's IL development. As outlined in Chapter Three, conversation on effective teaching and learning became a greater part of this research than expected. The participating instructors held a range of assumptions about teaching and learning and tended to rely on lecturing to deliver content and on traditional summative assessment to measure student learning. However, teacher-directed teaching and students' surface or strategic learning strategies do not effectively support IL development (see 3.3). Furthermore, as discussed in Chapter Seven, some instructors initially attributed poor performance in assessments to academically weak students and laziness. The perceived lack of engagement with content and readings and apparent surface approaches to assessment indicated to instructors that students were going through the motions of passing, but not necessarily exhibiting learning. The blame for the students' failures was perceived to lie with the students themselves.

Supporting IL development in the BEP required a shift in participating instructors' and students' perceptions towards learner-focused, process-oriented teaching and learning. This research offered BEP instructors an opportunity to explore learner-focused pedagogies that would foster active, engaged student learning and support informed learning. A move towards this approach helped raise awareness of key aspects of the research and writing process that were often neglected during last-minute assignment completion, or when students tended to see assessment as a task to complete, rather than as a means of learning. The instructors' focus in teaching impacted on the focus of workshops and assessment interventions within each course, particularly in Cycle Two. Instructors who recognised the value of shifting the focus away from the teacher and towards student learning required on-going support to develop and implement learner-focused pedagogies (see 3.3).

Section 3.3 outlined the teaching principles that informed this research. These included:

- Learner-focused/ constructivist approaches
- Collaborative learning
- Experiential learning – Learning by experiencing / doing
- Authentic learning linked to professional practice
- Process-focused learning (research and writing process)
- Reflective learning.

A theme that was particularly important for me was Shuell's (1986, as cited in Biggs & Tang, 2007) notion that what the student does in the classroom determines what is learned more than what the instructor does; learner-focused pedagogy recognises that effective teaching enhances learning for both the teacher and the student.

As the focus of our discussions shifted to how IL could be effectively taught within BEP content courses, we came to understand effective teaching and learning as a highly reflective process, involving both students and teachers in a collaborative, constructive learning environment (see 3.3.4). We recognised that effective learning requires the right balance of teachers teaching students and students learning from teachers (explicit instruction), teachers and students learning from students (collaboration), and teachers and students learning from themselves (discovery and reflective practice and learning). This understanding supported the shift to a focus on formative and reflective learning.

Developing a thread of reflective learning (see 3.3.7) was an important feature of the interventions designed to support student learning in the BEP. Our conversations encouraged regular reflection on practice for both the instructors and the students on their own learning and responses to course activities and assessments. Student feedback was important to the participating instructors, particularly when immediate change was not seen but the students indicated they had benefited from particular interventions in ways we had not anticipated. Reflective learning tasks for students encouraged them to think about *how* they were learning alongside *what* they were learning (see 3.3.7). Instructors also

benefitted from reading student reflections, as they could see where students still needed support in their learning.

However, developing effective reflective learning tasks that provide formative feedback proved challenging (see 6.11.2). Increased workloads for both instructors and students meant that engagement with the reflective learning tasks was not as deep as I had hoped, which is consistent with Hedberg's (2009) observation (see 3.3.6). Engaging in reflective tasks did not come naturally for students as it had not been an explicit aspect of their prior learning experience; this could be attributed to a lack of reflective learning at the university as a whole. It remains to be seen whether the first-year students who entered the BEP in 2012 will become more reflective learners as they progress through the interventions developed over the four-year programme. Such a change would require continued emphasis on reflective learning by all BEP instructors.

9.1.3.3 Creating assessment for learning

Discussion on how assessment supports or hinders learning was central to developing the interventions and considering what IL learning outcomes we aimed to support. The impact of assessment on learning is well-documented, with a common perception being that if you want students to learn anything, you need to assess it (see 3.5). Therefore, we investigated how we could create new tasks or modify existing assessments to explicitly focus on IL.

Initial discussions and observations identified that BEP instructors spent considerable time providing feedback on traditional summative assessments even though it was too late for students to make any improvements. Although a common theme that emerged from students was that success at university depends on knowing what their lecturers want, they felt that feedback on summative assessments held little value in supporting their learning. Students identified feedback on summative assessment as a barrier to improvement because they could not immediately apply it to subsequent assessments in the same course. Their perception of instructors' differing expectations meant they did not view feedback as transferable (see 3.5.2; 8.4).

Therefore, we realised the importance of emphasising the research and writing process within assessment to support IL development. The focus on process would help students identify gaps in their approaches to assessment and learning that may be hindering successful learning outcomes (last-minute assignment completion, lack of thinking and preparation before writing). Changes in assessment focused on formative 'assessment for learning', rather than summative 'assessment of learning'. We realised that, although not always possible in practice, time was better spent on giving formative feedback to support deeper learning and improved assessment outcomes, particularly at first year, but also as students progressed towards tasks which required higher levels of critical thinking.

9.1.3.4 Challenging assumptions on independent learning

This research encouraged instructors to challenge their assumptions of independent learning and recognise that an effective way to support student learning is to balance high-challenge tasks with appropriate scaffolded support (see 3.4) designed to clarify expectations, reduce frustration, and facilitate deeper engagement with learning.

The BEP instructors' expectation that, as independent learners, students would develop IL and academic competencies on their own limited the explicit opportunities to focus on IL development within the BEP. This expectation echoed the findings in the literature (see 3.4). Through discussions in this research, participating instructors came to understand two key flaws in the perception that all students could, and should, independently seek support to develop essential academic competencies. Firstly, this relies on the students being aware of the skills they need and those they lack, and requires students to seek out university learning support services while they are still transitioning to the university. However, research has suggested that many students overestimate their academic abilities (see 3.4), and few students in this research were aware of the services the university offered, and rarely used them to support their learning (see 8.3.1). Secondly, students arguably can learn IL and other academic competencies through trial and error (Diehm & Lupton, 2012; see 3.2.1), but the length of time needed for such a discovery

process may actually limit learning during their university experience. I observed that BEP students seemed to be learning through hindsight and performing academically at a level below their current level of study, rather than progressively developing skills to meet increased cognitive demands as they progressed through their degree (see 8.5). Rather than perpetuating this current situation, academics can support the development of key academic competencies formatively to ensure students are progressing through their degree prepared for the learning challenges inherent at higher levels of their degree.

Throughout this research, I have argued that supporting students towards independent learning is essential (see 3.4). University instructors cannot expect students to become independent learners merely by default of enrolling at university. Supporting students' transition into university and throughout their degree as academic demands increase is fundamental to supporting learning. We also cannot assume that independent learning is synonymous with engaged learning; engagement is not a matter of independence, as students can be task-focused strategic learners who can successfully navigate the assessment without fully engaging in learning (see 3.2.3). Such strategic approaches were indicated by BEP students' apparent unwillingness or lack of time to read beyond the assessment requirements (see 6.10). By acknowledging that independence is a fluid concept, and recognising that students will move through varying levels of dependence and independence as they progress through increasingly cognitively demanding learning opportunities (see 3.4), participating instructors became more attuned to their role in supporting the development of IL and other academic competencies alongside teaching content. We recognised that high-challenge tasks complemented with high support could potentially foster both independence and engaged learning (see 3.4).

A debate connected to independent learning expectations that emerged with participating instructors was how much guidance was needed to provide an appropriate level of scaffolded support without becoming 'spoon-feeding' (see 3.3). In Cycle One, all participating instructors showed some resistance towards giving too much guidance to students. The view of scaffolded learning as 'hand-

holding' was dominant, alongside the desire for students to independently develop competencies necessary to be effective learners. Therefore, the intervention tasks tended to be broad in Cycle One, giving students space to interpret the task independently. Because the assessment interventions were new to both the BEP instructors and students, the Cycle One assessments, while receiving a largely positive response, lacked the high-challenge, high-support focus I wanted to see. Cycle One feedback indicated that the interventions had influenced student approaches to assessment, but several indicated they still needed more guidance to complete the tasks. By Cycle Two, participating instructors realised that more support was necessary to enable the majority of students to complete assessments to an acceptable level. However, this was not an easy transition for instructors given both the extended time needed for formative feedback, and the challenges instructors perceived in creating space in the curriculum for additional tasks and discussions on the interventions.

To overcome instructors' concerns about spoon-feeding, the interventions were designed as a series of workshops, resources, and assessments that captured an awareness of what academic tasks look like, what standards were expected, and how students could improve their IL competencies to support learning (see Chapter Six). As educators providing explicit instruction around IL, we could ensure students developed an awareness of academic conventions prior to completing summative assessment tasks. Feedback indicated that they appreciated models for guidance on how to structure the task and as a measure of expected standards (a possible follow-on effect from the NCEA use of exemplars) and valued the support provided through formative learning opportunities.

In some cases, the spread of grades following the interventions largely remained the same, but students indicated that focusing on IL and reflecting on learning as part of their assessment had been beneficial. They seemed more focused on source selection and evaluation, had become aware of the importance of writing concisely and of editing, and had become more reflective on their learning (see Chapter Six, Part II). The benefits of explicit IL instruction and the emphasis on reflective learning, if sustained, will support students to

develop key competencies that align with the IL, communication, and professional practice attributes the NZPI expects from future Planning graduates. Although the interventions in the BEP have not yet fully resolved problems in student approaches to assessment and learning, the changes to promote IL development and reflective, independent learning look promising.

9.1.3.5 Recognising constraints

Supporting participating instructors to facilitate IL development required recognising the constraints academics face in the university teaching context. Ideally, as the researcher, I would have liked the thread of reflection and the explicit, holistic development of IL to have been deeply embedded into the BEP programme; however, the realities of the university context meant that instructors had limited time set aside for professional development on teaching and for modifying their courses. As shown in section 6.7, any changes in teaching and assessment approaches needed to take into consideration the time and workload constraints both instructors and students were working within. The constraints that presented the greatest concern for all participants, as outlined in Chapter Seven, included:

- heavy workloads – teaching, supervision, research and administrative tasks

- limited time for marking and feedback

- semesterised course structure (30 hours over 12 weeks to teach a course)

- lack of time for professional development on teaching.

A further perceived constraint on teaching was the PBRF system, which has been criticised for focusing academics on research outputs over teaching accomplishments and innovation (see 3.3.2). As mentioned in section 7.1, some BEP instructors tended to group teaching commitments into one semester to allow time in the remaining semesters to focus on research outputs. This increased the pressure on marking and reduced the amount of time to make changes to courses during the teaching semester. The perceived lack of recognition of time and effort needed to improve teaching in a university context dominated by PBRF outputs was a concern for BEP instructors. Although they

had committed large amounts of time to our research, they felt there was limited recognition for the time allocated for professional development on teaching in the PBRF structure (see section 7.3 as an example).

As the research phase ends, it remains to be seen whether the more holistic concept of using information to learn has been fully realised within the BEP programme and whether the changes can be sustained without PAR as a catalyst for reflection and change. At this stage is it not possible to determine whether the ideal of fully embedding IL has been realised. Nevertheless, the changes in the participating instructors' attitudes towards explicitly supporting IL development and the interventions we created have successfully integrated IL development into the BEP. This is an encouraging step in supporting students to become informed learners.

9.2 Participatory Action Research to Support Change

PAR as captured by the '6 Cs' (see 4.3) was central in supporting and evaluating the changes within the BEP context to support the development of IL. PAR allowed on-going conversations on effective teaching and learning, encouraged regular reflection on practice, and created opportunities for professional development and to share practice. It allowed us to trial and to modify interventions over two semesters per course. The combination of theory and practice supported all participants to make research-informed changes in pedagogy to support students' IL development.

PAR also allowed active engagement in the research process. It allowed us to learn from both our successes and our challenges (McNiff, 2002), particularly when ideas that seemed ideal in theory were more challenging to apply in practice, or when student responses were not as we had expected. PAR provided an opportunity for all research participants to have their voices heard. Fortunately, students were willing to provide constructive feedback and be part of the conversation on how we could better support their learning. Their feedback was particularly important to ensure we could measure the impact of the changes we had made.

While the benefits of the research for me were clear, I also had to consider what instructors would gain from their voluntary time commitment to this research process. This meant understanding what they valued. As indicated, they valued insights gained from student feedback and research-based professional development (see 4.7.1). Each instructor engaged in discussion about effective teaching and learning, while I assumed multiple roles as mentor, fellow teacher, neutral observer and learner. As discussed in Chapter Seven, participating instructors valued the action research process for promoting discussion and reflection on their pedagogical practice and providing constructive feedback through my observations and students' feedback on their teaching and the interventions they had co-designed.

Participating instructors indicated they benefitted from involvement in PAR in all of the ways identified in section 4.2. Personal involvement in the process allowed them to explore their assumptions connected to student approaches to learning and how they could best support students to become more informed learners engaged in learning through on-going reflection. It also enabled them to take ownership of the interventions we developed collaboratively, and to implement the changes immediately within their teaching contexts. Although the research phase has ended, on-going conversations suggest that all participants are continuing to explore ways they improve the learning experience for Planning students by becoming reflective educators themselves.

9.2.1 Becoming a reflective action researcher

This research has supported me to become a reflective action researcher, and the learning I have gained from this process has profoundly changed me. The deep reflective aspects of action research and the practice of keeping a regular research journal allowed me to capture and question my assumptions about teaching and learning (see 4.8.1) and to record the development of my own journey of becoming information literate. The value of my research journal cannot be overestimated, as it captured the moments where my assumptions about teaching and learning were supported, challenged and changed. It also provided a record of shifts I was observing in participating instructors' attitudes towards students and approaches to teaching. As I progressed through this

285

action research process, I became more aware of myself as a researcher, a teacher, and a learner.

The action research process prompted me to explore my assumptions and experiences of teaching in higher education. Throughout my teaching career, an unexamined assumption I have held is that a teacher is not the bearer of all knowledge, but one who has experienced learning and has the capacity to both teach and continually learn from students. I have recognised the subtle difference between having teaching experience and experiencing teaching – having that 'eureka' moment where you know the students have clicked onto an idea and it has finally made sense. I now realise that my awareness of effective teaching has been shaped through specific learning contexts. I began teaching at a small, private tertiary institution with small classes (maximum 20 students) and a holistic view of pastoral care for students. I then moved to a larger university and taught in process-focused research, writing, and university preparation courses, which again were small, student-centred, and focused on formative learning. In a sense, I was exposed to learner-focused principles of teaching and learning without fully realising it.

Although my teaching approach had always centred on the students and their learning, I had never explored learner-focused or constructivist learning theories. My focus has been on the range of teaching techniques I could use to engage learners, rather than considering how the learners could participate actively in controlling their own learning. Thus, a key benefit from this research for me has been exploring the opportunities inherent in learner-focused pedagogy. The deeper engagement with the literature provided me with a lens for deepening my understanding of pedagogical aspects I had to some extent taken for granted.

Throughout this research process, I have suggested various activities the participating instructors could experiment with to support students IL development and engage students in the learning process. As I venture back into the classroom, I now realise that I need to give students much more control over their learning in the classroom, and I am excited to explore IL development and learner-focused pedagogies further in my teaching.

9.2.2 The emergence of the 7th C of PAR – Conversation-driven

When this research began, participating instructors were not keen to engage in the time-consuming practice of maintaining reflective journals. As I explored data collection methods appropriate for PAR, I found that conversation was recognised as a valid means for capturing the shifts and changes in participants' attitudes and learning (see 4.8.3.2). The conversations in this research, both formal and informal, helped explore the participants' assumptions around teaching and learning and the support they needed to make pedagogical changes to support students' IL development. Formal conversations were audio recorded and summarised, and informal ones were captured in my journal reflections.

As the research progressed, I realised that had the instructors participated in solitary reflection characterised by journal writing, the depth of negotiation, debate and understanding inherent in our conversations, particularly the informal ones, perhaps would not have occurred. McNiff (2002) had briefly identified the connection between conversation and change (see 4.3.6). However, this underlying assumption proved to be a fundamental feature of our PAR. Conversation was the catalyst for initiating, promoting, and facilitating the change we achieved in this research. Therefore, for me, it has been elevated beyond a data collection method to become the '7th C' of PAR – Conversation-driven.

Although it proved to be time-consuming for me, as the researcher, to record and summarise the conversations, rather than being provided with regular written reflections, the on-going conversation proved to be invaluable for supporting changes, addressing concerns, and providing the courage instructors' needed to experiment and explore the potential of the interventions developed and their shifts towards learner-focused pedagogy.

9.3 Implications, Limitations, and Future Research Directions

This research was a complex PAR project, conducted in a specific context with a specific group of people at a single institution within a specific time. However, lessons we have learned during the process are important for all tertiary

instructors to consider, and parallels may be drawn between our findings and what other content instructors are observing in their programmes. We have identified changes in pedagogy and assessment formats that centre on learner-focused pedagogy, an important consideration for instructors in all disciplines. We hope that reflections on our experiences and opportunities to share practice will offer strategies to support IL development that could be implemented in other disciplinary contexts or similar disciplines at other institutions. Therefore, several implications identified in this research may contribute to the wider understanding of effective ways to enhance students' IL development and support them to become informed learners.

Firstly, this research has confirmed the notion that supporting students' IL development relies on how academics promote and develop IL within their curricula. However, the clear message that comes from the literature and this research is that there is no 'one size fits all' solution to helping students develop IL to improve their research and learning processes and become informed learners (see 2.2.1). Actively engaging students from first year to focus on the research process, and providing embedded IL development into content papers via formative assessments, may help students succeed in their transition into academic literacy, and help them understand how knowledge is created within their discipline. As the gap between high school and university appears to be widening, and more students seem unprepared for the tertiary academic demands, it is essential to provide explicit opportunities to support informed learning.

Secondly, conversations in this research revealed both a lack of understanding of how students learn at university and mismatches between instructor assumptions and approaches to learning and the realities of student experience. Increased understanding of how students approach the research and writing process to complete course assessments would be beneficial for curriculum design and pedagogy. Rather than assuming students are 'lazy' or unable to meet university learning demands, deeper understanding of the challenges students face in today's electronic learning environment is needed. This may enable educators to consider learner-focused pedagogy that would increase student engagement in learning.

