

CHAPTER 17

SUPPORTING ACADEMICS TO EMBED INFORMATION LITERACY TO ENHANCE STUDENTS' RESEARCH AND WRITING PROCESS

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INFORMATION LITERACY IN NEW ZEALAND

Information literacy (IL) is recognized by librarians and IL advocates as a cornerstone of learning and research in higher education (Association of College and Research Libraries (ACRL), 2000; Bruce, 2008; Lupton, 2004; Secker & Coonan, 2011a, 2011b). However, the importance of explicit IL instruction is largely unacknowledged outside the library: while faculty support IL as a concept, many—if not most—teachers tend to believe responsibility for developing IL lies elsewhere. IL instruction, therefore, remains on the periphery of university curricula (Markless & Streatfield, 2007; Webber & Johnston, 2000). This chapter extends the conversation on embedding IL into the disciplines into the New Zealand (NZ) tertiary context. Prior to this research, little was known about how IL is perceived and taught by NZ faculty. Through participatory action research (PAR), our research addresses this gap by capturing unique insights into faculty's lived experiences as they adapted curricula and assessments to support students' IL development and learning in the New Zealand university context. Like much of the post-2000 literature, our research focuses on making stronger connections between IL and learning, and adopts learner-focused pedagogies that encourage reflective, experiential, and collaborative learning. We aimed to shift IL beyond the library by drawing on literature from library research, writing across the curriculum, transition to tertiary study, socio-cultural and constructivist teaching theories and pedagogy, and research connecting IL to learning. We explore IL development from a faculty perspective, and consider

pedagogical and curriculum factors which both support and hinder embedding IL across an undergraduate degree.

In this chapter, then, we raise themes of concern to tertiary educators in NZ, and internationally: our study highlights the importance of IL in students' research, writing, and learning processes, examines key issues in tertiary teaching and student learning, and outlines successes and challenges in collaborating with and supporting academics to embed IL development into disciplinary courses.

PARTICIPATING PROGRAM

The participating program for this research was the Bachelor of Resource and Environmental Planning (BRP), an accredited professional degree in a NZ university. Program leaders had been challenged by an accreditation review which outlined short-comings in graduate capabilities, including IL competencies. Consequently, BRP faculty identified a need to implement change within pedagogy and curriculum design to support students' IL development.

The BRP is cohort-based and therefore presented a structure that would support scaffolded IL instruction systematically over the four-year degree. Participants in this research included five participating faculty, students, two librarians and the research team. Students were invited to be part of the conversation because, as Mills (2007) argues, "an obvious condition for doing action research and effecting educational change is that the outcome of any change effort must benefit students" (p. 158).

DEVELOPING A RESEARCH CONTEXT

The tertiary education sector in NZ (broadly defined as a single sector encompassing all post-school education) caters to over half a million (predominantly domestic) students, a third of whom are enrolled in one of eight national research universities (Goedegebuure et al., 2008; Ministry of Education, 2012a). University entrance requirements are determined by National Certificate of Educational Achievement (NCEA) credits in approved subject areas, including literacy (Ministry of Education, 2012b; NZQA, 2013), although any NZ or Australian citizen aged 20 or over can gain special admission without an entrance qualification (Healey & Gunby, 2012; Universities New Zealand, 2013). New Zealand university degrees are typically three-year programs (though vocationally focused degrees may take 4–6 years) and most have no general education component or foundation year to transition students into academic literacy (Universities New Zealand, 2013).

In recent years, NZ universities have changed in similar ways to those reported in the US (Weimer, 2003), UK (Angier & Palmer, 2006; Biggs & Tang, 2011; Secker, Price & Boden, 2007), and Australia (Brabazon, 2007; Devereux & Wilson, 2008), namely changing teaching practices, widening participation, and increasing concerns over student readiness. Successive governments over the last 30 years have taken proactive steps towards widening participation for under-represented groups, including Māori and Pasifika (Goedegebuure et al. 2008). The perceived widening gap between high school and university is also a feature of discourse around university preparedness in NZ (Ladbrook & Probert, 2011; Jansen & van der Meer, 2012), suggesting non-traditional students may struggle to transition into university successfully (Healey & Gunby, 2012; Jansen & van der Meer, 2012).