Thirdly, an increased focus on learner-focused pedagogy designed to foster student learning would benefit both instructors and students. Although this research only captured a snap-shot of the ways IL is being supported and promoted at all NZ universities, the literature and librarian interviews (see 5.2) suggested that IL remains housed in university libraries and that librarians rely on the willingness of academics to support the development of IL in the disciplines to reach a greater number of students. This research has found that instructors' understanding of IL aligned with the behavioural aspects of information seeking and retrieval underpinning introductory library sessions, i.e generic skills that they believed students could develop independently of the discipline by utilising library support services. Once the more holistic views of IL were explored and the understanding of IL competencies extended to critical thinking and reflective learning, participating instructors recognised that IL development within the context of the discipline was essential. However, they needed explicit support in designing learning tasks and assessments that would facilitate IL development through emphasising students' research and learning processes.

Fourthly, this research has confirmed that collaboration is an effective means of teaching IL, and that IL instruction within the disciplinary context is ideal. It also recognised that academics need to be more proactive in driving IL development opportunities. Embedded IL development in the BEP programme helped students develop essential academic competencies. While the initial library instruction was important, further development continued under the content instructors' guidance, with a focus on the evaluation of the sources found using the discipline-specific conventions. This extended beyond first year as the curriculum became more complex and specialised. The literature and NZ librarian interviews suggested that librarians struggle to gain inroads into the disciplines to promote IL development. For academics to be actively engaged in designing IL initiatives, they need to become aware of the centrality of IL in learning and be more pro-active in initiating collaboration with librarians. Academics would also benefit from collaborating with teaching consultants familiar with learner-focused pedagogy to identify how IL can be effectively embedded into existing curricula.

Finally, to better support student learning we recognised that instructors needed to reconceptualise their role in supporting independent learning, rather than relying on simply expecting novice students to seek help independently. This included recognising that students would benefit from scaffolded learning tasks. The instructors in this research recognised the importance of on-going professional development that would facilitate IL development within the curriculum and assessment. In this research, such support was provided through building trusting relationships, which facilitated in-depth discussion and reflection on effective teaching and learning practices, and through research-focused professional development. We saw a significant shift in the way instructors viewed their role in developing IL and other essential academic competencies, from a remedial focus to creating explicit, developmental, active-learning opportunities. This change in focus needs to be widely encouraged in higher education to enable students to become information literate in a world of ever expanding information. To enable such a change, participating instructors suggested more time for professional development around teaching needs to be recognised within workload allocations.

9.3.1 Research limitations

The main limitation of this research was that the time-frame impacted on how much we could achieve. The research was conducted over two semesters per course, so no cohort of students progressed through the full range of interventions in the order they now appear in the programme. A longer time-frame would allow us to see whether students who do so benefit from integrated, sustained IL development. The 2012 cohort will be the first to do this, so the outcomes for these students will not be seen until 2016. This presents an opportunity for future research.

A further limitation, as mentioned above, is that the extent to which IL was fully embedded in the BEP is difficult to determine because of the research timeframe. This research resulted in IL development being integrated into each year of the BEP programme, but we recognised that students enter the university at varying levels of ability, and our interventions in the first year courses only raise awareness of IL competencies without time for extended

practice. Fully embedded IL development may be better supported by an introductory course which offers an in-depth introduction to searching for and evaluating information, developing academic reading strategies, and identifying key ideas to synthesise in writing. Such a course would provide the foundation for building on and developing the skills in embedded, scaffolded tasks in subsequent courses in degree programmes.

9.3.2 Future research opportunities

This research has also identified avenues for future research opportunities, both to extend this research and investigate IL development in other disciplines or tertiary learning contexts. Prior to this research, the NZPI accreditation body had recognised that Planning graduates throughout NZ were not exhibiting effective IL and communication competencies and were not graduating as reflective practitioners. A key factor that may determine whether the interventions are maintained is future NZPI accreditation reports which may recognise the efforts of the BEP instructors to explicitly focus on developing IL and other academic competencies and to embed reflective learning capabilities. This may encourage Planning programmes at other universities to investigate and reconsider how they are addressing the development of IL and other academic competencies. Although it is too soon to determine whether we have achieved our aim of producing information literate, reflective, lifelong learners, if these competencies are recognised in future BEP graduates, then the interventions, and subsequent modifications to them, could be deemed embedded and successful.

A concern for librarians that was recognised but not addressed within this research was the shift to online IL instruction. The implications of this as an effective means of developing IL competencies within universities would benefit from further research. Of particular interest is the idea of making online modules compulsory for all students entering university, and extending IL instruction beyond first year introductory modules. This research could not uncover whether such initiatives are happening within other disciplines, so it would be useful to investigate this further. Interviews with librarians also revealed that they were largely unaware of how students were being introduced to the library

resources if they did not attend library introductions, or how students were using existing library resources to support their IL development.   With limited opportunities for face-to-face instruction, and increasing numbers of students studying at a distance, it would be beneficial to explore this further.

Finally, the impact of the PBRF system on teaching and the flow-on effect to student learning needs further investigation. BEP instructors identified the PBRF system as a constraint on focusing on professional development and research into teaching. While there are teaching excellence awards and professional development support through AKO Aotearoa,[34] and all universities offer professional development relating to teaching in some form, participating instructors felt that their teaching was marginalised against research outputs. Ways to acknowledge and reward good teaching and innovation within the PBRF system would be beneficial to ensure that teaching excellence is promoted, and students are supported in their learning to graduate as information literate, lifelong learners.

9.4 A Final Word – An On-going Conversation

At the start of this research, my supervisor said to me "change begins with a conversation". I'm not sure I fully realised the impact of these words until I tried to capture all we have achieved within the nine chapters of this thesis. This PAR process has resulted in significant changes in the BEP programme and in all the participants: the instructors, the librarians, the students, and me, as the researcher. We have all developed a greater understanding of the contribution of information to knowledge development and the importance of supporting students to become informed learners at university. We have recognised that academic content instructors play an essential role in teaching and promoting IL development, but that they also need support to embed IL effectively into their teaching contexts.   Just as we can't expect students to effectively learn IL on their own, we cannot expect content-focused academics to know how to create learning opportunities for IL development without sustained support.

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[34] The National Centre for Tertiary Teaching Excellence (www.akoaotearoa.ac.nz)

I would like to acknowledge the commitment of the participating instructors that ensured positive changes were implemented, despite the pressures and realities of teaching in the university context. All were driven to explore and reflect on their assumptions about teaching and learning. They contributed considerable amounts of time to restructuring their curricula and assessments to enhance both IL development and reflective learning across the BEP. Their commitment to improving teaching and the students' learning experience is captured within their stories in this research.

This has been a deeply reflective journey through PAR to embed IL development into the disciplines. We have envisioned the ideal and been confronted by the realities of instructor autonomy, and university teaching contexts. We made effective changes to the BEP programme to support students' IL development, yet recognise that supporting their learning is an on-going process and that more work is needed to fully embed IL development consistently across the whole programme remains. At the end of the research, we are continuing to explore effective ways to support students towards IL and reflective learning. So, the thesis ends here, but the conversations to explore and promote change continue.

REFERENCES

Abram, S., & Luther, J. (2004). Born with the chip. *Library Journal, 129*(8), 34-37.

Alison, J. (2005). *Teachers talk about NCEA: Research report on focus groups with secondary teachers*. Wellington, NZ: Post Primary Teacher's Association. Retrieved from http://media.nzherald.co.nz/webcontent/document/pdf/ncea.pdf

Altrichter, H., Kemmis, S., McTaggart, R., & Zuber-Skerritt, O. (2002). The concept of action research. *The Learning Organisation*, *9*(3), 125-131.

American Library Association Presidential Committee. (1989). *Presidential committee on information literacy: Final report.* Retrieved from http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm

Andretta, S. (2005a). *Information literacy: A practitioner's guide.* Oxford, UK: Chandos.

Andretta, S. (2005b). *Information literacy: Empowering the learner 'against all odds'.* Paper presented at the LILAC Conference. 4 April 2005, Imperial College, London.

Andretta, S. (2006). Information literacy: The new pedagogy of the question? In G. Walton & A. Pope. (Eds.), *Information literacy: Recognising the need* (pp. 12-19). Oxford: Chandos.

Andretta, S. (2010). Learner-centred information literacy initiatives in higher education. *Journal of Information Literacy, 4*(1), 1-5.

Angier, C., & Palmer, W. (2006). Chapter 3 – Writing solutions. In S. Davies, D. Swinburne, & G. Williams (Eds.), *Writing matters: The Royal Literary Fund report on student writing in higher education* (pp. 15-26). London, UK: Royal Literary Fund.

Argyris, C., & Schön, D. (1989). Participatory action research and action science compared: A commentary. *American Behavioral Scientist, 32*(5), 612-623.

Ash, S. L., & Clayton, P. H. (2004). The articulated learning: An approach to guided reflection and assessment. *Innovative Higher Education*, *29*(2), 137-154.

Asher, A. D., Duke, L. M., & Wilson, S. (2012). Paths of discovery: Comparing the Search effectiveness of EBSCO Discovery Service, Summon, Google Scholar, and Conventional Library Resources. (Pre-print) *College & Research Libraries*.

Association of College and Research Libraries (2000). *Information literacy competency standards of higher education*. Chicago, Illinois: American Library Association.

Avison, D., Lau, F., Myers, M., & Nielsen, P. A. (1999). Action research *Communications of the ACM, 42*(1), 94-91.

Badke, W. (2011). Why information literacy is invisible. *Communications in Information Literacy*, *4*(2), 129-141.

Bean, J.C. (2011). *Engaging ideas: The professor's guide to integrating writing, critical thinking and active learning in the classroom* (2nd ed.). San Francisco, USA: Jossey-Bass.

Beard, C., & Wilson, J. P. (2002). *The power of experiential learning: A handbook for trainers and educators.* London, UK: Kogan Page.

Becker, N. J. (2003). Google in perspective: Understanding and enhancing student search skills. *New Review of Academic Librarianship*, *9*(1), 84-99.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology*, *39*(5), 775-786.

Bent, M. (2013). Developing academic literacies. In J. Secker & E. Coonan (Eds.), *Rethinking information literacy: A practical framework for supporting learning* (pp. 27-40). London: Facet Publishing.

Bent, M., Higgins, S., & Brettell, S. (2006). Developing a community of practice: the Newcastle information Literacy Project. In G. Walton & A. Pope (Eds.), *Information literacy: Recognising the need* (pp. 20-24). Oxford, UK: Chandos.

Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Higher Education Research & Development*, *18*(1), 57-75.

Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university: What the student does* (3rd ed.). Maidenhead, NY: McGraw-Hill /Society for Research into Higher Education. Open University Press.

Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Maidenhead, NY: McGraw-Hill/Society for Research into Higher Education. Open University Press.

Bird, N. J., McInerney, C. R., & Mohr, S. (2011). Source evaluation and information literacy: Findings from a study on science websites. *Communications in Information Literacy*, *4*(2), 170-191.

Birmingham, E. J., Chinwongs, L., Flaspohler, M., Hearn, C., Kvanvig, D., & Portmann, R. (2008). First-year writing teachers, perceptions of students' information literacy competencies, and a call for a collaborative approach. *Communications in Information Literacy*, *2*(1), 6-24.

Blanchard, J. (2009). *Teaching, learning and assessment.* New York: McGraw Hill Open University Press.

Blum, F. H. (1955). Action research - A scientific approach? *Philosophy of Science, 22*(1), 1-7.

Booth, C. (2011). *Reflective teaching, effective learning: Instructional literacy for library educators.* Chicago: American Library Association.

Boyer Commission on Educating Undergraduates in the Research University. (1998). *Reinventing undergraduate education: A blueprint for America's research universities.* State University of New York at Stony Brook for the Carnegie Foundation for the Advancement of Teaching.

Boyer Commission on Educating Undergraduates in the Research University. (2001). *Reinventing undergraduate education: Three years after the Boyer report.* State University of New York at Stony Brook for the Carnegie Foundation for the Advancement of Teaching.

Brabazon, T. (2002). *Digital hemlock: Internet education and the poisoning of teaching.* Sydney: University of New South Wales Press.

Brabazon, T. (2006a). Herpes for the information age: Plagiarism and the infection of universities. *Fast Capitalism*, *2*(2).

Brabazon, T. (2006b). The Google effect: Googling, blogging, wikis and the flattening of expertise. *Libri, 56*(3), 157-167.

Brabazon, T. (2007). *The University of Google: Education in the (post) information age.* Hampshire, UK: Ashgate Publishing Limited.

Brabazon, T. (2009). Fundamentalism of the mind or wagging the long tail?: Google and the future of thinking. *Libri, 59*(2), 69-77.

Breivik, P. S., & Gee, E. G. (1989). *Information literacy: A revolution in the library.* New York: American Council on Education.

Brock-Utne, B. (1980). What is educational action research? In *The action research reader* (3rd ed.) (pp. 253 - 319). Victoria, Australia: Deakin University Press.

Brown, C., Murphy, T. J., & Nanny, M. (2003). Turning techno-savvy into info-savvy: authentically integrating information literacy into the college curriculum. *The Journal of Academic Librarianship, 29*(6), 386-398.

Bruce, C. S. (1997). *The seven faces of information literacy.* Adelaide: Auslib Press.

Bruce, C. (2000). Information literacy programs and research: An international review. *The Australian Library Journal, 49*(3), 209-218.

Bruce, C. (2004). Information literacy as a catalyst for educational change: A background paper. In P. A. Danaher (Ed.). *Lifelong learning: Whose responsibility and what is your contribution? The 3rd International Lifelong Learning Conference*, 13-16 June 2004, Yeppoon, Queensland.

Bruce, C. (2008a). *Informed learning.* Chicago, IL: Association of College and Research Libraries.

Bruce, C. (2008b). Informed learning: Realising the potential of the information society in our 21st century world. In *International Conference on Libraries, Information and Society*, 18-19 November 2008, Petaling Jaya, Malaysia.

Bruce, C., Edwards, S., & Lupton, M. (2007). Six frames for information literacy education. Education: A conceptual framework for interpreting the relationships between theory and practice. In S. Andretta (Ed.), *Change and challenge: Information literacy for the twenty-first Century (pp.* 37-58). Adelaide: Auslib Press.

Bruce, C., & Hughes, H. (2010). Informed learning: A pedagogical construct attending simultaneously to information use and learning. *Library & Information Science Research*, *32*(4), A2-A8.

Bruce, C., Hughes, H., & Somerville, M. M. (2012). Supporting informed learners in the twenty-first century. *Library Trends*, *60*(3), 522-545.

Bruffee, K. (1984). Collaborative learning and the conversation of mankind. *College English, 46*, 635-652.

Bruffee, K. A. (1999). *Collaborative learning: Higher education, interdependence, and the authority of knowledge* (2nd ed.). Baltimore, MD: The Johns Hopkins University Press.

Buck, S., & Mellinger, M. (2011). The impact of Serial Solutions' Summon™ on information literacy instruction: Librarian perceptions. *Internet Reference Services Quarterly*, *16*(4), 159-181.

Bulpitt, H., & Martin, P. J. (2005). Learning about reflection from the student. *Active Learning in Higher Education*, *6*(3), 207-217.

Bundy, A. (Ed.) (2004). *Australian and New Zealand information literacy framework: Principles, standards and practice* (2nd ed.). Adelaide, Australia: Australian and New Zealand Institute for information literacy.

Bunning, C. (1994). *Action research: An emerging paradigm.* Brisbane: Tertiary Education Institute, The University of Queensland. [Occasional paper series – No. 4].

Burns, R. B. (2000). *Introduction to research methods* (4th ed.). French Forests, N.S.W: Pearson Education Australia.

Burns, A (2005). Understanding action research. In A. Burns & H. de Silva Joyce (Eds.), *Teachers' voices 8: Explicitly supporting reading and writing in the classroom* (pp. 18-26). Sydney, Australia: Macquarie University.

Burns, A., & de Silva Joyce, H. (2005). Explicitly supporting learning: An overview. In A. Burns & H. de Silva Joyce (Eds.), *Teachers' voices 8: Explicitly supporting reading and writing in the classroom* (pp. 2-7). Sydney, Australia: Macquarie University.

Burns, M., Dimock, K. V., & Martinez, D. (2000). *Action reflection learning.* United States: Southwest Educational Development Laboratory.

Callahan, M., & Chumney, D. (2009). " Write like college": How remedial writing courses at a community college and a research university position "at-risk" students in the field of higher education. *The Teachers College Record, 111*(7), 1619-1664.

Callicott, B., & Vaughn, D. (2005). Google scholar vs. library scholar: Testing the performance of schoogle. *Internet Reference Services Quarterly*, *10*(3-4), 71-88.

Carless, D., Joughin, G. & Liu, N. (2006). *How assessment supports learning: Learning oriented assessment in action.* Hong Kong: Hong Kong University Press.

Cassidy, S., & Eachus, P. (2000). Learning style, academic belief systems, self-report student proficiency and academic achievement in higher education. *Educational Psychology*, *20*(3), 307-322.

Chanock, K. (1999). "You get me to explain myself better": supporting diversity through dialogic learning. *HERDSA Annual International Conference*, 12-15 July1999, Melbourne, Australia.

Chanock, K. (2000). Comments on essays: Do students understand what tutors write? *Teaching in Higher Education, 5*(1), 95–105.

Chanock, K. (2001). *From mystery to mastery.* Retrieved from http://learning.uow.edu.au/LAS2001/selected/chanock.pdf

Checkland, P., & Holwell, S. (1998). Action research: Its nature and its validity. *Systemic Practice and Action Research*, *11*(1), 9 -21.

Collins, R., & Hill, A. (2003). Online introduction to information literacy: Ticking that box or embedding that attribute? *Academic Services Division-Papers*, *12*.

Coonan, E. (2011). *A new curriculum for information literacy: Teaching learning: perceptions of information literacy: Theoretical background.* Retrieved from http://ccfil.pbworks.com/f/emma_report_final.pdf

Cooperstein, S. E., & Kocevar-Weidinger, E. (2004). Beyond active learning: A constructivist approach to learning. *Reference Services Review*, *32*(2), 141-148.

Conley, D. T. (2008). Rethinking college readiness. *New Directions for Higher Education*, *2008*(144), 3-13.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.

Crozier, S. (2007). "Out damned spot": Removing the taint of remedial from learning development. In C. Fraser & L. Ayo (Eds.), *Anchoring our*

practice: Perspective, partnerships, projections: Refereed proceedings of the 2006 Association of Tertiary Learning Advisors of Aotearoa New Zealand Conference (pp. 2-13) Auckland: ATLAANZ.