SITUATING IL IN THE RESEARCH

Recent literature on IL shows a shift to holistic views of IL and stronger connections between IL and learning (Andretta, 2005; Bruce, 2008; Martin, 2013). These views recognize a range of behavioral and cognitive competencies that characterize an information literate individual engaged in tertiary study (Secker & Coonan, 2011a; Hepworth & Walton, 2009).

Two key studies in this shift to a holistic model are the informed learning agenda (Bruce, 2008) and the “A New Curriculum for Information Literacy” (ANCIL) framework (Coonan & Secker, 2011a, 2011b, 2013). Christine Bruce’s (2008) holistic concept of “informed learning” emphasizes interaction with, and use of, information in learning. Through informed learning, effective engagement with information is evolving and transferable, and information use and learning are inseparable (Bruce, 2008; Bruce, Hughes & Somerville, 2012). Bruce (2008, p. 183) describes informed learning as “both an approach to learning and the experience of learning through information use.”

The ANCIL framework (Secker, 2011; Secker & Coonan, 2013) was designed as a practical IL curriculum to meet the needs of undergraduate students and reconceptualizes IL as central to academic disciplines (Secker & Coonan, 2011a, 2013). The ANCIL model (Figure 17.1) represents the importance of extending IL beyond information retrieval and towards key competencies fundamental to using information to learn. Central and unique to the model is transition, both into university and the workplace, and from dependent to independent learning (Martin, 2013; Secker & Coonan, 2011a, 2013).

Both ANCIL and Bruce’s model position the learner at the center of the learning process, in alignment with the Association of College and Research Libraries’ (ACRL) *Framework for Information Literacy in Higher Education* (2015).

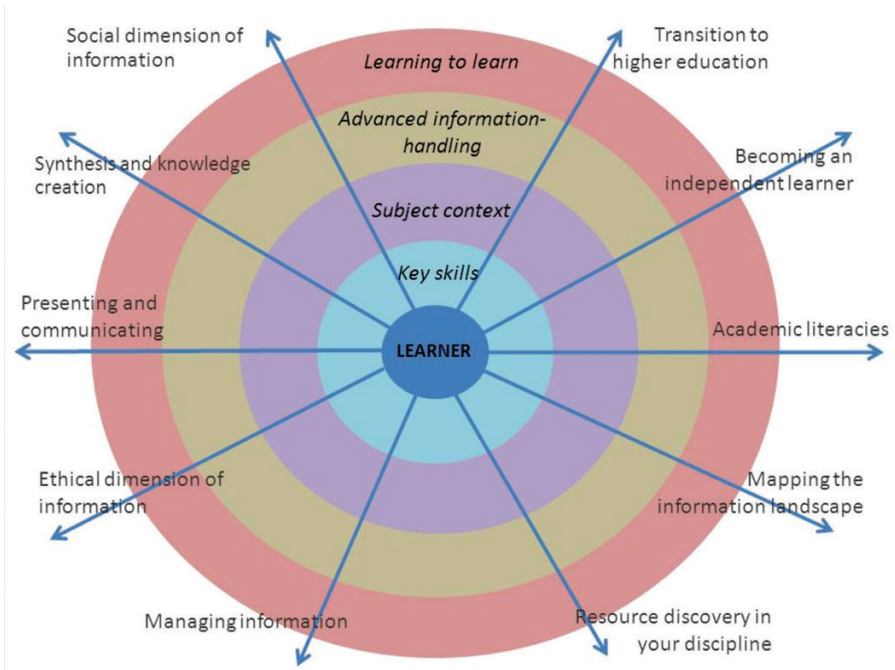


Figure 17.1. The ANCIL framework. Source: Secker & Coonan (2013).

These models take a broader holistic view of IL and recognize the joint responsibility for students, faculty, and librarians to engage in the “dynamic and often uncertain information ecosystem” (para. 1) that underpins learning in the digital age. Both ANCIL and Bruce’s models informed our focus on learner-focused pedagogy as a means of embedding IL development into the BRP.

LEARNER-FOCUSED PEDAGOGY

Throughout western universities, there has been an observable movement away from traditional transmission modes of education toward a more learner-focused pedagogy (for example, in the US, Huba & Freed, 2002, and Weimer, 2003; in the UK, Biggs & Tang, 2011, and Secker et al., 2007; in Australia, Bruce, 2004, and Lupton, 2004, and in NZ, Zepke, Leach & Prebble, 2006). This same movement towards a learner-centered focus is also manifest at lower levels of NZ education. The Ministry of Education (MOE) promotes learner-focused pedagogy, recognizing the joint responsibility for learning between the instructor and the student. Learner-focused approaches are promoted at the secondary school level by the MOE’s Te Kete Ipurangi¹ (TKI) guidelines:

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.).

Learning as collaboration 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. (Kā Hikitia², Ministry of Education, 2009)

Despite this policy shift towards learner-focused pedagogy, in some NZ institutions including the one in which this study took place, a transmission style of lecturing prevails. Our research promoted a shift to pedagogies which adopt constructivist, experiential, reflective, and socially constructed views of learning to enhance students' IL development at university.

A key constructivist learning principle drawn on in this research sees reflection as an essential part of the learning process in higher education and professional practices (Moon, 2001; Wang, 2007). Reflection promotes higher-order thinking skills, including problem-solving, evaluation and critical analysis, synthesis of ideas, and meaning making (Burns, Dimock & Martinez, 2000), key aspects of IL within the ANCIL framework.

In adopting learner-focused pedagogy, we also needed to consider the impact of assessment on learning. Because assessment is a central focus for students (Dolan & Martorella, 2003), formative "assessment for learning" is a key to promoting learning and can be designed to help students learn by identifying errors and reinforcing correct understanding (Dolan & Martorella, 2003). Encouraging a focus on process through formative assessments can help students identify the stages in the research and writing *process*. This was a key consideration in the interventions designed for our research and runs parallel with Rolf Norgaard and Caroline Sinkinson's observation (Chapter 1, this collection), that effective IL development requires a process-oriented approach rather than focusing solely on product.

Effectively embedding and implementing IL across the curriculum requires collaboration between faculty, librarians, and wider university administrative bodies (ACRL, 2000; Secker & Coonan, 2013; Turner & Fisher, 2002). Many

IL researchers promote collaboration to ensure that IL is spread throughout the courses and consistently reinforced across the full degree (McCartin & Feid, 2001; Secker, 2011). Lori Baker and Pam Gladis (Chapter 16, this collection) refer to such collaboration as “collective agency,” namely the collective understanding by faculty and librarians of what IL is within each discipline and how it can be fully integrated into curriculum design.

PARTICIPATORY ACTION RESEARCH

PAR (McNiff & Whitehead, 2011; Seymour-Rolls & Hughes, 2000; Wadsworth, 1998) was identified as a suitable methodology for this research because a desired outcome was to collaboratively implement a necessary change within pedagogy and curriculum design. Participatory action researchers are committed to defining problems and informing, evaluating and changing both their own and others’ behaviors and practices (McNiff & Whitehead, 2011), leading to lasting impact on practice (Burns, 2005). In this research, PAR enabled non-threatening, open discussion and reflection on all aspects of teaching and learning, and helped bridge the gap in librarians’ and faculty understanding of and approaches to IL.

An initial review of action research definitions in various studies (Avison, Lau, Myers & Nielsen, 1999; Bunning, 1994; Creswell, 2005; Herr & Anderson, 2005; Kemmis & McTaggart, 1988; McKay & Marshall, 2001; McKernan, 1996; McNiff, 2002; McNiff & Whitehead, 2011; Oja & Smulyan, 1989; Selener, 1997; Seymour-Rolls & Hughes, 2000) led to the identification of six key characteristics (the “6 Cs”) of PAR central to this research: Cyclical, Collaborative, Context-specific, Combining theory and practice, Critically reflective, and Change-focused (Feekery, 2014). The 6 Cs supported this research by recognizing the uniqueness of the context, allowing changes within the BRP to be monitored over 2 cycles, supporting collaboration and engaging in conversation that encouraged critically reflective practice, and promoting pedagogical change supported by educational theory and local data.