D'Angelo, B. J. (2002). Using source analysis to promote critical thinking. *Research strategies*, *18*(4), 303-309.

Dalgleish, A., & Hall, R. (2000). Uses and perceptions of the World Wide Web in an information-seeking environment. *Journal of Librarianship and Information Science, 32*, 104.

Devereux, L., Macken-Horarik, M., Trimingham-Jack, C., & Wilson, K. (2006). Writing to Learn & Learning to Write. How can staff help university students develop effective writing skills? In *Engaging Pedagogies: AARE Conference*. 27-30 November, 2006, Adelaide. Australia.

Devereux, L., & Wilson, K. (2008). Scaffolding literacies across the Bachelor of Education program: An argument for a course-wide approach. *Asia-Pacific Journal of Teacher Education, 36*(2), 121-134.

Dick, B. (1997). Approaching an action research thesis: An overview. Retrieved 4th August, 2010 from http://www.scu.edu.au/schools/gcm/ar/arp/phd.htm

Diehm, R. A., & Lupton, M. (2012). Approaches to learning information literacy: A phenomenographic study. *The Journal of Academic Librarianship*, *38*(4), 217-225.

Dolan, D. V., & Martorella, G. (2003). Discipline-based information literacy and the lifelong learner. *International Journal of Lifelong Learning*, *10*, 1319-1334.

Duncan, N. (2007). 'Feed-forward': Improving students' use of tutors' comments. *Assessment & Evaluation in Higher Education*, *32*(3), 271-283.

Eikeland, O. (2006). Condescending ethics and action research: Extended review article. *Action Research, 4*(1), 37-47.

Eisenberg, M. (2008). What is the Big6? Retrieved from http://big6.com/pages/about.php

Eisenberg, M. B., & Berkowitz, R. E. (1990). *Information problem-solving: The Big Six approach to library & information skills instruction.* Norwood, NJ: Ablex Publishing Corporation.

Elliott, J. (1991). *Action research for educational change.* Buckingham, UK: Open University Press.

Emerson, L. (2005). Scaffolding academic integrity: Creating a learning context for teaching referencing skills. *Journal of University Teaching and Learning Practice*, *2*(3a), 12-24.

Emerson, L. E. (2008). Plagiarism, a Turnitin trial, and an experience of cultural disorientation. In C. Eisner & M. Vicinus (Eds.), *Originality, imitation and plagiarism: Teaching writing in the digital age* (pp. 183-194). Ann Arbor: The University of Michigan Press.

Emerson, L. E., Stevens, S. M., & Muirhead, J. (2008). *Scaffolding the writing process in a large first year science class.* Presented at Symposium on Tertiary Assessment and Higher Education Student Outcomes, 17-19 November 2008, Wellington, New Zealand.

Entwistle, N. (2000, November). Promoting deep learning through teaching and assessment: conceptual frameworks and educational contexts. In *Teaching and Learning Programme Conference* November 2000, Leicester, UK.

Entwistle, N., & Smith, C. (2002). Personal understanding and target understanding: Mapping influences on the outcomes of learning. *British Journal of Educational Psychology*, *72*(3), 321-342.

Ettinger, D. (2008). The triumph of expediency: The impact of Google Scholar on library instruction. *Journal of Library Administration, 46*(3-4), 65-72.

Feldman, A. (1999). The role of conversation in collaborative action research. *Educational action research*, *7*(1), 125-147.

Feldman, A. (2007). Validity and quality in action research. *Educational Action Research, 15*(1), 21-32.

Fister, B. (1993). Teaching the rhetorical dimensions of research. *Research Strategies, 11*(4), 211-219.

Fister, B. (2011a). Burke's parlour tricks: Introducing research as conversation. *Inside Higher Ed*. Retrieved from http://www.insidehighered.com/ blogs/library-babel-fish/burkes-parlor-tricks-introducing-research-conversation

Fister, B. (2011b). Information literacy: Undervalued or ubiquitous?: Peer to peer review. *Library Journal.* Retrieved from http://lj.libraryjournal.com/

2011/12/opinion/peer-to-peer-review/information-literacy-undervalued-or-ubiquitous-peer-to-peer-review/

Fister, B. (2012). Teaching how information works, not how to work information: Peer-to-peer review. *Library Journal*. Retrieved fromhttp://lj.library journal.com/2012/03/opinion/peer-to-peer-review/teaching-how-information-works-not-how-to-work-information-peer-to-peer-review/

Fry, H., Ketteridge, S., & Marshall, S. (2003). Understanding student learning. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice* (2nd ed.) (pp. 9-25). London: Kogan Page Limited.

Gaipa, M. (2004). Breaking into the conversation: How students can acquire authority for their writing. *Pedagogy Critical Approaches to Teaching Literature, Language, Culture and Composition, 4*(3), 419-437.

Gawith, G. (2000). Information literacy: Problems and solutions. *The Good Teacher* (Term 2). Retrieved from http://infolit.unitechnology.ac.nz/readings/problems.html

Gee, J. P. (1989). Literacy, discourse, and linguistics: Introduction. *Journal of Education, 171*(1), 5-14.

Gerrard, J., Nokes, R., Robertson, J., & Salm, K. (2004). *How will the new research funding climate impact on the teaching–research nexus at the University of Canterbury? A report to the Research Committee and the Teaching and Learning Committee in preparation for Audit Cycle 3.* Christchurch: University of Canterbury.

Godwin, P. (2006). Keeping up with the Google generation: The challenge for information literacy teachers. In G. Walton & A. Pope (Eds.)*, Information literacy: Recognising the need* (pp. 30-36). Oxford, UK: Chandos.

Goedegebuure, I., Santiago, P., Fitznor, L., Stensaker, B. & van der Steen, M. (2008). *OECD reviews of tertiary education: New Zealand.* Paris, France: OECD

Gosling, D. (2003). Supporting student learning. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice* (2nd ed.) (pp. 162-181). London: Kogan Page Limited.

Grafstein, A. (2002). A discipline-based approach to information literacy. *Journal of Academic Librarianship, 28*(4), 197-204.

Grassian, E. S., & Kaplowitz, J. R. (2009). Information literacy instruction: Theory and practice. New York: Neal-Schuman Publishers.

Greenwood, D. J., & Levin, M. (2007). *Introduction to action research : Social research for social change* (2nd ed.). Thousand Oaks, CA: Sage.

Grey, S., &Scott, J. (2012). When the government steers the market: Implications for New Zealand's tertiary system. A working paper for *NTEU's Future of Higher Education Conference*, 22-23 February 2012, University of Sydney, Australia.

Gross, M., & Latham, D. (2007). Attaining information literacy: An investigation of the relationship between skill level, self-estimates of skill, and library anxiety. *Library & Information Science Research*, *29*(3), 332-353.

Gross, M., & Latham, D. (2012). What's skill got to do with it?: Information literacy skills and self-views of ability among first-year college students. *Journal of the American Society for Information Science and Technology*, *63*(3), 574-583.

Gross, M., Latham, D., & Armstrong, B. (2012). Improving below-proficient information literacy skills: Designing an evidence-based educational Intervention. *College Teaching, 60*(3), 104-111.

Grundy, S. (1982). Three modes of action research. In *The action research reader* (3rd ed.) (pp 353 - 364). Victoria, Australia: Deakin University Press.

Gunn, C., Hearne, S., & Sibthorpe, J. (2011). Right from the start: A rationale for embedding academic literacy skills in university courses. *Journal of University Teaching & Learning Practice, 8*(1), 6.

Gunn, M., & Miree, C. E. (2012). Business information literacy teaching at different academic levels: An exploration of skills and implications for instructional design. *Journal of information literacy*, *6*(1), 18-34.

Hammond, J., & Gibbons, P. (2005). What is scaffolding? In A. Burns & H. de Silva Joyce (Eds.), *Teachers' voices 8: Explicitly supporting reading and writing in the classroom* (pp. 8-16). Sydney, Australia: Macquarie University.

Head, A. J., & Eisenberg, M. B. (2009a). *Finding context: What today's college students say about conducting research in the digital age.* Project Information Literacy Progress Report. Washington: University of Washington.

Head, A. J., & Eisenberg, M. B. (2009b). *Lessons learned: How college students seek information in the digital age.* Project Information Literacy Progress Report. Washington: University of Washington.

Head, A. J., & Eisenberg, M. B. (2010). *Truth be told: How college students evaluate and use information in the digital age.* Project Information Literacy Progress Report. Washington: University of Washington.

Healey, N., & Gunby, P. (2012). The impact of recent government tertiary education policies on access to higher education in New Zealand. *Journal of Educational Leadership, Policy and Practice*, 27(1), 29-45.

Hedberg, P. R. (2009). Learning through reflective classroom practice applications to educate the reflective manager. *Journal of Management Education*, *33*(1), 10-36.

Hegarty, B., Penman, M., Kelly, O., Jeffrey, L., Coburn, D., & McDonald, J. (2010). *Digital information literacy: Supported development of capability in tertiary environments. Final Report.* Wellington, New Zealand: Ministry of Education.

Hepworth, M. (2006). Reflections on the information literacy: Recognising the need conference. In G. Walton & A. Pope (Eds.), *Information literacy: Recognising the need* (pp. 54-57). Oxford, UK: Chandos.

Hepworth, M. (2007). Knowledge of information behaviour and its relevance to the design of people-centred information products and services. *Journal of Documentation, 63*(1), 33-56.

Hepworth, M., & Walton, G. (2009). *Teaching information literacy for inquiry-based learning.* Oxford, UK: Chandos.

Herr, K., & Anderson, G. L. (2005). *The action research dissertation.* Thousand Oaks, California: Sage.

Hinett, K. (2002a). Improving learning through reflection – Part One. *The Higher Education Academy.* Retrieved from http://www.heacademy.ac.uk/ assets/

documents/resources/database/id485_improving_learning_part_one.pdf

Hinett, K. (2002b). Improving learning through reflection – Part Two. *The Higher Education Academy.* Retrieved from http://www.medev.heacademy.ac. ukassets/documents/resources/database/id516_improving_learning_thr ough_reflection_part2.pdf

Hipkins, R. (2013). *NCEA one decade on: Views and experiences from the 2012 NZCER National Survey of Secondary Schools.* Wellington, NZ:NZCER Retrieved from http://www.nzcer.org.nz/research/ publications/ncea-one-decade

Hodgkinson, H. L. (1957). Action research: A critique. In *The action research reader* (3rd ed.) (pp 75 - 79). Victoria, Australia: Deakin University Press.

Hooley, N. (2005). Participatory action research and the struggle for legitimation. *Australian Educational Researcher, 32*(1), 67-82.

Horgan, J. (2003.) Lecturing for learning. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice* (2nd ed.) (pp. 75-90). London: Kogan Page Limited.

Huba, M. E., & Freed, J. E. (2000). *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning.* Boston, MA: Allyn and Bacon.

Husain, S., & Waterfield, R. (2006). Chapter 4 – The first year of higher education. In S. Davies, D. Swinburne & G. Williams (Eds.), *Writing matters: The Royal Literary Fund report on student writing in higher education* (pp. 27-34). London, UK: Royal Literary Fund.

Hyland, K. (2003). Genre-based pedagogies: A social response to process. *Journal of Second Language Writing, 12*(1), 17-29.

Iannuzzi, P. (1999). We are teaching, but are they learning: Accountability, productivity, and assessment. *Journal of Academic Librarianship, 25*(4), 304-305.

Illeris, K. (2002). *The three dimensions of learning: Contemporary learning theory on the tension field between the cognitive, the emotional and the social.* Roskilde, Denmark: Roskilde University Press.

Jacobs, H. L. (2008). Information literacy and reflective pedagogical praxis. *The Journal of Academic Librarianship, 34*(3), 256-262.

Jacobs, H. L., & Jacobs, D. (2009). Transforming the one-shot library session into pedagogical collaboration: Information literacy and the English Composition Class. *Reference & User Services Quarterly, 49*(1), 72-82.

Jansen, E. P., & van der Meer, J. (2012). Ready for university? A cross-national study of students' perceived preparedness for university. *The Australian Educational Researcher, 39*(1), 1-16.

Jenson, J. D. (2004). It's the information age, so where's the information? Why our students can't find it and what we can do to help. *College Teaching*, *52*(3),107-112.

Johns, C. (2013) Becoming a reflective practitioner (4th ed.). Oxford, UK: Wiley-Blackwell.

Keene, J., Colvin, J., & Sissons, J. (2010). Mapping student information literacy activity against Bloom's Taxonomy of cognitive skills. *Journal of information literacy*, *4*(1), 6-21.

Kember, D., & Kelly, M. E. (1993). *Improving teaching through action research*. Green Guide No. 14. NSW: HERDSA

Kemmis, S. (1988). Action research in retrospect and prospect. In *The action research reader* (3rd ed.) (pp 27 – 39) Victoria, Australia: Deakin University Press.

Kemmis, S., & McTaggart, R. (Eds.). (1988). *The action research planner* (3rd ed.). Victoria, Australia: Deakin University Press.

Kennedy, L., Cole, C., & Carter, S. (1999). The false focus in online searching. *Reference & User Services Quarterly*, *38*(3), 267.

Kolb, D. A. (1984) Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice-Hall.

Ladbrook, J., & Probert, E. (2011). Information skills and critical literacy: Where are our digikids at with online searching and are their teachers helping? *Australasian Journal of Educational Technology, 27*(1), 105 - 121.

Lankes, R. D. (2011). *The atlas of new librarianship.* Cambridge, MA: Association of College & Research Libraries.

Latham, D., & Gross, M. (2012). Instructional preferences of first-year college students with below-proficient information literacy skills: A focus group study. *College & Research Libraries* [In press].

Lea, M., & Street, B. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, *23*(2), 157-172.

Leckie, G. J. (1996). Desperately seeking citations: Uncovering faculty assumptions about the undergraduate research process. *The Journal of Academic Librarianship, 22*(3). 201-208.

Lillis, T (1997). New voices in academia? The regulative nature of academic writing conventions. *Language and Education 11*(3), 182-99.

Lillis, T., & Turner, J. (2001). Student writing in higher education: Contemporary confusion, traditional concerns. *Teaching in Higher Education, 6*(1), 57-68.

Limberg, L., Alexandersson, M., Lantz-Andersson, A., & Folkesson, L. (2008). What matters? Shaping meaningful learning through teaching information literacy. *Libri, 58*(2), 82-91.

Limberg, L., Sundin, O., & Talja, S. (2012). Three theoretical perspectives on information literacy. *Human IT Open Section*, *11*, 93-130.

Locke, T. (2005). Talking across the divide: English teachers respond to the NCEA. *Waikato Journal of Education, 11*(2), 113-136.

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research*. San Francisco, CA: Jossey-Bass.

Lombardi, M. M. (2007). Authentic learning for the 21st century: An overview. EDUCAUSE Learning Initiative, Paper 1. Retrieved from: http://net.educause.edu/ir/library/pdf/eli3009.pdf

Lord, T. (2007). Revisiting the cone of learning: Is it a reliable way to link instruction method with knowledge recall? *Journal of College Science Teaching 37*(2), 14-17.

Lupton, M. (2004). *The learning connection: Information literacy and the student experience.* Adelaide: Auslib Press.

Lupton, M. (2008a). Evidence, argument and social responsibility: First-year students experiences of information literacy when researching an essay. *Higher Education Research & Development, 27*(4), 399 - 414.

Lupton, M. (2008b). *Information literacy and learning*. Unpublished doctoral dissertation, Queensland University of Technology, Queesnland, Australia.

MacDonald, B., & Dunkelberger, R. (1998). Full-text database dependency: An emerging trend among undergraduate library users? *Research Strategies, 16*(4), 301-307.

Macklin, A. S. (2001). Integrating information literacy using problem-based learning. *Reference Services Review*, 29(4), 306-314.

Macpherson, K. (2004). Undergraduate information literacy: A teaching framework. *Australian Academic & Research Libraries, 35*(3), 226-241.

McCartin, M., & Feid, P. (2001). Information literacy for undergraduates: Where have we been and where are we going? *Advances in Librarianship*, *25*, 1-27.

McClure, R. D. (2002). Common data collection strategies effective in qualitative studies using action research in technical/operational training programs. Retrieved from http://evokedevelopment.com/uploads/blog/commonData.pdf

McGuinness, C. (2006). What faculty think: Exploring the barriers to information literacy development in undergraduate education. *The Journal of Academic Librarianship, 32*(6), 573-582.

McGuinness, C. (2007). Exploring strategies for integrated information literacy: From "academic champions" to institution-wide change. *Communications in Information Literacy, 1*(1), 26-38.

McGuinness, C., & Brien, M. (2007). Using reflective journals to assess the research process. *Reference Services Review, 35*(1), 21-40.

McKay, J., & Marshall, P. (2001). The dual imperatives of action research. *Information Technology & People, 14*(1), 46-59.

McKernan, J. (1996). *Curriculum action research: A handbook of methods and resources for the reflective practitioner* (2nd ed.). London: Kogan Page.

McMillen, P. S. & Hill, E. (2005). Why teach "research as conversation" in freshman composition courses? A metaphor to help librarians and composition instructors develop a shared model. *Research Strategies 20*, 3-22.

McNiff, J. (1988). *Action research: Principles and practice*. Basingstoke: Macmillan Education.

McNiff, J. (2002). *Action research: Principles and practice* (2nd ed.). London: Routledge/Falmer.

McNiff, J., & Whitehead, J. (2006). *All you need to know about action research.* London: Sage.

McNiff, J., & Whitehead, J. (2009). *Doing and writing action research.* London: Sage.

McNiff, J., & Whitehead, J. (2010). *You and your action research project* (3rd ed.). London: Routledge.

McNiff, J., & Whitehead, J. (2011). *All you need to know about action research* (2nd ed.). Los Angeles: Sage

McTaggart, R. (1997). Guiding principles for participatory action research. In R. McTaggart (Ed.), *Participatory Action Research: International Contexts and Consequences* (pp. 25-44). New York: State University of New York Press.

Mariani, L. (1997). Teacher support and teacher challenge in promoting learner autonomy. *Perspectives. XXIII* (2). Retrieved February 2, 2012 from from http://www.learningpaths.org/papers/papersupport.htm

Markless, S. (2009). A new conception of information literacy for the digital environment in higher education. *Nordic Journal of Information Literacy in Higher Education*, *1*(1) 25-40.