Data collection took place over four semesters, July 2010—June 2012. Data were collected through a range of qualitative and quantitative means drawing on techniques outlined in Mills’ (2007, p. 73) taxonomy of action research qualitative data collection techniques, including:

- Experiencing: through class observations and meeting notes,
- Enquiring: the researcher asking questions via faculty interviews, reflective feedback and meeting notes, and student focus groups and surveys, and

- Examining: using and making records via instructor and student reflective journals and document analysis of course outlines, websites and handouts, and student assessments.

Data collected from participants captured attitudes, assumptions and responses to change throughout the research. Data were thematically analyzed and manually coded (Mills, 2007) for common patterns, meanings, or themes. The themes identified were guided by semi-structured interview, focus group and journal questions, and additional themes emerging through conversations. Triangulation (McNiff & Whitehead, 2011) combined the perspectives of all those involved and provided a coherent frame on which to evaluate evidence and draw conclusions.

Drawing on Judy McKay and Peter Marshall's (2001) dual-focus action research model, the complete data set was used for two purposes:

- The Action Focus: to identify the key successes and changes needed for subsequent modification of the interventions during, between, and after each cycle.
- The Research Focus: to analyze the data for a deeper sense of the research process and interventions. This included identifying shifting faculty attitudes and understandings of IL and their role in supporting students' IL development.

THE ACTION FOCUS OR “WHAT WE DID”

The process of working with BRP faculty 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 participants' expectations and concerns around student performance and learning, views of teaching and learning, attitudes towards supporting IL development, and expectations of students' independence.

Participating faculty collaborated with the librarians and researchers to integrate IL development across the four-year degree. The interventions took two forms: library workshops and assessments.

LIBRARY WORKSHOPS.

Prior to our research, a review of student outcomes revealed that existing library sessions had failed to provide an in-depth introduction to effective information search strategies. Furthermore, IL competencies were not consistently extended within the four-year BRP program. We recognized that the first-year library lecture needed to be developed into interactive workshops that would allow students to attempt searches connected to assessment tasks with support from

Table 17.1. Final interventions developed for each participating course

Course	Year	Semester	Interventions
Course 1-1	1	1	Library Workshop—2 hour introduction to information searching and evaluation A: Source Justification
Course 1-2	1	2	B: Reflection on Values—draft writing submission, group discussion C: imap—research and writing process—visual model D: Worksheets for oral presentations—active listening / critical thinking
Course 2-2	2	2	E: Reading and Learning Log—critical review of information
Course 3-1	3	1	Library Workshop—Voluntary F: Reflective Logs—learning process / critical thinking / source justification
Course 4-1	4	1	G: 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).

**Course coding: Course 1-1 is Year 1, Semester 1; Course 1-2 is Year 1, Semester 2 and so on. Course 4-d is Year 4, Double Semester.*

librarians and faculty. Additional library workshops were added at the third and fourth years of the program (Courses 3-1 & 4-D) to ensure that IL competencies were revisited and extended as research demands on students increased.

Table 17.1 indicates the interventions developed, trialed, and modified over two semesters per course in Cycle One and Two.

The refocused library workshops offered throughout the BRP aimed to:

1. *Encourage greater student interaction and engagement in the sessions.* Common approaches to increasing interactivity include creating opportunities for learning by *doing* (conducting live searches as part of the session) and *reflecting* (Biggs & Tang, 2011, Diehm & Lupton, 2012, McCartin & Feid, 2001).
2. *Connect more closely to discipline-specific sources and immediate task requirements.* We tailored library interventions to the specific assessment tasks for each course and delivered them at point of need (Macklin, 2001).
3. *Increase input by participating faculty.* When faculty attend library sessions students value the session more (Turner & Fisher, 2002). Furthermore, faculty can offer advice to students on content-specific enquiries.