Markless, S., & Streatfield, D. R. (2007). Three decades of information literacy: redefining the parameters. In S. Andretta (Ed.), *Change and challenge: Information literacy for the twenty-first century* (pp. 15-36). Adelaide: Auslib Press.

Martin, J. L. (2013). *Learning from recent British information literacy models: A report to ACRL's Information Literacy Competency Standards for Higher Education taskforce*. Retrieved from http://mavdisk.mnsu.edu.martij2/acrl.pdf

Marton, F., & Saljo, R. (1984). Approaches to learning. In F. Marton, D. Hounsell & N. Entwistle (Eds.), *The experience of learning: Implications for teaching and studying in higher education* (pp. 39-58). Edinburgh: Scottish Academic Press.

Meola, M. (2004). Chucking the checklist: A contextual approach to teaching undergraduates web-site evaluation. *portal: Libraries and the Academy*, *4*(3), 331-344.

Meszaros, M. (2010). Who's in charge here? Authority, authoritativeness, and the undergraduate researcher. *Communications in Information Literacy. 4*(1), 5-11.

Metzger, M. J. (2007). Making sense of credibility on the Web: Models for evaluating online information and recommendations for future research. *Journal of the American Society for Information Science and Technology*, *58*(13), 2078-2091.

Middle States Commission on Higher Education. (2003). *Developing research and communication skills: Guidelines for information literacy in the curriculum.* Philadelphia, PA: Middle States Commission on Higher Education. Retrieved from http://www.msche.org/publications/devskill 050208135642.pdf

Mills, G. E. (2007). *Action research: A guide for the teacher researcher* (3rd ed.). Upper Saddle City, NJ: Pearson, Merrill Prentice Hall.

Ministry of Education. (2008). *The New Zealand education system: An overview.* Retrieved from: http://www.minedu.govt.nz/~/media/MinEdu/ Files/EducationSectors/InternationalEducation/ForInternationalStudents AndParents/NZEdSysOverview.pdf

Ministry of Education. (2009). *Ka Hikitia - Managing for success: The Māori education strategy 2008-2012*. Retrieved from http://www.minedu.govt. nz/~/media/MinEdu/Files/TheMinistry/KaHikitia/English/KaHikitia2009Pa rtOne.pdf

Ministry of Education. (n.d) *Te Kete Ipurangi (TKI).* Retrieved from http://www.tki.org.nz/

Ministry of Education. (2012a). *NZ education system overview*. Retrieved from http://www.minedu.govt.nz/NZEducation/EducationPolicies/International Education/ForInternationalStudentsAndParents/NZEdOverview/School_ Education.aspx

Ministry of Education. (2012b). *Profile & Trends: New Zealand's tertiary education sector 2011*. Wellington, NZ: Tertiary Sector Performance Analysis. Ministry of Education.

Ministry of Education. (2012c). *The national curriculum*. Retrieved from http://www.minedu.govt.nz/Parents/AllAges/EducationInNZ/TheNational Curriculum.aspx

Mokhtar, I. A., Majid, S., & Foo, S. (2004). Measuring information literacy in education. In *Conference on Information Literacy-Information, Learning, Innovation: Delivering Global Knowledge*. Brunei, October 4-7. Retrieved from: http://www.ntu.edu.sg/home/sfoo/publications/2004/2004CILLLI_fmt.pdf

Moon, J. (2001). PDP Working Paper 4: Reflection in higher education learning. *Higher Education Academy.* Retrieved from *www.heacademy.ac.uk/resources.asp*.

Moore, P. (2005). *Information literacy in the New Zealand education sector*. Paper presented at the Asia and the Pacific Seminar - Workshop on Educational Technology. 5-9 September 2005, Tokyo Gakugei University, Tokyo, Japan

Morton, A. (1999). Ethics in action research. *Systemic Practice and Action Research, 12*(2), 219-222.

Murray, N. & Kirton, B. (2006). Chapter 2 - An analysis of the current situation. In S. Davies, D. Swinburne & G. Williams (Eds.), *Writing matters: The Royal Literary Fund report on student writing in higher education* (pp. 7-14). London, UK: Royal Literary Fund.

Nolen, A. L., & Putten, J. V. (2007). Action research in education: Addressing gaps in ethical principles and practices. *Educational Researcher, 36*(7), 401-407.

NZQA. (2013). *Secondary school and NCEA*. Retrieved from http://www.nzqa.govt.nz/studying-in-new-zealand/secondary-school-and-ncea/

O'Brien, R. (2001). An overview of the methodological approach of action research. In R. Richardson (Ed.), *Theory and practice of action research.* Retrieved from http://www.web.ca/~robrien/papers/arfinal.html

O'Brien, H. L., & Symons, S. (2005). The information behaviors and preferences of undergraduate students. *Research Strategies*, *20*(4), 409-423.

Oja, S. N., & Smulyan, L. (1989). *Collaborative action research: A developmental approach*. London, UK: Falmer Press.

Orr, D., Appleton, M., & Wallin, M. (2001). Information literacy and flexible delivery: Creating a conceptual framework and model. *The Journal of Academic Librarianship, 27*(6), 457-463.

Partridge, H., Edwards, S., Baker, A., & McAllister, L. (2008). The reflective online searching skills (ROSS) environment: Embedding information literacy into student learning through an online environment. *ILFA Journal*, *34*(1), 55-71.

Patton, M.Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Pickford, R., & Brown, S. (2006). *Assessing skills and practice.* Abingdon, UK: Routledge.

Phillips, V., & Bond, C. (2004). Undergraduates' experiences of critical thinking. *Higher Education Research & Development*, *23*(3), 277-294.

Pope, A., & Walton, G. (2006). Information literacy: Recognising the need – an introduction. In G. Walton & A. Pope. (Eds.), *Information literacy: Recognising the need* (pp. 3-12). Oxford, UK: Chandos.

Porter, B. (2011). Millennial undergraduate research strategies in web and library information retrieval systems. *Journal of Web Librarianship*, *5*(4), 267-285

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, *9*(5), 1-6.

Proctor, L. (2006). Not such strange bedfellows! Supporting learning by embedding information literacy skills in academic assessment. In G. Grigg & C. Bond (Eds.), *Supporting learning in the 21st century: Refereed proceedings of the 2005 Association of Tertiary Learning Advisors of Aotearoa New Zealand Conference* (pp. 129-152). Auckland: ATLAANZ.

Proctor, L., Wartho, R., & Anderson, M. (2005). Embedding information literacy in the sociology program at the University of Otago. *Australian Academic and Research Libraries*, *36*(4), 153-168.

Queensland University of Technology Library. (2010). *Information literacy strategies.* Retrieved from http://www.library.qut.edu.au/services/teaching/infolit/strategies/

Radloff, A. (2006). Supporting student learning in the 21st century: What's the job and whose job is it? In G. Grigg & C. Bond (Eds.), *Supporting learning in the 21st century: Refereed proceedings of the 2005*

Association of Tertiary Learning Advisors of Aotearoa New Zealand Conference (pp. 2-17). Auckland: ATLAANZ.

Read, B., Francis, B., & Robson, J. (2001). 'Playing safe': Undergraduate essay writing and the presentation of the student 'voice'. *British Journal of Educational Psychology*, *22*(3), 387-399.

Rearick, M. L., & Feldman, A. (1999). Orientations, purposes and reflection: A framework for understanding action research. *Teaching and Teacher Education, 15*(4), 333-349.

Rockman, I. (2004). *Integrating information literacy into the higher education curriculum: Practical models for transformation*. San Francisco: Jossey-Bass

Rosenblatt, S. (2010). They can find it but they don't know what to do with it: Describing the use of scholarly literature by undergraduate students. *Journal of Information Literacy*, *4*(2), 50-61.

Sagor, R. (2011). *The action research guidebook: A four-stage process for educators and school teams*. Thousand Oaks, CA: Corwin.

SCONUL Advisory Committee on Information Literacy. (1999). *Information skills in higher education: A SCONUL position paper.* Prepared by the Information Skills Task Force, on behalf of SCONUL.

SCONUL Working Group on Information Literacy. (2011).*The SCONUL seven pillars of information literacy: Core Model for higher education*. Prepared by the SCONUL Working Group on Information Literacy. Retrieved from http://www.sconul.ac.uk/sites/default/files/documents/ coremodel.pdf

Secker, J. (2011). *A new curriculum for information literacy: Expert consultation report.* Retrieved from http://ccfil.pbworks.com/f/Expert_report_final.pdf

Secker, J. (2012). *Four seasons pizza.* Retrieved from http://newcurriculum. wordpress.com/2012/03/30/four-seasons-pizza/

Secker, J., & Coonan, E. (2011a). *A new curriculum for information literacy: Curriculum and supporting documents.* Retrieved from http://ccfil. pbworks.com/f/ANCIL_final.pdf

Secker, J., & Coonan, E. (2011b). *A new curriculum for information literacy: Executive summary*. Retrieved from http://ccfil.pbworks.com/f/ Executive_summary.pdf

Secker, J., & Coonan, E. (2013). Introduction. In J. Secker & E. Coonan (Eds.), *Rethinking information literacy: A practical framework for supporting learning* (pp. xv-xxx). London: Facet Publishing

Secker, J., Price, G., & Boden, D. (2007). *The information literacy cookbook: Ingredients, tasters and recipes for success.* Oxford, UK: Chandos.

Selener, D. (1997). *Participatory action research and social change* (2nd ed.). Ithaca, NY: Cornell Participatory Action Research Network, Cornell University.

Seymour-Rolls, K., & Hughes, I. (2000). Participatory action research: Getting the job done. *Action Research e-reports, 4.* Retrieved from http://www.fhs.usyd.edu.au/arow/arer/004.htm.

Simmons, M. H. (2005). Librarians as disciplinary discourse mediators. *Portal Libraries And The Academy, 5*(3), 297-311.

Skillen, J., Merten, M., Trivett, N., & Percy, A. (1998). *The IDEALL approach to learning development: A model for fostering improved literacy and learning outcomes for students.* Retrieved from http://www.aare.edu.au/98pap/ski98343.htm

Smith, R. L. (1997). Philosophical shift: Teach the faculty to teach information literacy. In *ACRL National Conference, Nashville, TN.* Retrieved from http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/nashville/ smith.cfm.

Snavely, L. (2008). Global educational goals, technology, and information literacy in higher education. *New Directions for Teaching and Learning*, (114), 35-46.

Snavely, L., & Cooper, N. (1997). The information literacy debate. *The Journal of Academic Librarianship*, *23*(1), 9-14.

Stanger, K. (2009). Implementing information literacy in higher education: A perspective on the roles of librarians and disciplinary faculty. *Libres, 19*(1).

Star, C., & McDonald, J. (2007). Embedding successful pedagogical practices: assessment strategies for a large, diverse, first year student cohort. *International Journal of Pedagogies and Learning*, *3*(2), 18-30.

Stringer, E. (2008). *Action research in education* (2nd ed.). Upper Saddle River, NJ: Pearson Education.

Stubbings, R., & Franklin, G. (2007). Does advocacy help to embed information literacy into the curriculum? In S. Andretta (Ed.), *Change and challenge: Information literacy for the twenty-first century* (pp. 145-168). Adelaide: Auslib Press,

Sundin, O., & Francke, H. (2009). In search of credibility: Pupils' information practices in learning environments. *Information Research*, *14*(4). Retrieved from: http://www.informationr.net/ir/14-4/paper418.html

Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly, 23*(4), 582-603.

Taba, H. & Noel, E. (1957). Steps in the action research process. In *The action research reader* (3rd ed.). (pp 67 - 73) Victoria, Australia: Deakin University Press.

Thompson, C. (2003). Information illiterate or lazy: How college students use the web for research. *Portal: Libraries and the Academy*, *3*(2), 259-268.

Timpson, H., & Sansom, G. (2011). A student perspective on e-resource discovery: Has the Google factor changed publisher platform searching forever? *The Serials Librarian*, *61*(2), 253-266.

Tomal, D. R. (2010). *Action research for educators* (2nd ed.). Lanham. MD: Rowman & Littlefield Publishers, Inc.

Trigwell, K., Prosser, M., & Waterhouse, F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education*, *37*(1), 57-70.

Turner, K., & Fisher, T. (2002). A collaborative quest: Building information literacy initiatives at the University of Otago. *Paper prepared for the TTA Information Literacy Sub-Committee Seminar*, Rotorua, NZ. September 26-27, 2002.

Universities New Zealand. (2013) *The NZ university system*. Retrieved from http://www.universitiesnz.ac.nz/nz-university-system

University of Auckland. (2013). *About general education*. Retrieved from http://www.auckland.ac.nz/uoa/home/for/current-students/cs-academic-information/cs-general-education/cs-about-gened

van der Meer, J., Jansen, E., & Torenbeek, M. (2010). 'It's almost a mindset that teachers need to change': First-year students' need to be inducted into time management. *Studies in Higher Education*, *35*(7), 777-791.

Waddington, S. B., & Wright, P. N. (2007). Student reflection: An 'ideal world'? *Planet*, *18*, 51-54.

Wadsworth, Y. (1998). What is participatory action research. *Action Research International, 2*(1). Retrieved from http://www.scu.edu.au/schools/gcm/ ar/ari/p-wadsworth98.html

Walden, K., & Peacock, A. (2006). The i-map: A process-centred response to plagiarism. *Assessment & Evaluation in Higher Education*, *31*(2), 201-214.

Walden, K., & Peacock, A. (2008). Economies of plagiarism: The i-map and ownership in information gathering. In C. Eisner & M. Vicinus (Eds.), *Originality, imitation and plagiarism: Teaching writing in the digital age.* Ann Arbor, USA: The University of Michigan Press.

Waller, V. (2009). The relationship between public libraries and Google: Too much information. *First Monday*, *14*(9), 1-9.

Walton, M., & Archer, A. (2004). The web and information literacy: Scaffolding the use of web sources in a project-based curriculum. *British Journal of Educational Technology, 35*(2), 173-186.

Wang, L. (2007). Sociocultural learning theories and information literacy teaching activities in higher education. *Reference & User Services Quarterly*, *47*(2), 149-158.

Wang, L. (2010). *Integrating information literacy into higher education curricula: An information literacy curricula integration model.* Unpublished doctoral dissertation, Queensland University of Technology, Queensland, Australia.

Wang, L., Bruce, C. S., & Hughes, H. E. (2011). Socio-cultural theories and their application in information literacy research and education. *Australian Academic & Research Libraries*, *42*(4), 296-308.

Ward, D. (2001). The future of information literacy: Transforming the world. *Faculty Publications –Milner Library, Paper 33.*

Ward, D. (2006). Revisioning information literacy for lifelong meaning. *The Journal of Academic Librarianship, 32*(4), 396-402.

Webber, S., & Johnston, B. (2000). Conceptions of information literacy: New perspectives and implications. *Journal of Information Science, 26*(6), 381-398.

Webber, S., & Johnston, B. (2006). Working towards the information literate university. In G. Walton & A. Pope. (Eds.), *Information literacy: Recognising the need* (pp. 42-53). Oxford, UK: Chandos.

Weiler, A. (2005). Information-seeking behavior in Generation Y students: Motivation, critical thinking, and learning theory. *The Journal of Academic Librarianship, 31*(1), 46-53.

Weimer, M. (2003). Focus on learning, transform teaching. *Change: The Magazine of Higher Learning, 35*(5), 48-54.

Whitworth, A. (2012). The reflective information literacy educator. *Nordic Journal of Information Literacy in Higher Education, 4*(1), 38-55.

Williamson, K., Bernath, V., Wright, S., & Sullivan, J. (2008). Research students in the electronic age: Impacts of changing information behavior on information literacy needs. *Communications in Information Literacy, 1*(2), 47-63.

Williamson, G. R., & Prosser, S. (2002). Action research: Politics, ethics and participation. *Journal of Advanced Nursing, 40*(5), 587-593.

Willis, D (2009). Disciplines, institutions and the Performance-Based Research Fund: The scholarship of teaching and learning from a New Zealand perspective. *International Journal for the Scholarship of Teaching and Learning 3*(2).

Willison, J., & O'Regan, K. (2005, July). 2020 Vision: An information literacy continuum for students: Primary school to post graduation. In *Proceedings from the HERDSA Conference* (pp. 3-6).

Wilson, K., Devereux, L., Macken-Horarik, M., & Trimingham-Jack, C. (2004, July). Reading readings: How students learn to (dis) engage with critical reading. In *Proceedings of the 2004 Annual International Conference of the Higher Education Research and Development Society of Australasia (HERDSA).* Retrieved from: http://www.herdsa.org.au/wp-content/uploads/conference/2004/PDF/P048-jt.pdf

Windham, C. (2006). Getting past Google: Perspectives on information literacy from the millennial mind. *Educause Learning Initiative, ELI Paper 3.*

Whyte, W. F. (1989). Advancing scientific knowledge through participatory action research. *Sociological Forum, 4*(3), 367.

Zuber-Skerritt, O. (2001). Action learning and action research: Paradigm, praxis and programs. In S. Sankara, B, Dick & R. Passfield (Eds.) *Effective change management using action research and action learning: Concepts, frameworks, processes and applications* (pp. 1-20) Lismore, Australia: Southern Cross University Press.

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APPENDICES

APPENDIX 1: IL Models

This appendix provides a brief overview of a range of IL models developed from 1990 – 2011 that were reviewed for this research. Each model contributed to my understanding of the key competencies underpinning IL, and informed the development of the interventions in this research. The models connect to Chapter Two (see 2.1).

1a. The Big6 Process Model (1990)

The Big6 model was developed by Eisenberg and Berkowitz in 1990 and continued to be developed to meet the IL needs of learners from primary school to university into the 21st Century (Eisenberg, 2008). The Big 6 consists of six key stages within the information search process. Eisenberg (2008) argued that unlike other stage models that encouraged a linear 'lock-step' method, the Big 6 approach is a feedback process that offers a more systematic, logical means for supporting a curriculum designed to encourage problem-solving through engagement with information. It also encourages reflection on each stage of the research process, allowing students to recognise the strengths and weaknesses and develop a discourse that allows them to describe and become more self-aware of their research process.