4. *Increase focus on evaluating source quality and relevance.* Students had been encouraged to identify credibility indicators and evaluate source quality using criteria commonly found in evaluation checklists. However, many checklist style evaluation tools ask questions students may lack the knowledge to answer (Meola, 2004; Metzger, 2007), and as Gocsik, Braunstein, and Tober (Chapter 8, this collection), also recognized, many students struggle to effectively evaluate sources. Therefore, we helped students conduct effective source evaluation by stressing the value of information to their discipline and connecting to the “research as conversation” metaphor (Fister, 2011; Gaipa, 2004; McMillen & Hill, 2005).

ASSESSMENTS

Participating faculty 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 IL development within their content courses. All BRP faculty had concerns about student performance across the program but had limited understanding of how academic skills were being developed across the program. Therefore, the focus for each participant was to identify key competencies being developed and assessed within their own courses.

To consolidate skills introduced in the library workshops, a series of assessment tasks were created in each course to help students further develop IL within the research and writing process. All participating faculty changed their assessments to support the development of IL and reflective learning. The assessment interventions (Table 17.1, A-G) were designed to:

- increase awareness of IL competencies,
- focus on the research and writing process,
- provide opportunities for formative feedback,
- scaffold the development of IL competencies across the four year program,
- encourage wider and deeper reading of quality sources,
- promote the importance of clear, concise academic writing,
- encourage increased reflection on learning,
- create opportunities for collaborative learning.

It is beyond the scope of this chapter to discuss all the interventions, but three examples illustrate the innovative approaches developed to support students’ academic and information literacy.

The first-year source justification task in Course 1-1 (see Appendix C) required students to select five key sources for their essay, identify key points relevant to the assignment question, and justify the selection of the source using quality indicators

such as credibility, currency, and authority. The task required students to reflect on both source selection and personal learning. Students commented:

I think that finally being assessed on your selection actually helped because it made me think that I am actually looking at the right material. (Focus Group, Course 1-1, 2011)

No other lecturers have ever asked us to think about the sources we are using before. (Focus Group, Course 1-1, 2012)

To reinforce the importance of selecting quality information and to encourage students to make connections between sources in the first year of study, the information map (or imap—Emerson, Stevens & Muirhead, 2008; Walden & Peacock, 2006) was added into Course 1-2 (see Appendix D and Figure 17.2). The imap focused on key stages of the research process students often bypassed in last-minute assignment completion and encouraged them to reflect on their research process, thereby increasing students' awareness of IL competencies.

Students identified significant values from the imap:

For me what [the imap] 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. . . . [and] maybe I can improve through time. At least for me it was really really useful because at the end what I saw from that was that I should have written about this, this, and this, and I thought actually I didn't. (Focus Group, Course 1-2, 2010)

The second-year Professional Reading and Learning Log (see Appendix E) then extended the importance of critical evaluation by requiring students to find, read, and reflect on discipline-related aspects evident in their information sources to connect classroom learning with real-world situations and research. Students recognized the value of this task:

It made me read more to do with Planning instead of just reading something and go, "Oh, that had Planning issues." [We have] 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. (Focus Group, Course 2-2, 2011)

Faculty viewed the interventions as a valuable addition to the curriculum, and they continue to modify and create new interventions to ensure students have the opportunity to develop IL and engage with reflective learning.