1. Task Definition	1.1 Define the information problem 1.2 Identify information needed
2. Information Seeking Strategies	2.1 Determine all possible sources 2.2 Select the best sources
3. Location and Access	3.1 Locate sources (intellectually and physically) 3.2 Find information within sources
4. Use of Information	4.1 Engage (e.g., read, hear, view, touch) 4.2 Extract relevant information
5. Synthesis	5.1 Organize from multiple sources 5.2 Present the information
6. Evaluation	6.1 Judge the product (effectiveness) 6.2 Judge the process (efficiency)

Source: Big6.com

1b.The Seven Faces of Information Literacy (1997)

The Seven Faces of Information literacy (Bruce, 1997) represents a relational model of IL based on higher educators' experiences of IL. The model suggests an information literate person experiences IL in a range of ways, and is able to use experiences to engage or work with information as required. Bruce developed her 'Seven Faces of Information Literacy' into the 'Six Frames of Informed Learning' and 'Seven Faces of Informed Learning' (2008; see 3.2.1.3)

Information Technology	Focus on tools to retrieve information, and interact and network socially.
Information Sources	Knowledge of sources of information and ability to find and access information independently.
Information Process	Information use to solve problems, and make informed decisions.
Information Control	Ability to effectively store and retrieve information in both hard copy and electronically.
Knowledge Construction	Building personal knowledge through critical information use, adopting personal perspectives.
Knowledge extension	Gaining insight for new ideas or creative solutions through experience and reflection, recognising the value of information.
Wisdom	Using information wisely to benefit others through considered judgement; recognition of personal attitudes, values and beliefs, while seeing information in the broader context.

1c. The SCONUL Seven Pillars of Information Literacy Model (1999)
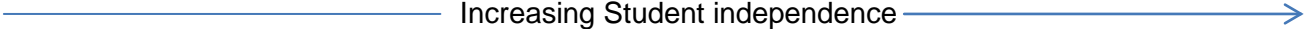
The original SCONUL (1999) Seven Pillars model was designed ot assess how students move from the basic skills (recognising need) to the most sophisticated (synthesise and create) as they move from novice to expert researcher (see Figure 3), and the ACRL and ANZIL standards (see 2.1.3).
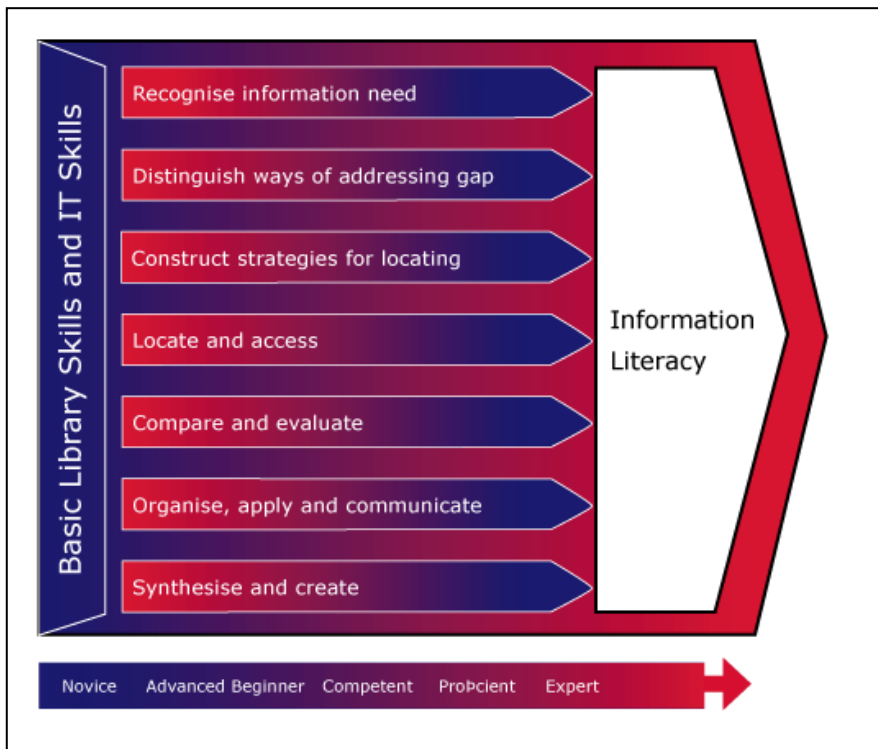
1d. Information Literacy Continuum (2005)

Central to this research was the notion that students enter the university as novices in the academy and require developmental support to transition into and extend their academic literacy. Willison & O'Regan's (2005) 'Information Literacy Continuum' provides a comprehensive framework to chart and develop students IL development from novice to independent researcher from primary school to post-graduate researcher. The shift from information processor to producer is a progression from the top to the bottom of the continuum. Development from dependent to independent learning moves left to right across the table, achieved through "teaching strategies of modelling, through scaffolding to teacher withdrawal and student autonomy" (p.637). The authors recognised that teachers know the skills they expect students to develop, but are often unfamiliar how their expectations fit within the broader curriculum. The continuum was developed to help instructors understand the overall picture of IL development, and recognise ways to bridge the gaps in both teaching and student learning.

Information Literacy Continuum A working document for Primary School to Post-Graduation (Willison & O'Regan, 2005)

	Modelling → Scaffolding → Withdrawing	Modelling → Scaffolding → Withdrawing	Modelling → Scaffolding → Withdrawing		
PRODUCER	Increasing Student independence →				
	LEVEL 1 Student engages in a closed inquiry with one 'well-structured' text provided by teacher/lecturer	**LEVEL 2** Student engages in a closed inquiry with i) one standard text ii) multiple 'well-structured' text	**LEVEL 3** Student engages in closed inquiry with predetermined question/issue and criteria	**LEVEL 4** Student engages in open inquiry, within structured guidelines	**LEVEL 5** Student engages in open inquiry within self-determined guidelines.
STANDARDS The information literate person …					
1. recognises the need for information and determines the nature and extent of the information needed	Reads text and, in response to guidance by teacher/lecturer, recognises that a well-structured text contains key concepts in predictable locations. Asks questions arising from text.	Reads text and recognises that the location of key concepts may be predictable or unpredictable. Asks questions raised implicitly by the text.	Recognises the purpose of the inquiry by exploring information broadly and identifying key concepts. Identifies appropriate source types and devises relevant search strategies. Addresses emergent questions.	Asks research questions that are specific, answerable and guide the inquiry. Research questions and guiding criteria determine nature and extent of information needed.	Asks research questions based on experience, expertise and/or literature reviews. This process determines the nature and extent of information needed.
2. finds needed information effectively and efficiently	Locates, records and defines key concepts when appropriate and records associated details	Identifies key concepts, defines when necessary, and records associated details from within or between texts.	Finds relevant multiple sources types using a search strategy. Uses information access tools to retrieve information in a variety of formats.	Utilises multiple source types, including primary information when possible. Develops uses and evaluates a search plan.	Multiple source types, multiple strategy searches. Keeps up to date with alerts, subscriptions, discussion groups.
3. critically evaluates information and the information-seeking process	Evaluates the clarity of the text and estimates how well he/she determined key concepts and associated details. Evaluates clarity and accuracy of information artefacts produced.	Compares and contrasts meanings within or between texts and considers reasons for differences. Evaluates how well he/she integrates and synthesises information.	Evaluates sources in terms of author, style and source type and recognises any information gaps. Evaluates the balance/fairness of information artefacts produced.	Evaluates source from a critical perspective. Considers if other sources should be used. Realises information search is evolutionary and non-linear.	Evaluates sources from multiple critical perspectives. Analyses structure, logic, scope perspective and relevance of sources
STANDARDS The information literate person …	**Level 1** Student engages in a closed inquiry with one 'well-structured' text provided by teacher/lecturer	**Level 2** Student engages in a closed inquiry with i) one standard text ii) multiple 'well-structured' text	**Level 3** Student engages in closed inquiry with predetermined question/ issue and criteria	**Level 4** Student engages in open inquiry, within structured guidelines	**Level 5** Student engages in open inquiry within self-determined guidelines.
4. manages information collected or generated	Uses a hierarchical note-taking framework (e.g. 'structured overview') for key concepts, meanings and details.	Note-taking framework integrates information from one text or from multiple well-structured sources into a coherent hierarchy.	Utilises a system to organise sources and records all pertinent citation information for future reference and retrieval.	Utilises a reference storage/ organisation system eg Endnote. Keeps all references for possible use.	Categorises kept references according to an organising framework.
5. applies prior and new information to **construct** new concepts or create new understandings	Paraphrases information to construct own notes or well-structured text, multimedia, oral communication or artefact. Asks questions of clarification and wonderment and seeks answers	Synthesises information to produce a composite paraphrase in notes, reports, essays, or oral, visual and structural representations. Asks relevant, researchable questions.	Develops a new line of though that emerges from synthesis of sources. Applies understandings developed in contexts fresh to the student. Ask rigorous, researchable questions based on new understandings.	Recognises the interrelatedness of concepts and develops theoretical or physical models. Appropriate medium and form of presentation for audience/ information.	Synthesises information to develop a framework of understanding or develops new hypothesis, models or salient further research.
6. uses information with understanding and acknowledges cultural, ethical, economic, legal, and social issues in the use of information	Writes/speaks/presents from a particular position which is reflected in the purpose, language and/or structure of the text. Records title/date of source	Considers similarities and differences between authors' positions in relation to cultural, ethical and other issues. Bibliography of sources used.	Identifies the relevance to their own inquiry of authors' positions in relation to these issues. Cites references in text, using appropriate quoting and paraphrasing.	Incorporates differing perspectives in relation to cultural, ethical and other issues, identifying the value and belief systems underlying them. Uses a referencing system.	Actively seeks out a range of perspectives, critiquing the underlying belief and value systems.

The left margin reads vertically: **PRODUCER — PROCESSOR**

1e. Information and Critical Literacies Model (2007)

The idea that IL is central to learning was also fundamental to this research. Markless and Streatfield (2007) (also discussed in Markless, 2009) recognised that IL is an integral part of learning. Concern over existing generic stage-models inevitably which offered discrete skills focus devoid of context was the catalyst for developing their 'Information and Critical Literacies' model. (Markless, 2009) The model, which was based on a non-linear model of information-seeking, adopted a constructivist approach to teaching and learning IL. It linked to experiential learning, and encouraged reflection and self-constructed approaches to problem-solving. It contained three key elements: 'connecting with information', 'interacting with information' and 'making use of information'. The model placed heavy emphasis on transformation and construction of knowledge and was designed to encourage students to stop seeing research and assignments as a process of collecting information, but rather in terms of using information to form their own perspectives and create new insights.
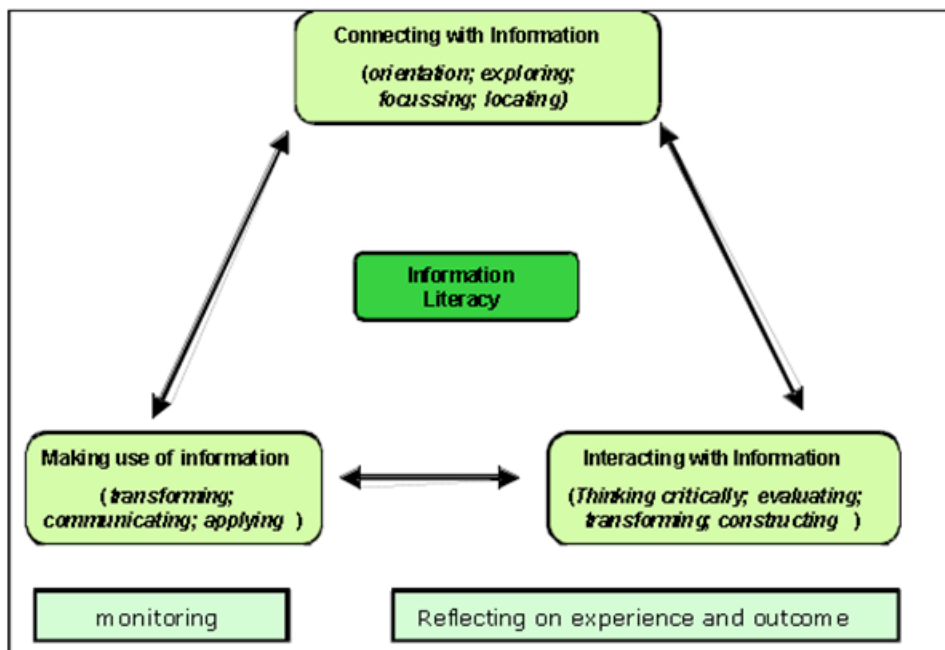
Source: Markless (2009, p. 35)

1f. Colvin-Keene Model of Information Literacy (2010)

To situate IL within the research and writing process, a model that captured both the skills and cognitive demands of research was needed. The Colvin-Keene Model (Keene et al., 2010) was developed as an holistic model that identified the cognitive demands employed in each of its four stages: information needs identification, information location & evaluation,

information review, and problem solution. The model represents an iterative process that includes all the aspects of problem-solving students are expected to engage with as they complete research tasks. It identifies specific cognitive skills employed by students to undertake each of the activities that comprise the stages of IL. The authors recognise the visual depiction of the model links the stages sequentially and cannot incorporate "the complexity that reverse progress and links between non-sequential stages would entail" (p.9); however, the model is designed so that each stage can be revisited if required. The Colvin-Keene model recognises that " the cognitive skills that students practice in particular activities in the problem solving cycle are one of the critical factors that must be considered to enable students to realise their full learning potential" (Keene et al., 2010 p. 17).
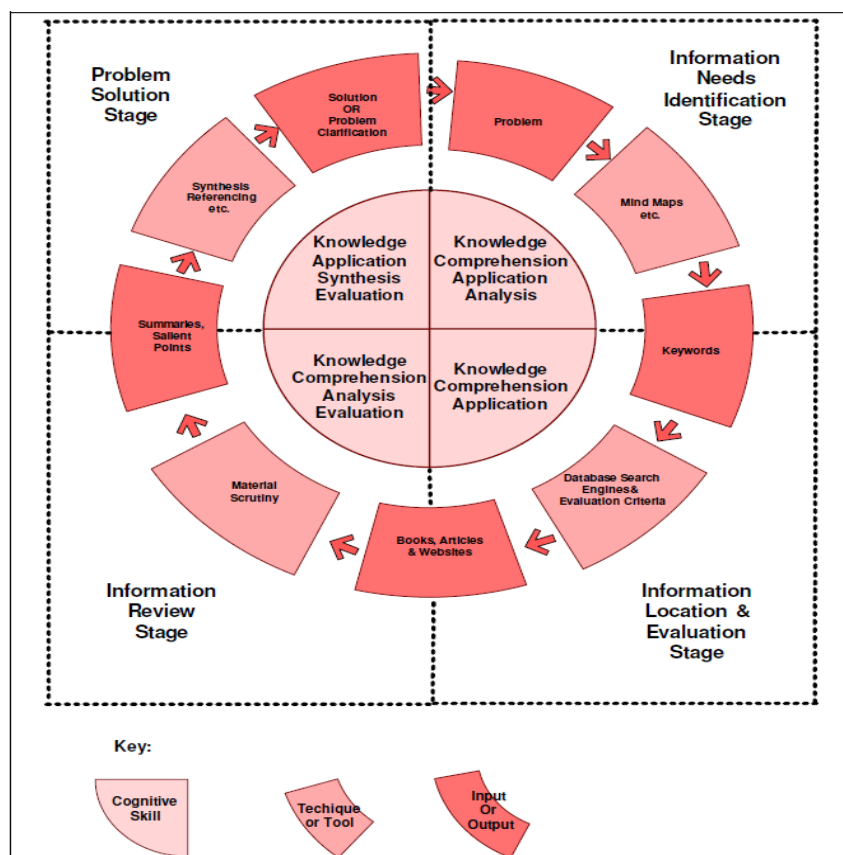
Source: Keene, Colvin & Sissons (2010, p.8)

1g. Revised SCONUL Seven Pillars of Information Literacy Model (2011)

In 2011, the SCONUL model was revised to respond to criticisms of the limitations of the stage models, particularly the linear focus of the 1999 version. Andretta (2005a, p.53) had argued that the sequential progression SCONUL's interpretation of the knowledge creation process was too linear to reflect fully the learner's experience as it is based on. The new core model is

circular and recognises that each 'pillar', which connect to different parts of the learning process, can be developed simultaneously and independently (SCONUL Working Group on Information Literacy, 2011). Each pillar is described as:

- Identify   Identify a personal need for information
- Scope   Assess current knowledge and identify gaps
- Plan   Construct strategies for locating information and data
- Gather   Locate and access information and data they need
- Evaluate   Review the research process and compare and evaluate information and data
- Manage   Organise, synthesise and apply the information found
- Present   Present the results of the research and disseminate it appropriately (Welsh Information Literacy Project, 2011)
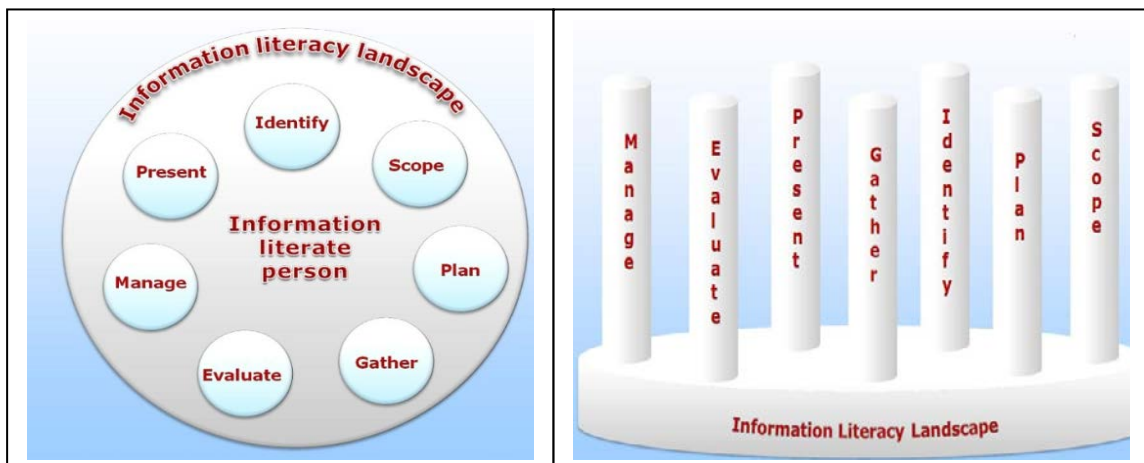
Source: The SCONUL Seven Pillars of Information Literacy - Core Model for Higher Education. (SCONUL Working Group on Information Literacy, 2011).

Each generic pillar can be viewed through particular lenses of difference groups or disciplines.   The core SCONUL model continues to inform IL frameworks and IL programs internationally.

APPENDIX 2: Key Themes in Holistic IL Models and Frameworks (Martin, 2013)

Martin (2013) reviewed four holistic IL models and frameworks being developed and used in the UK (see 2.2). This appendix contains a table identifying the key themes that emerged within the models, summarised from of Martin's paper (p. 8-24). Although Martin's research was published after this research was completed, several parallel themes were identified that connect to the more holistic view of IL *as* learning, and therefore provide a useful resource for future research in this area.

Key Themes of Holistic IL Models and Frameworks

External Collaboration	• Working with groups outside libraries including professionals in research support, digital technologies, data management and learning development; • Gaining different perspectives and new partnerships in the promotion and articulation of IL. Professionals outside library recognised issues relating to IL, but used different terms to explain similar concepts; but had limited understanding of IL and equated concept with basic library research skills. • Once the goals of IL were explained, professionals helped articulate IL outcomes. • Promoted IL to wider audiences.
Information and Information Literacy Landscapes	• IL and IL landscapes are two key concepts used to build holistic, flexible models for various learning situations. • IL landscape is the information world as perceived at any point in time by individuals. • IL landscape can also be situational, familiar or unfamiliar. • Individuals operate in a variety of IL landscapes at any given time, and level of IL fluctuates. • As lifelong learners, individuals will enter new landscapes. • A student's experiences with different information landscapes, along with habits and attitudes will strongly impacts on what he/she can, or is willing, to learn. • Holistic models and frameworks support individuals to navigate the changing IL landscapes.
Multi-dimensional Learning	• IL is more than action-based library search skills; the holistic models aspire to empower people to become independent, lifelong learners. • *Behavioural learning* – action-based skills; important to Il but teaching only these skills undermines IL development as part of the learning process. • *Cognitive learning* – ability to understand underlying concepts an implement them in any information situation. Cognitive skills connected to critical thinking and skills transfer into various Il landscapes. • *Meta-cognitive learning* – learning self-awareness of IL skills and understanding as an important part of the learning process. Reinforces IL as a reiterative, holistic process where individuals assess own development to expand IL landscapes. Realised through self-assessment and reflection. • *Affective learning* – IL has an emotional impact learner's face when developing IL –may feel emotions like frustration, fear and anxiety. Helps individuals address feelings during IL development.
Academic Literacies	• IL is placed within or akin to academic literacies – the lines are blurred to reinforce the concepts of creating a holistic IL process that is integral to learning. Embracing academic literacies provides a foothold to embed IL in the curriculum.
Expanding Participation	• IL as part of the learning process expands an individual's roles and responsibilities, from an ethical and effective seeker and user of information to someone who ethically and critically creates, manages and disseminates information.
Addressing Transitions	• ANCIL was unique in emphasising the need to support students to transition into, and out of, the higher education environment. Also support the transition from dependent to independent learners. Outlining transitional learning outcomes supports IL practitioners to close the gap between expectations and actual skill, while increasing students' critical thinking and cognitive skills.

Developed from Martin (2013 pp 8-24)

APPENDIX 3: Examples of Information Sheets

This appendix provides examples of information sheets provided to BEP instructors and students, outlining the purpose of the research, the aims of data collection and participant rights.

- 3a Instructor Information Sheet

- 3b Student Information Sheet

- 3c Student Focus Group Information Sheet

Integrating Information Literacy to Support Learning into a Specific Discipline in the New Zealand Tertiary Context

<u>Interview Information Sheet</u>

This participatory action research (PAR) PhD project is focused on integrating the development of information literacy (IL) skills and improving writing in the disciplines. The Planning discipline has been selected as the focus for this research. The researcher is Angela Feekery and the supervisors are Associate Professor Lisa Emerson and Dr. Sharon Stevens.

The purpose of the research is:
- to understand the curriculum and pedagogy in the degree programme;
- to gain insight into the IL and writing requirements of the Planning discipline;
- to identify challenges students are having with IL and writing in Planning; and
- to identify areas where the development of IL and writing skills could be embedded into the existing curriculum.

The aim of this interview is to discuss the information literacy and communication skills that you believe Planning students should attain throughout the 4 year degree at [institution]. The interview will take approximately 1 hour and will involve:

- a brief discussion of your course and assessments;
- a general discussion of Planning values and information needs;
- the identification of the key information literacy and communication skills for Planning students / graduates; and
- your suggestions on when and how these skills should be developed within the 4-year programme.

Once the key skills and attributes have been identified, and if the support for a model is forthcoming, I will develop a draft model of information literacy development for Planning for you to provide feedback on. Information literacy and writing resources specific to the Planning discipline will be compiled from existing resources or developed as required to support the model.

Participant Rights
You have the right to:
- ask any questions about the study at any time during the participation
- withdraw from this study at any time.
- provide information on the understanding that your name will not be used unless you give permission to the researcher;

- be given access to a summary of the project findings when it is concluded.

The interviews will be transcribed and returned to you so that you can read and amend the transcript as required. You can choose to be fully attributed or have your contributions kept confidential. Only my supervisors and I will have access to the information given. All data will be kept in a secure location and will be destroyed within five years of submitting the PhD thesis.

If you have any concerns about of this research that you wish to raise with someone other than me please contact Associate Professor Lisa Emerson (06 3569099 ext 2601, L.Emerson@massey.ac.nz).

[researcher and institution information deleted]

A Low-Risk Notification has been submitted to MUHEC and the data collection methods have been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research, that you wish to raise with someone other than the researcher or head supervisor, please contact Professor John O'Neill, Director (Research Ethics), (063505249, humanethics@massey.ac.nz).

Integrating Information Literacy to Support Learning into a Specific Discipline in the New Zealand Tertiary Context

Students' Information Sheet

The PhD project is focused on integrating the development of information literacy (IL) skills and improving writing in the Planning discipline. The researcher for this PhD study is Angela Feekery and the supervisors are Associate Professor Lisa Emerson and Dr. Sharon Stevens.

The purpose of the research is:
- to understand the curriculum and pedagogy in the course;
- to identify areas where the development of IL skills could be embedded into the existing curriculum;
- to identify issues students are having with IL and writing in the Planning discipline.

An important component of this research is the analysis and discussion of a selection of student assessments to identify problems that students are having with IL development and written assessments in their courses. These discussions will help guide the development of an IL Model that could be implemented across the Planning programme.

Therefore, I am inviting students in [Course 2-2] to participate in this research. I would like your permission to:

1) be able to look at your assessments to identify any strengths and weaknesses in the writing and learning process that can be discussed with the paper coordinator and addressed when the course repeats in 2011; and

2) make a note of any questions or comments made during any classes observed at the lecturers request.

I would also like to invite you to participate in:

a) Writing Reflective Journals - this will take approximately 30 mins of writing per week.

b) Focus groups following the analysis of the assessments. The focus groups will take 1 hour in Week 34.

For those who indicate an interest in participating in either or both of these tasks, detailed information sheets and separate consent forms will be provided. All data collected will be kept confidential. You will have an opt-out option if you do not wish to continue participating.

Participant Rights

As a student in the course being researched, you have the right to:

- decline to answer any questions;
- ask any questions about the study at any time during the semester;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- opt-out of the study at any time, which means that none of your questions, comments or assessments will be noted, evaluated or discussed.

All the observation notes will be kept confidential. Only my supervisors and I will have access to the information given. All data kept in a secure location and will be destroyed within five years of submitting the PhD thesis.

If you have any concerns about of this research that you wish to raise with someone other than the researcher, please contact Associate Professor Lisa Emerson (06 3569099 ext 2601, L.Emerson@massey.ac.nz).

[researcher and institution information deleted]

A Low-Risk Notification has been submitted to MUHEC and this phase of the research has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research, that you wish to raise with someone other than the researcher or head supervisor, please contact Professor John O'Neill, Director (Research Ethics), (06 3505249, humanethics@massey.ac.nz).

340

Integrating Information Literacy to Support Learning into a Specific Discipline in the New Zealand Tertiary Context
<u>Focus Group Information Sheet</u>

This participatory action research (PAR) PhD project is focused on integrating the development of information literacy (IL) skills and improving writing into the Planning discipline. The researcher for this PhD study is Angela Feekery and the supervisors are Associate Professor Lisa Emerson and Dr. Sharon Stevens.

The purpose of the research is:
- to understand the curriculum and pedagogy in the course;
- to identify areas where the development of IL skills could be embedded into the existing curriculum;
- to identify problems students are having with writing in Planning; and
- to gain insight into the IL and writing requirements of the Planning discipline.

As a part of this project, you have agreed to participate in a focus group to discuss and give feedback on the development of your information literacy, writing skills and learning in your Planning courses in Semester 1, 2011.

The session will be recorded and your lecturer will receive feedback, but will not be notified of who participated in the focus group sessions. It is also important that the participants within the group maintain the confidentiality of those involved and of any personal information that may arise as a part of the discussion.

Participant Rights
You have the right to:
- ask any questions about the study at any time during the participation
- withdraw from this study at any time.
- provide information on the understanding that your confidentiality will be maintained.
- be given access to a summary of the project findings when it is concluded.

All the focus group notes and recordings will be kept confidential. Only my supervisors and I will have access to the information given. All data will be kept in a secure location and will be destroyed within five years of submitting the PhD thesis.

If you have any concerns about of this research that you wish to raise with someone other than me please contact Associate Professor Lisa Emerson (06 3569099 ext 2601, <u>L.Emerson@massey.ac.nz</u>).

[researcher and institution information deleted]

A Low-Risk Notification has been submitted to MUHEC and the data collection methods have been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research, that you wish to raise with someone other than the researcher or head supervisor, please contact Professor John O'Neill, Director (Research Ethics), (06 3505249, humanethics@massey.ac.nz).

APPENDIX 4: Examples of Instructor Interview and Focus Group Questions

This appendix provides the questions for the initial BEP instructor interviews (4a) (see 4.8.3.1) and an example of guiding questions used in semi-structured student focus group interviews (4b) (see 4.8.4.2).

4a. Initial BEP Instructor Interview Questions

Guiding Interview Questions for Planning Staff

Your Courses

- Courses

- Course delivery (lectures, tutorials, workshops, 1hr slots / 2 hour slots)

- Assessment for the course (essay, report, presentation, test, exam, other)

Information Literacy

- When you hear the term information literacy, what do you think of?

- Do you include information literacy as an explicit learning outcome for your course? If yes, what form does this take? If not, for what reason?

- In your courses, what reading do your students have to do?

- Do students access information themselves, or do you provide the bulk of their information sources? Why?

- How well do think students in your course(s) are able to access acceptable / relevant information sources? Why do you think this?

- At the level you teach, do you feel students have the ability to develop good reflective and critical thinking skills?

Writing

- What percentage of students do you consider have good quality writing skills in your courses?

- How important is structure and accurate language use in your assessments? How does this impact on marks?

- How important is accurate citation and reference list format in your assessments? How does this impact on marks?

- What percentage of students do you consider able to adequately integrate source material into their writing in your courses?

- When students have issues with writing, what happens? Are there any noticeable outcomes?

- What is the best method for helping students who are having difficulty?

- How much do you know about what currently goes on in other courses in the Planning programme in terms of developing students' information literacy and writing skills?

Assessment/ Class Activities

- Are there any assessment types you currently use that you are thinking of changing? If yes, why?

- Have you trialled any new assessment types recently? What was the purpose? Were you satisfied with the outcome?

- Do you use any formative assessment or in class activities that focus on the process of doing the assessments before they are submitted?

- Have you ever tried any of the following activities in class/ your course and if so, how did they go?
    - Peer Review
    - Reflective Writing
    - Portfolios
    - Annotated bibliographies
    - Discussion / Evaluation of readings in class
    - In-class writing activities
    - Draft Feedback
    - Checklists before assignment submission
    - Other assessment types that focus on the process of learning
    - Other innovative assessment

General discussion of Planning values and information needs.

- What skills and/or knowledge does a Planner need? (Communication (oral and written) / information seeking / evaluation of sources /referencing (documentation style– APA? Other planning specific skills?)

- What types of information do Planners need to find/access on a daily basis?

- On a scale of 1 to 7 (1 being 'extremely important' and 7 being 'not at all') how important are information literacy skills for Planning students?

IL

1. What does IL mean to you?
2. How have you learned IL skills so far (school, other)?
3. How do you usually search for information for assignments?
4. How often do you use databases to start your information search and find sources?
5. How often do you use Google or Google Scholar to start your information search and find sources?
6. How do you evaluate your sources (criteria)?
7. How concerned about the credibility of your sources are you, and how do you judge credibility?
8. What has been the biggest challenge in terms of finding information sources at university?

Academic Writing

9. How do rate your academic writing ability?
10. How have you learned to write for university assignments?
11. What are the challenges in writing at the university? Consider:
    a. Essay writing
    b. Field trip report
    c. Referencing
12. On average, how long before the due date do you finish your assignments?
13. How do you edit your assignments?
14. What services are tools do you know about? (Library, SLD, [online writing link])
15. Where do you currently go to access help with your writing and IL tasks?
16. How useful has the feedback on your assignments been to:
    a. Identify your problem areas?
    b. Show/teach you how to improve?
17. How do you reflect on your learning for your courses at present? (Think about how you learn, not what you learn)

The interventions

18. How aware were you of **the interventions** that were put in place?

19. **The library session with [the librarian]**

    a. What can you remember about the session?

    b. How useful was it in helping you learn about finding sources?

    c. How useful was it in helping you think about evaluating sources?

    d. How did it impact on the selection of sources for assignments?

    e. Did you use any information from this session to find or evaluate sources for your essay?

    f. How could this be done better?

20. **Source Justification**

    a. What was the purpose of the source justification assessment?

    b. How useful was the feedback and mark sheet for helping you understand your strengths and weaknesses?

    c. How did you use the resource on [the course website] after all the entries had been made public?

    d. How could this be done better?

21. **Resources on [the course website]**

    a. What resources can you think of that have been put up on [the course website] to help you with your learning and assessment?

    b. How did you use these resources?

    c. How useful did you find these resources in terms of helping you complete your assignments?

    d. Are there any other resources in this format that you would find useful?

    e. How could these resources be improved?

22. Overall do you feel that these interventions helped you improve your writing and the way you go about finding and evaluating information?

23. Do you feel that your content papers are the place where you should be focusing on developing your writing and IL skills? How else are you going to learn it?

24. Are there any other issues around writing and IL development that you think need to be focused on as learners in Planning?

APPENDIX 5: Evaluating Sources – Library Workshop Hand-out

This hand-out was created for use in the Course 1-1 and 4-D library workshops. It was designed to encourage students to consider the idea of 'research as conversation' (see 2.4.3) as they selected and evaluated sources for use in assessments.

EVALUATING YOUR SOURCES – Don't limit your options!

Smaller arguments challenge a larger one.

Explain yourself!

IDENTIFY:

Purpose – Why was this text written? – new information / adding to existing theory (add new element into the discussion) / challenging existing theory (debating an issue) / consolidating existing information on the topic

Audience - Who is the text written for? – Scholars / General Public / Planners etc

Currency - How current is the information? Are older sources OK for the information you need?

Evidence - What evidence is supporting the author's claims? – Research studies / opinion / anecdotal / methods (sample size etc) / citation of other authorities on the topic.

Bias - Is there any chance for bias in the text? – look for sponsors / location of text / organisational links.

PUT YOUR SOURCES INTO A CONVERSATION: If these people were standing in a room,
- Who would be supporting each other?
- Who would arguing?
- Would anyone be standing by themselves (new idea)?
- Who are you going to stand with? (shared values / you strongly support their argument / your idea matches theirs / their argument is the most convincing you've read so far)

It's OK for you to move about the room and talk to everyone. Listen to what they have to say, then decide if you want to stick with them, or join someone else.

Use the reference lists and 'cited by' link on Google Scholar to extend your search and look for related sources. You will get a better idea of the issue you are researching if you can link sources together, rather than just finding 5 totally unrelated sources. It's good to have 1 or 2 outsiders though to add to the debate.

THESE PEOPLE ARE DISCUSSING, DEBATING, NEGOTIATING MEANING, GIVING AND GETTING FEEDBACK.

We agree

One idea builds on another

What are they thinking?!

My idea

My thoughts exactly!

Ridiculous argument!

A Feekery, July 2010

351
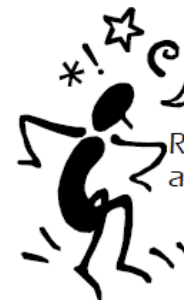
APPENDIX 6: Healthy Resources Pyramid

As part of the Course 1-1 modified library session (see 6.4.1), we discussed the idea of connecting sources to a metaphor students would be familiar with. We decided to draw on the healthy vs fast food debate, and the participating librarians, Natalie and Jess designed the 'Healthy Resources Pyramid'. This was used to help students recognise the difference between popular web-based and scholarly sources.

"HEALTHY" RESOURCES PYRAMID

Popular

• popular books • magazines •
newspapers • radio/podcasts •
popular websites • Wikipedia • blogs
• social media •

Wikipedia & social media can be useful for finding out more about your topic but should not be used as sources in assignments.

Official

• policies • programmes •
research reports • annual
reports • government reports
• statistics • government
websites •

Scholarly/Academic

• academic books • scholarly journals
• industry/professional journals • theses
• conference papers/proceedings •

Google — Google Scholar — Discover — Library Catalogue

APPENDIX 7: Course 1-1 – Source Justification Task Instructions

This appendix contains the assignment instructions for the Course i-I Source Justification task (see 6.8.1; 6.8.2). The instructions for Cycle One were very brief, and although they indicated what students needed to do to complete the task, but did not provide a rationale for the task. Students were provided with more information about the purpose of the task and how to approach it in Cycle Two.

7a. CYCLE ONE

**Source Justification: Brief critical reflection on source selection for essay
(due Wednesday 4 May)**

*Please submit a posting (brief notes) on [the course website] providing the following
information:*

Full APA reference
How / Where did you find it? – e.g. Library, Database, Internet, Google Scholar, Newspaper, Isolated search or from reference list of another Source, recommended source?
3-4 key points (bullet points) that you have taken from the source - context, purpose of text, relevant points for your essay.
Justification of source selection – why it's a good source for your essay; any links to other sources you have read; relevance to NZ context.