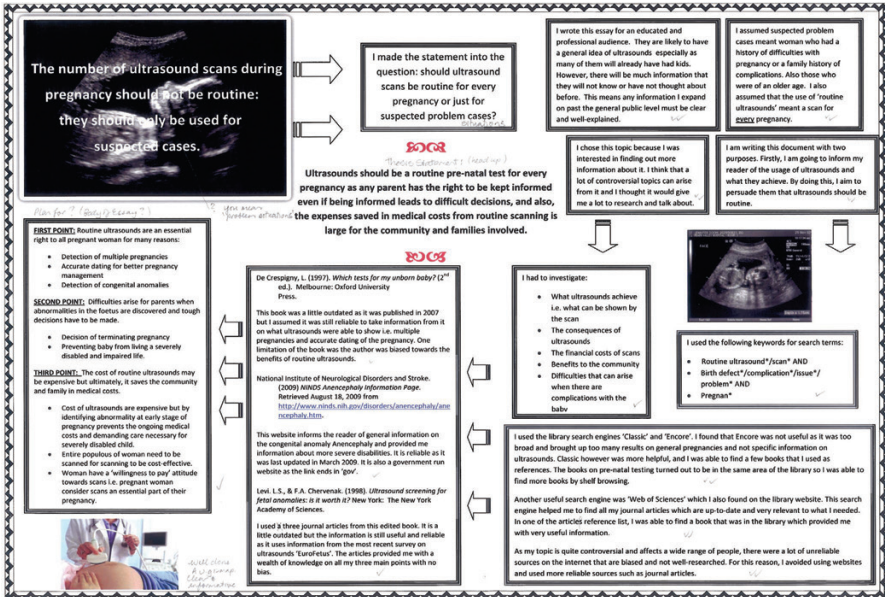


Figure 17.2. Example of an imap.

he 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. (Faculty Reflective Feedback, 2012)

Student responses to the formative assessments were also largely positive; they developed greater awareness of their research and writing processes and valued the scaffolded support.

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. (S1, Focus Group, Course 1-1, 2012)

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. (S2, Focus Group, Course 1-1, 2012)

THE RESEARCH FOCUS OR “WHAT WE LEARNED”

PAR was central to achieving change within the BRP and allowed participating faculty and the research team to learn from both successes and challenges (McNiff, 2002), particularly when ideas that seemed ideal in theory were more challenging to apply in practice. Throughout the research, we saw a significant shift in the way participating faculty viewed their roles in developing key IL and academic competencies:

I hadn't consciously thought about [my responsibility to develop students' IL competencies] 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. (Faculty Meeting Notes, 2010)

Although all participants engaged with the notion of learner-focused pedagogy (the ideal) as a result of our conversations, the constraints of faculty workloads, and the impact these have on faculty pedagogical development (the reality), were apparent.

The challenge for me . . . 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 . . . 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. (Faculty Reflective Feedback, 2011)

As the research progressed, the value of conversation in facilitating change led to the emergence of a 7th C of PAR—Conversation-driven. Conversation is recognized as a valid method of data collection in PAR (Feldman, 1999; McNiff, 2002). However, in this research, it was the catalyst for initiating, promoting, and facilitating the change we achieved, and was thus elevated beyond a data collection method. If faculty had participated in solitary reflection characterized by journal writing, the depth of negotiation, debate, and understanding inherent in our conversations may not have occurred.

Conversations in this research served numerous functions. Recorded conversations during scheduled meetings about how IL instruction was perceived to be

taking place were used to reflect on actions and design assessment modifications. They helped identify ways faculty could amend their pedagogy or assessment towards learner-focused pedagogies. Through conversation and observation, problems identified by faculty provided opportunities for further investigation. An example of this is the debate around the provision of course readings connected to student independence:

I refuse to provide [readings] in paper. . . . I say explicitly say it in my reading guide that these are what I have found is 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. (Faculty Interview, 2011)

Following this initial conversation, the participating instructor and the lead researcher regularly debated the nature of independent learning and scaffolded learning support, making reflection on effective teaching and learning a greater part of the research.

Each faculty member chose whether to adapt their teaching in response to the conversations and reflection. If they chose to trial a new teaching style for example, discussion of the outcomes helped determine if the intervention had been successful. Informal conversations were important for relationship building and further exploration of ideas around teaching and learning. Finally, conversations with students in focus groups helped determine the value of the interventions in enhancing their IL competencies.

Conversations revealed a lack of understanding of how students learn at university and mismatches between faculty assumptions and the realities of student experience. One significant mismatch concerned participating faculty's desire for students to learn academic competencies independently by using university learning support services, and students' limited use of such services.

Instructor: 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. (Faculty Reflective Journal, Course 1-1, 2011)

Student: I don't really go and get help. . . . I maybe look at [the text] a little bit and then [the online resources] but that would be it. I don't really go and ask other people. (Focus Group, Course 1-1, 2011)

IMPLICATIONS

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.