7b .CYCLE TWO

**Source Justification: Brief critical reflection on source selection for essay (due
Monday 23 April 9am)**

In the library session you will be introduced to some of the different types of information
available. For this assessment, I want to make sure that you are carefully selecting the
sources you will use for the essay, rather than just taking the first random things that look
OK.

You need to be able to justify why you chose to use or reject particular sources for your
essay, and show that you are starting to make connections between the different types of
sources you are using.
You will need to choose 5 of your sources to complete this assessment, but you should be
considering all of your sources carefully.

Once you have submitted your Source Justification, I will select a few of the better sources
presented to share with the class to help you extend your search further if you need support
finding more relevant sources.

Pick one of each of the following source types to review:

1. Scholarly source

2. Government report/paper

3. News item

4. Popular source

5. Rejected source (of any of the source types above or other sources you may find)

Sources 1 and 2 should be ones that you have selected to definitely use in your essay. For 3
and 4, you may choose to use or reject the source, and explain why. 5 is a source that you
have definitely rejected for this essay.

After you have done your search, I am also asking you to reflect on your search process,
and some of the successes and challenges you faced when finding and evaluating your

sources. This kind of thoughtful reflection is what helps you learn and become a more successful student at university.

REMEMBER: It is important that you always think carefully about the sources you choose to use in your assessments at university.

This takes time, thinking and effort. If there is anything that you really struggled with when finding your information sources, make sure you go to the library and ask for help for your next information search.

HINTS
1. APA reference
Give the full APA reference.
2. How did you find this source?
Here you should indicate whether you found the source in library, in the article databases (accessed via the library website), your own internet /Google search, Google Scholar, newspaper, from the reference list of another source, or a recommended source in [the course website] etc.
3. Identify three key points that are relevant to the essay
Write these as bullet points – this section focuses on the relevant points in the **content** of the source in relation to the essay question. You may also like to comment on the context (NZ, UK or US, rural, urban etc.) and the purpose of the text (why the source was written)
4. Reason you chose to use or reject this source
In this part explain why you decided to use or reject the source. Think about how this source is going to help you answer the essay question. Maybe there are specific sections of the source that are useful, while other parts are not so useful. (It may be really good for defining sustainability, but has no connection to NZ so you will have to find that information elsewhere). While this may be mostly because the content was what you needed, you might also consider the author, the relevance or connections to NZ, the connection to other sources you found (supports or contradicts ideas in other sources), the lecturer's recommendation, any bias evident etc. Think about the tips for evaluating sources that were talked about in the library session.

Reflecting on the Research Process

a. What have you learned about the information searching process?
Think about what you knew about searching before you came to university, and what you know now after having the library session and completing this assessment. You may have also had other experiences in other courses that have impacted on the way you think about information that you can mention here too.
b. Describe your information search process for this essay assignment
For example where did you start; what different search tools did you use; how did you extend your search; where did you find your best sources? Did you go to Wikipedia to understand the topic and find some PDFs there? I want to see here how you searched and if there is a method to the madness!
c. What was the greatest challenge for you in finding and evaluating information sources to use in this essay?
The challenges in searching are what we have to overcome to help make the process easier. For some of these challenges you can try to find solutions for yourself, but for others, you may need to get support from the librarians. The better you get at searching in first year, the easier life will be for the rest of your degree. These are skills that develop through trial and error and support. Knowing what challenges you have is the first step to overcoming them.

APPENDIX 8: Course 1-2 – Reflection on Values Draft Marking Schedule

In Course 1-2, we create a marking schedule that would indicate challenges with student writing in a draft submission for the Reflection on Values task (see 6.9.1; 6.9.2). The mark-sheet indicated where students were having issues, and provided examples of common writing errors and ways to revise them. The mark-sheet also contained links to online writing and learning resources that students could access for more help with writing accurately.

Course 1-2 Reflection on Values Draft Marking Schedule

ASSIGNMENT 1 – REFLECTION ON YOUR VALUES

	DRAFT			FINAL		
Paragraph Structure	☹	😐	☺	☹	😐	☺
Topic Sentences						
Coherence / Logical development						
Linking Words						
Being Concise						
Sentence Structure						
Run-on / Comma Splice (RO)						
Fragment / Incomplete sentence (INC)						
Faulty Parallelism (FP)						
Pronoun Reference (PR)						
Verb Tense Consistency (VT)						
Subject-verb agreement (SVA)						
Spelling (SP)						
Punctuation (P)						
Commas						
Apostrophes						
Semi-colons/ colons						
Other						

DRAFT COMMENT

FINAL COMMENT

NAME: **ID:**   **Final GR.**

Writing Clear Paragraphs

In this assessment, I am looking for clear paragraphs and sentence structure. Paragraphs a units of thought with one idea developed adequately.

- There should only be one main idea in each paragraph.
- A paragraph is usually 3-8 sentences long (general rule). If you have a few very short paragraphs, think about whether they can be combined to make a larger one. If the separate ideas, try to add details to support each point and write a more fully deve paragraph.
- The topic sentence is the most important sentence in a paragraph. It tells the reade what main idea will be developed. It is the most general sentence in the paragraph usually comes first.

To edit your writing:

1. Read your writing aloud. This will help you hear any grammatical problems or str wording, and where punctuation needs to go.
2. Make sure you have a clear topic sentence.
3. Make sure that every sentence in the paragraph supports and develops the topic sentence.
4. Check every sentence for conciseness, correct grammar, punctuation and spelling check doesn't always get it right!)

Two useful websites for helping you with your writing are:

Massey University OWLL - http://owll.massey.ac.nz/

Purdue OWLL - http://owl.english.purdue.edu/owl/

On the back of this sheet are examples of common errors (adapted from: **Teaching with W**
http://writing.umn.edu/tww/grammar/common_errors.html
For help with:

- The general mechanics of writing see: http://owl.english.purdue.edu/owl/section/
- For conciseness see : http://owl.english.purdue.edu/owl/resource/572/1/
- For sentence clarity see: http://owl.english.purdue.edu/owl/resource/600/1/
- For punctuation see: http://owl.english.purdue.edu/owl/section/1/6/

Common Errors: An Editing Checklist

1. Sentence Fragments / Incomplete Sentences
Make sure each word group you have punctuated as a sentence contains a grammatically complete and independent thought that can stand alone as an acceptable sentence.
Incorrect: When putting pen to paper and deciding what things I value was extremely difficult.
Revised: Putting pen to paper and deciding what things I value was extremely difficult.
Incorrect: To reduce and even rehabilitate the damage that is being done to our native environment.

2. Sentence Sprawl
Too many equally weighted phrases and clauses produce tiresome, over-wordy sentences.
Incorrect (There are no grammatical errors here, but the sprawling sentence does not communicate clearly and concisely.): My mother is a vegetarian and grows a large proportion of her food herself and has a micro-hydrology electricity generation system and solar hot water heating and I admire her way of life especially after living in Auckland for six years.
Revised: My mother is a vegetarian and grows much of her own food. She also has a micro-hydrology electricity generation system and solar hot water heating. I admire her way of life, especially after living in Auckland for six years.

3. Subject-verb Agreement
The subject of the verb must be in the correct tense.
Incorrect: When I started going to high school and other places, I was forced to walk a lot because travelling by bus, car or bike were all too difficult.
Revised: When I started going to high school and other places, I was forced to walk a lot because travelling by bus, car or bike was too difficult.
Incorrect: The smog, traffic, indifference of the people and the pavement just makes me miss the bush.
Revised: The smog, traffic, indifference of the people, and the pavement just make me miss the bush.

4. Misplaced and Dangling Modifiers
Place modifiers near the words they describe; be sure the modified words actually appear in the sentence.
Incorrect: Many tourists visit Arlington National Cemetery, where veterans and military personnel are buried every day from 9:00 a.m. until 5:00 p.m.
Revised: Every day from 9:00 a.m. until 5:00 p.m., many tourists visit Arlington National Cemetery, where veterans and military personnel are buried.

5. Faulty Parallelism
Be sure you use grammatically equal sentence elements to express two or more matching ideas or items in a series.
Incorrect: The candidate's goals include winning the election, a national health program, and the educational system.
Revised: The candidate's goals include winning the election, enacting a national health program, and improving the educational system.

6. Unclear Pronoun Reference
All pronouns must clearly refer to definite referents (nouns). Use "it," "they," "this," "that," "these," "those," and "which" carefully to prevent confusion.
Incorrect: My mum loves the outdoors and used to take us kids on regular tramps. They took me out of the usual surroundings of the city…
Revised: My mum loves the outdoors and used to take us kids on regular tramps. She took me out of the usual surroundings of the city…

Incorrect: Through scouting I was able to grow to appreciate the natural environment through the many bush walks, conservation projects and camps I attended which taught me the value of nature as both a recreationally and socially important aspect of our lives.
Revised: Through scouting, which taught me the value of nature as both a recreationally and socially important aspect of our lives, I learnt to appreciate the natural environment through the many bush walks, conservation projects and camps I attended.

7. Incorrect Pronoun Case
Determine whether the pronoun is being used as a subject, an object, or a possessive in the sentence, and select the pronoun form to match.
Incorrect: Castro's communist principles inevitably led to an ideological conflict between he and President Kennedy.
Revised: Castro's communist principles inevitably led to an ideological conflict between him and President Kennedy.

8. Omitted Commas
Use commas to signal non-restrictive or non-essential material, to prevent confusion, and to indicate relationships among ideas and sentence parts.
Incorrect: When it comes to eating people differ in their tastes.
Revised: When it comes to eating, people differ in their tastes.
Incorrect: The Huns who were Mongolian invaded Gaul in 451.
Revised: The Huns, who were Mongolian, invaded Gaul in 451.

9. Superfluous Commas
Unnecessary commas make sentences difficult to read.
Incorrect: Field trips are required, in several courses, such as, planning and geography.
Revised: Field trips are required in several courses, such as planning and geography.
Incorrect: Recently I read, "Hot Flat and Crowded," by Thomas L Freidman, a book that has largely affected my values towards the Green movement.
Revised: Recently I read "Hot Flat and Crowded" by Thomas L. Freidman, a book that has largely affected my values towards the Green movement.

10. Run-on Sentences / Comma Splices
Do not link two independent clauses with a comma (unless you also use a coordinating conjunction: "and," "or," "but," "nor," "so," "yet"). Instead, use a period or semicolon, or rewrite the sentence.
Incorrect: I participate in several outdoor pursuit to this day, they include but are not limited to kayaking, rock climbing, hunting, tramping and mountain biking.
Revised: I participate in several outdoor pursuits to this day. They include, but are not limited to, kayaking, rock climbing, hunting, tramping and mountain biking.
Incorrect: I enjoy being in the outdoors and mountain biking is an important part of who I am. I enjoy exploring places that you can't get to by car.
Revised: I enjoy being in the outdoors. Mountain biking is an important part of who I am, because I enjoy exploring places that you can't get to by car.

11. Apostrophe Errors
Apostrophes indicate possession for nouns ("Jim's hat," "several years' work") but not for personal pronouns ("its," "your," "their," and "whose"). Apostrophes also indicate omissions in contractions ("it's" = "it is"). In general they are not used to indicate plurals.
Incorrect: In the current conflict its uncertain who's borders their contesting.
Revised: In the current conflict, it is [it's] uncertain whose borders they are [they're] contesting.
Incorrect: The Aztecs' ritual's of renewal increased in frequency over the course of time.
Revised: The Aztecs' rituals of renewal increased in frequency over the course of time.

APPENDIX 9: Course 1-2 – Group Presentation Worksheets

This appendix contains the Course 1-2 Group Presentation Worksheets that were designed to engage students in active listening and note-taking during the peer presentations (see 6.9.3; 6.9.4). The Cycle One version was too fact based and did not allow for critical thinking around the issues being discussed, so the Cycle Two version included extra questions that encouraged deeper evaluation on the issues and solutions being presented.

9a. Cycle One - Group Presentation Worksheet

What is the ecosystem, what is it composed of, and why is it important?	What are the main threats to the ecosystem?	Who is managing these threats?	What strategies are they using?

9b. Cycle Two - Group Presentation Worksheet

What is the ecosystem, what is it composed of, and why is it important?		What are the main threats to the ecosystem?	
Who is managing these threats?	Are they managing the threats effectively? Why or why not?	**What strategies are they using?**	Are the strategies effectively protecting the ecosystem from the existing threats and future potential threats? Why or why not?

APPENDIX 10: Course 1-1 – i-map Instructions

This appendix contains the i-map instructions provided to students in Course 1-2 for both Cycle One and Two (see 6.9.5; 6.9.6). It identifies the purpose of the i-map and gives advice on what to include. Students initially were not given i-map models, but because they were unfamiliar with creating process-focused tools, models were provided on the course website. An example of a model is given in Figure 10 (p. 180).

I-map

In addition to the essay, you will also need to produce an I-map. An I-map "is a way of recording the research stages of a project, focussing on the information handling process ... an imap logs such things as finding sources, reading and evaluating them, taking ownership of ideas, formulating a response or argument, evaluating sources where appropriate, and building a bibliography, in a visual account of the process" (Waldon and Peacock, 2008, p. 142, cited in Emerson, Stevens and Muirhead, 2010). Information about the I-map is on the following page. Further instructions will also be given in class.

WORD LIMIT AND DUE DATE - The word limit for the essay is 1500 words. You must submit **a draft of the iMap on Friday 19 August**. The essay is due on **Friday 26 August by 5 pm**. Please submit via [the course website]

VALUE - The essay and I-map is worth 30% of your overall grade. This includes 2% for attending a lecture run by the Student Learning Development Centre on Friday 29 July.

The I-Map - An information map (i-map) is a way of visually representing the process of gathering information and developing ideas for any piece of writing. It is a work in progress and should be created as you go, not at the end of the process retrospectively.

The i-map will help you develop your IL skills. Making an i-map will help you:

- Distinguish between different types of sources
- Identify the quality of your sources
- Create a PROCESS for doing research (the process may not be linear – you plan and revise and this is depicted in your i-map)

Your i-map is your own creation. It should contain:

- An early brainstorm – before the literature search
- A description of your search process
- A detailed description of your thoughts as you analyse your sources.
- Your thesis statement (may or may not include early and revised versions)
- A plan for the structure of your essay
- A list of key sources (references).

It may also include:

- Key quotations
- Illustrations
- Timeline
- Evaluation of sources
- Other thoughts / emotions regarding the assignment writing process.

The i-map must represent an accurate and detailed representation of the process you went through in gathering information, developing ideas and writing your essay. It must also have a professional, eye-catching appearance.

The i-map will be marked on:

1. The quality of the process, as depicted by the i-map.
2. The way in which the process is depicted i.e the quality of the visual presentation.

You are encouraged to produce your i-map using a computer (in word or publisher etc) , but you can produce excellent, professional looking i-maps by hand. (Course 1-2 Course Information, 2010, 2011)

APPENDIX 11: Course 2-2 - Professional Reading and Learning Log Instructions

The Professional Reading and Learning Log (PR&LL) was designed to encourage students to explore a range of sources and evaluate how they were presenting Planning issues The version for Cycle One (10a) was open to student interpretation for source selection and formatting (see 6.10.1). However, the task lacked focus, so it was modified to be a more focused structured task for Cycle Two (see 6.10.2). This appendix provides the instructions for the two versions of the PR&LL.

PROFESSIONAL READING & LEARNING LOG —

Due 8 OCTOBER 2010: worth 15%

1. ASSESSMENT OBJECTIVES

1. To enhance your ability to identify and evaluate planning information.

2. To increase your understanding of the relationship between information and the development of knowledge.

2. THE PROFESSIONAL READING & LEARNING LOG

The aim of the Log is to get you into the habit of reading not only the material supplied as part of the course but the many other sources of planning information. It is vital when you become a practicing planner that you read the newspaper either in print form or on the web as this is an important means of staying in touch with the community you are planning for. It also helps you identify what their present concerns are. While books and articles are a vital information sources, radio and web sites can also provide you with material on a whole range of planning and planning related issues. I have provided some sources to get you started but I do expect to see clear evidence that you have located some sources yourself. Letters to the Editor and cartoons are also interesting commentaries on planning issues.

3. SOURCES

Quality Planning

http://www.qualityplanning.org.nz/ Go to the QP Library

Radio New Zealand

http://www.radionz.co.nz/

There are a number of programme on the National Programme addressing environmental issues. They are all available after the programme has aired via their web site and most are available to download.

The following are the programmes that are worth looking at:

- Nine to Noon http://www.radionz.co.nz/national/programmes/ninetonoon
- Sunday Morning with Chris Laidlaw http://www.radionz.co.nz/national/programmes/sunday
- Nights With Bryan Crump http://www.radionz.co.nz/national/programmes/nights
- Morning Report http://www.radionz.co.nz/national/programmes/morningreport
- Checkpoint http://www.radionz.co.nz/national/programmes/checkpoint
- Saturday Morning http://www.radionz.co.nz/national/programmes/saturday

- Newspaper sources will also be useful and Stuff is obviously the first source to go to at http://www.stuff.co.nz/

Newspapers

It is worth going to the specific web sites for

- *The New Zealand Herald* (main paper in Auckland),
- *The Press* (main paper in Christchurch) and
- *The Otago Daily Times* (main paper in Dunedin) as they often have longer features on environmental issues often on Saturday editions.
- Don't forget the local papers – *The Dominion* (available free daily) and the *[Local Newspaper].*
- You can also use Letters to the Editor and Cartoons as your examples but you can only have one example of each in your Log.

SOURCE NOT TO USE

- No tweets
- No web sites that are not linked to a recognised organisation. If you are in doubt then ask me.
- No blogs

4. THE TASK

Each person is to hand in on **8 OCTOBER 2010** the following

For each week of semester, starting in week 2 and finishing in week 12 (including the weeks covered by semester break), keep a log of at least **2** planning related items that you have read or listened to EACH WEEK. For each item you must provide a copy or sufficient detail i.e. a web site address that will allow me to access the source. While you can use articles etc from the Book of Readings these must not make up more that **3** of your sources.

From the sources that you have recorded **each week** you will select **one source** for which you will provide

1. A concise 250-300 word summary which highlights the issues discussed in the text or programme. One of these summaries must be an article from the June 2010 (No. 177) edition of *Planning Quarterly*, which is on Desk Reserve at the Library.
2. An identification of the planning issues that are being discussed, how and why these are planning issues and how plans and planners might respond to these issues. This should be presented as a paragraph which can incorporate bullet points where this is appropriate.

5. PRESENTATION

It is up to you how you present the material but I would stress that I do not want you to waste time and effort on 'pretty' presentations. You will gain marks for the content of your Log not the way it is presented. I am look for a clear, easy to read document.

10b. Cycle Two

PROFESSIONAL READING & LEARNING LOG

Due: 26th August – Part 1

17th October – Part II

1. ASSESSMENT OBJECTIVES

1. To enhance your ability to identify and evaluate planning information.

2. To increase your understanding of the relationship between information and the development of knowledge.

2. THE PROFESSIONAL READING & LEARNING LOG

The aim of the Log is to get you into the habit of reading not only the material supplied as part of the course, but the many other sources of planning information. It is vital when you become a practicing planner that you read the newspaper, either in print form or on the web, as this is an important means of staying in touch with the community you are planning for. It also helps you identify what their present concerns are. While books and articles are a vital information sources, radio and websites can also provide you with material on a whole range of planning and planning-related issues. I have provided some sources to get you started, but I do expect to see clear evidence that you have located some sources yourself. Letters to the Editor and cartoons are also interesting commentaries on planning issues.

I will look at your Logs half way through the process to identify if you (as an individual or the class as a whole) are having any problems with constructing good thoughtful Logs. This should ensure that everyone 'stays on task', has the opportunity to get the best grade possible and is developing the skills and knowledge that we hope you will gain from this exercise. Half of your marks will come from the first assessment and half from the second.

3. THE TASK – A READING & WRITING LOG

You will hand this assignment in twice, first on **26 August 2011** at which point you must have completed Part I, and then Part II on **17 October 2011.** You must also

include your Part I when you hand in Part II so I can assess what progress you have made.

PART I   **Due: 26 August 2011**

You are to assess **5** pieces of writing or oral productions that address a planning issue. These five pieces will include the following:

1. An article from an academic journal which **must not** be an article which has been used on any other university paper you have completed or are presently enrolled on.

2. A newspaper article selected from the list of articles that will be posted on Stream.

3. An article from an edition of *Planning Quarterly* published between 2009 and 2011.

4. An item of your own choice provided it does not fall in the 'Sources not to use' category.

5. The interview of the Prime Minster John Key on the BBC programme Hard Talk. The You Tube link will be provided on Stream.

With each of the articles or sources you have selected you must assess as follows:

3. Full, accurate APA reference
4. A concise 5 line summary (in at least a 12 point font) highlighting the issues discussed in the text or programme.
5. An identification of the planning issues that are being discussed,
    ➢ how and why these are planning issues and
    ➢ how plans and planners might respond to these issues.
6. What you have written must be presented in well-constructed paragraphs and <u>not</u> in bullet points.

PART II   **Due: 17 October 2011**

You are to assess **5** pieces of writing or oral productions that address a planning issue that you have not used in Part I. These five pieces will include the following:

1. Your choice from the three academic/professional articles and chapters that will be posted on Stream for your use.

2. A newspaper article selected from the list of articles that will be posted on Steam.

3. An article from an edition of *Planning Quarterly* published between 2009 and 2011.

4. An item of your own choice provided it does not fall in the 'Sources not to use' category.

5. Ten Lessons from New Zealand, Miller (2011) pp.190-200

With each of the articles or sources you have selected you must assess as follows:

1. Full, accurate APA reference
2. A concise 5 line summary (in at least a 12 point font) highlighting the issues discussed in the text or programme.
3. An identification of the planning issues that are being discussed,
   a. how and why these are planning issues and
   b. how plans and planners might respond to these issues.
4. What you have written must be presented in well-constructed paragraphs and <u>not</u> in bullet points.

4. SOME SOURCES TO CONSIDER

Quality Planning

http://www.qualityplanning.org.nz/ Go to the QP Library

Radio New Zealand

http://www.radionz.co.nz/

There are a number of programme on the National Programme addressing environmental issues. They are all available after the programme has aired via their web site and most are available to download.

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- Nights With Bryan Crump
  http://www.radionz.co.nz/national/programmes/nights
- Morning Report
  http://www.radionz.co.nz/national/programmes/morningreport
- Checkpoint http://www.radionz.co.nz/national/programmes/checkpoint
- Saturday Morning
  http://www.radionz.co.nz/national/programmes/saturday
- Newspaper sources will also be useful and Stuff is obviously the first source to go to at http://www.stuff.co.nz/

Newspapers

It is worth going to the specific web sites for

- *The New Zealand Herald* (main paper in Auckland),
- *The Press* (main paper in Christchurch) and
- *The Otago Daily Times* (main paper in Dunedin) as they often have longer features on environmental issues often on Saturday editions.
- Don't forget the local papers – *The Dominion* (available free daily) and the *[Local Newspaper]*.
- You can also use Letters to the Editor and Cartoons as your examples but you can only have one example of each in your Log.

SOURCES NOT TO USE

- No tweets
- No web sites that are not linked to a recognised organisation. If you are in doubt then ask me.
- No blogs

5. PRESENTATION

It is up to you how you present the material but I would stress that I do not want you to waste time and effort on 'pretty' presentations. You will gain marks for the content of your Log not the way it is presented. I am look for a clear, easy to read document.

APPENDIX 12: Course 3-1 Reflective Task Instructions – Cycle Two

In Course 3-1, Cycle Two, reflective tasks were added to the four assessments to encourage students to consider their research and learning processes to reflect on how they were learning alongside content knowledge (see 6.11.2). This appendix contains the document developed that provided the rationale for the reflective tasks and suggestions on how students could approach the task. The document was provided on the Course Website, however, it was revealed in focus groups that several students had not seen the document prior to completing the task, which impacted negatively on the students understanding of the purpose of the reflective tasks.

So, what is this reflection thing?

As outlined in the course outline (which you all have read by now I'm sure), I've explained that the purpose of the Professional Reflective Learning Log is for you to keep a record of **your thinking** as you:

- make connections between past and new knowledge,
- make informed choices when selecting sources, understand your information searching processes (the good and bad); and
- make sense of what you are learning in this course, in terms of both content and personal development.

So why am I making you think about this? Partially because Angela told me to, but mostly because I have high expectations on you as learners in the third year and I believe that many of you are still unaware of how you learn and what you still need to learn.

Reflecting on your learning helps you make changes in your habits that may lead to better learning outcomes. Reflective thinking develops critical thinking. A secondary purpose is to help you practice writing concisely as well.

There is something in it for me as well – better thinking = better learning outcomes and better writing, which makes my marking easier and more enjoyable!

This should not be seen as an added task – it is what you should be doing anyway and a process that you should have started reflecting on in first year. This assessment just formalises and makes explicit the role of reflection in your learning. I want to see deep reflection not surface descriptions. I want to understand **why** you are making the decisions and choices you make.

For those of you who have a really good research process, making a record of this process will be relatively simple, but that doesn't mean you won't learn anything new. You might learn why you are not getting that + on your A!

For those of you who just wing it and don't really have a clear research process, it's about time you did.

You should try to write personal entries in a diary each day (or at least 3 times a week) that will help you when it comes to writing the assessed entries. Take 5 minutes at the end of each day to think about these questions:

1) What did I learn? *I learned that...*
2) How, specifically, did I learn it? *I learned this when...*
3) Why does this learning matter, or why is it significant? *This learning matters because...*
4) In what ways will I use this learning; or what goals shall I set myself in accordance with what I learned in order to improve myself, the quality of my learning, or the quality of my future experiences? *In light of this learning...*

Your reflections don't just have to be about this course, but on your learning development in general. You might learn something in another course that can transfer to this one. Looking back at these entries will be excellent preparation for your oral exam.

At any point, you can ask me questions and talk to me if you are struggling with anything.

NOTE: you will not be getting extensive feedback on your reflections – I will be looking for any strengths and weaknesses I see in your process and commenting briefly on these, but the onus is on you to think about you. The level of reflection you engage in will determine your learning development and more importantly, your final grade on the essay or reports.

So how do I do it?

Essay

For the essay, the log will be used to help identify potential misunderstandings before you submit the assessment. The poor essays I saw last year has led me to believe third years still need support with this.

I want to see that you have understood the task, searched for appropriate information and carefully evaluated how it supports the task.

I also want to see an essay plan that identifies the key points you have drawn from your sources to support your essay. This log is **due one week prior** to the essay being due. Yes, another purpose is to make sure you are not leaving the essay to the last minute!

I will give you feedback on your sources and essay plan and an indication of whether you are on the right track or not within 3 days so you have enough time to make changes to the essay before the final due date.

The log guided entry should address:

- **Understanding the question**
  Write a short description of what you believe the task is asking you to do (one paragraph). Analyse the question and think about what information you are going to need to be able to complete this task.

- **Information search process (keywords, search engines used, extending searches)**
  This section describes and analyses how you are going about finding your information and whether you have an effective search process that works for you. By third year, you should have a method to your madness and random source searching should be a thing of the past. (I strongly advise you attend the voluntary library session for a refresher if you are still relying on Google and don't use databases regularly)

  I want to see whether you are deliberative in the choices you are making – you may start with a general search (even with Wikipedia- and that is OK as long as I don't see citations to Wikipedia in the essays) but then where to from there? You may like to write here about how you searched for information: what search engines/databases did you use? What key words did you search? How did you modify search terms to get more or less results? Which search gave the best results? What gave you no useful results? How did you extend searches from sources you found?

You may want to present this as a flow chart if that's how your mind works.

- **Evaluation of 5 key sources + APA reference (1-2 paragraphs)**
  In this section I want to see that you have carefully considered how the sources you are using are central to completing this task. Again, I want to see that you are not doing a quick and dirty search a couple of days before the assignment is due.

  Write the full APA reference (correctly) and then explain why you chose to use this source for this specific task. Say what is good about the source, but also identify any limitations of it. Make connections between sources (X supports or contradicts Y).

  Look at the information on evaluating sources at the end of this hand-out if you are not sure what to look for.

- **Essay Plan**
  Now that you have carefully read your sources and taken good notes, you can plan your writing. This essay plan should be a bullet-point, skeleton outline of what your essay will cover. I do not want to see a full draft or paragraphs here. This is not a draft submission task.

At this stage I expect to see:
  - A Clear Thesis Statement – this is the statement that clearly shows what you will argue in your essay. It is not the essay map that outlines what each paragraph is about (this usually comes after the thesis statement). I want to see that you have a clear position to argue.
  - The structure of the body of your essay - Key subheadings or topic sentences for each paragraph, plus one or two key points from your sources that you will use as evidence. You might also want to indicate a word count for each part to help keep you on track.

You may also want to include any tables you have created to support the essay.

This plan may have been completed earlier in the week and you are writing the draft already. That's fine – but I only want to see the detailed plan and the key ideas you have identified as important. Why? Because this is part of the process that students often fail to do and that's why they write poor essays. The more detail you have at this stage of the process, the better feedback you can get.

If you are not sure where to start, a basic essay plan looks like this:

Introduction
  A. Premise/Thesis
  B. Statement of points

Body (as many points as needed)
    A. Point 1
        1. Supporting Information
        2. Supporting Information
    B. Point 2
        Supporting Information
        Supporting Information

Conclusion/Summary
    A. Summary of supporting information
    B. Conclusion reached (Restatement of premise)

Group Report

Again this log is due a week before your groups presentation, and it will be useful to have the first 3 parts completed when you come and see me to talk about your presentation.

The log guided entry should address:

- **Understanding the task** – again I want to see that you understand what you have to do.
- **Information search process** (keywords, search engines used, extending searches) – as above.
- **Evaluation of 5 key sources + APA reference** – based on the feedback from the essay sources, you should have learned how to make good or better choices here. Do the same thing again, but hopefully better.
- **Reflection on the group process** – This is the new bit. I want to see you analysing how your work in groups and how the group works as a whole. You have done group work before so going into this task, you may already understand some of the challenges group work brings. You can outline these first: *In past group work, I was good at… or I struggled with… .* Then you can think about how group work this time around presented the same or different challenges and what you have learned for future group work tasks (you have a couple of big group projects in 4th year!)

Field-trip Report

Now you are on your own. I want to see that you really have learned to reflect on what you are doing.

The log entries should address:

- **Identify your issue** – explain why you selected this topic
- **Identify an appropriate report format –** reports have varied purposes and formats. You need to identify the best way to structure this report in relation to this task. Remember you can come and see me if you are

unsure, but you need to show me what you have, and what you are thinking, not ask me what you should do.

- **Reflect on what you saw during the field-trip** – this should be done during and immediately after the field trip, otherwise you will forget the important little details.
- **Evaluation of 5 key sources + APA reference** - you should have this down to a fine art by now.

Evaluating Sources

IDENTIFY:	ASK YOURSELF…	THINK ABOUT…
Purpose	Why was this text written?	Most texts are written to either: report on new information / add to existing theory (add new element into the discussion) / challenge existing theory (debating an issue) / consolidate existing information on the topic. This purpose will connect you to other useful sources.
Author	Who wrote the text?	Look at the authors credentials (qualifications) and affiliations (ties to universities or other institutions or organisations). But remember, even if someone has a PhD, you don't have to believe them. If they don't have a PhD, their ideas are still relevant – look at the evidence.
Audience	Who is the text written for?	Sources are written for particular audiences: specialist / scholars, general public, practicing planners, students etc. Make sure that you think about how the audience might impact on the information that is included in the text. You may also want to look at who is citing the sources - a new audience perhaps?
Currency	How current is the information? Are older sources OK for the information you need?	It is important that you use up-to-date information, but also to think about the value of older sources and how they contribute to the overall debate or issue. Some theories from the past are still relevant today and older sources will give you background to the issues you are discussing, or help you judge the extent of any changes that have happened. Look at the reference list of the newer sources to see if any older authors or studies are being cited repeatedly.
Evidence	What evidence is supporting the author's claims?	Research studies / opinion /anecdotal / methods (sample size etc) / statistics (make sure they are representative and not over-inflated)/citation of other authorities on the topic. The evidence authors present in support of their ideas is an important consideration for whether you choose to use their ideas or not. Remember that non-scholarly texts are not likely to have a reference list. This doesn't mean you can't use them – look at the authors credentials as a back-up. Look for reviews of the sources you have to see if anyone is agreeing or disagreeing with the findings and conclusions.
Bias	Is there any chance for bias in the text?	Look for sponsors (people who fund the research and therefore may have an interest in promoting certain findings over others) / location of text (where published/ organisational links / intended audience. Look for objective views on issues, and be aware of any subjective views – these will need stronger evidence to support the findings. There are often two sides to any debate – make sure you get a good balance.

APPENDIX 13: Course 4-1 Reflections on Reflections Feedback 2011 – excerpt

This appendix contains an excerpt from the six page extended feedback Carl provided to students based on the Course 4-1 Reflective Practitioner task. Carl had felt that the feedback, incorporating key reflections from the students, would cement the experiential learning from the task and provide closure on some of the concerns identified in the student reflections.

[Course 4-1]: Reflections 2011

Introduction

The group project had two learning themes, researching for and preparing a report on environmental impacts of four industries on [district], and learning how to work individually and in groups to achieve this report. This paper summarises the insights that I gained from reading your reflective practice notes. I found these insightful helpful and consider they are worth sharing within the class. I think that these insights may have more value to you in the long term than the report and are worth reflecting on. I have kept the extracts anonymous; but none of the sentiments expressed are unique and could have come from nearly all of you. Those of you who took this exercise seriously have, I think, gained substantially from reflecting on your work. Well done.

How good is good?

Perhaps the first message is not to overlook the obvious, and to recognise the different elements of success. Time management is critical, not only for getting things done, but also for determining how well things get done. One person felt a significant success of the project was the class's time management:

> I believe the importance of this has been somewhat over-looked. I know that many people throughout their studies are not good with delivering work by due dates. However the management by those that are strict to deadlines, to keep those that aren't was a particular success as all reports were handed in on time.

Some of you have perfectionist tendencies that got in the way of the timetable. You need to think of the opportunity-costs of doing something.

> A lesson I have learnt throughout this semester is the marginal cost of extra work… Sometimes spending an extra half an hour developing a clear and precise argument is worth completing. Whereas sometimes spending a day less on research and on other homework would have been more efficient.

As well, perfectionists can create any amount of extra work and resentment for themselves by demanding rewrites and excessively high standards. Determining how good is good enough requires negotiation, and also some thought:

> What one person would consider spending a lot of time on something would greatly differ from another. Within this project, I soon realised that because there was no boss to say what quality of work was sufficient, it was up to personal responsibility.

Group work

Students learned to appreciate that value of group work:

> A common shortcoming in people's ideas is that they are not complete. The benefit of group work is that one person's idea can trigger another in someone else, developing it from a single idea, to a well balanced argument. Class and group discussions were both very good at this. Individually we see problems from different angles, but when we voice these, connections grow between these

ideas, closing any gaps. This also helped us to comprehend a wider understanding on the complexities of natural resource management. It was also a way to grow knowledge quickly, as each person has done their own research, and knows different information on a topic.

Balancing the individual and group identity is not easy, and can challenge existing assumptions:
> I believed going into this project that having more group meetings was counterintuitive for productivity. This project has taught me that meeting and discussing frequently allows for the greatest questioning of ideas, cooperation and shared understanding. This will increase quality and actually take less time in the end than when group members operate more individually.

Nearly everyone identified that group dynamics were critical:
> Group communication and dynamics are crucial factors that influence success in any group environment. Communication within the group was the key to the success of the group in producing an appendix that every group member was content with. For myself it was important to let other group members know that if help was needed then I was willing to lend a hand… On the contrary, if I was struggling with any of my assigned tasks I had no hesitation in bringing this to the attention of the group. Before going to the group with the problem, possible solutions to the problem would be explored. This would allow the group as a whole to assist in the right decision going forward. This provided a great learning experience showing how a group with excellent communication can get difficult tasks done with minimal stress.

Taking responsibility for one's own work and also for the group is an important part of making a group successful. But it also underlines the need to keep talking and checking:
> I found that despite thinking I had explained my point of view and found group agreement, that individual group members had a different idea about the group's direction.

One student grasped that group work is about achieving a collective goal shared by the
> entire group: It's not a competition… When the individual appendices were produced, it was clear that
> two groups had stronger writers. However, the project was a group project, and not a
> competition among the groups. Therefore if some pieces of work were lacking, it was going to reflect on the class as a whole.