First, this research confirmed the notion that supporting students' IL development relies on how faculty promote and develop IL within their curriculum. Adopting learner-focused pedagogy may actively focus students on the research process. Providing embedded IL development into content courses via formative assessments may help students succeed in their transition into academic literacy and understand how disciplinary knowledge is created. As the gap between high school and university appears to be widening and more students seem unprepared for the demands of higher education (Brabazon, 2007; Secker, 2011, van der Meer, Jansen & Torenbeek, 2010), it is essential to provide explicit opportunities to support university transition into IL (Jansen & van der Meer, 2012; Weimer, 2003).

Second, this research found that faculty who are introduced to holistic views of IL can perceive a role for themselves in the development of disciplinary-focused IL development for their students. Furthermore, when explicit support in designing learning tasks and assessments that facilitate IL development is provided, student engagement in IL is improved.

Third, this research confirmed collaboration as an effective means of teaching IL. When faculty are pro-active in driving IL development, and embed IL development with the support of librarians, students developed essential academic competencies. While initial library instruction was important, further development continued under the participating faculty's guidance, with a focus on the evaluation of sources and their value to the discipline. This extended beyond first year as the curriculum became more complex and specialized. To support faculty to actively engage in designing IL initiatives, they needed to become aware of the centrality of IL in learning and then be more pro-active in initiating collaboration with librarians. They also benefitted from professional development around learner-focused pedagogy to identify how IL could be effectively embedded into existing curricula.

Finally, faculty need professional development to facilitate IL development within the curriculum and assessment. In this research, such support was provided through building trusting relationships that facilitated in-depth conversation and reflection, and through research-focused professional development. We saw a significant shift in the way faculty viewed their role in developing IL and other essential academic competencies as they created 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

faculty suggested more time is needed within workload allocations for professional development on teaching academic competencies alongside content.

This research resulted in IL development being integrated into each year of the BRP, but we recognize that supporting students' learning is an ongoing process and more work remains to fully embed IL development throughout the whole program. One year since the research phase ended, the interventions have been maintained and modified as faculty become more confident in supporting IL development. Our conversations are ongoing as we continue to explore effective ways to support students towards IL and informed, reflective learning.

ACKNOWLEDGEMENTS

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NOTES

1. 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>).
2. Kā Hikitia is the NZ Ministry of Education's Māori Education Strategy for supporting NZ's indigenous Māori towards educational success.

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APPENDIX A: 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

APPENDIX B: SAMPLE OF THEMES / DATA CODING SPREADSHEET

Themes	Focus Groups—Course 2-2			Representative Comments
	Code	Transcript	Line	
Under-standing IL	1	1/2-2/S210	5	Not really
		2/2-2/S210	5–7	No It does ring a bell
What does IL mean?	1.1	1/2-2/S210	8–11	How to use different literature to get information. I thought, I'm still a bit confused as to what it is aiming to do, and I was trying to broaden our techniques of research and gathering information and processing it, but it's still kind of hazy.

Appendix B—continued

Focus Groups—Course 2-2				
Themes	Code	Transcript	Line	Representative Comments
What does IL mean? (continued)	1.1	1/2-2/S210	43–46	First year I found them just like what you were talking about before, I was finding them like the first kind of 5 things that were semi-related to the topic. But then through this year I have started to use more books but I still find article searching real tricky on the Massey website.
		3/2-2/S211	20–22	Yeah, yeah, I think you’ve covered it pretty well there; just searching for information and finding out what’s relevant and how you incorporate that into you own academic work or yeah—that’s what I sort of—you had a really long definition of it last time!
		4/2-2/S211	18–27	F: I guess how we make use of information researching—yeah, research how [] in journals and [] library yes? M: How support classes work, like that report writing one? I thought that was good. F: How we gather our resources for our projects and assignments and that sort of thing. M: Yeah, I’ve got nothing to add to that unfortunately.
How have you learned it so far?	1.2	3/2-2/S211	31–36	Yeah, I tend to use journals like it’s been accumulating a lot more that my use of journals and my really specific academic literature has increased and it was quite noticeable and I find it’s because like, it’s you know I feel more comfortable being able to extract the information and use it properly rather than going ‘oh oh what does this actually mean?’ and I’ll stick to the basics. So I don’t know, feeling more comfortable and stepping out and using the stuff like bigger range and everything.
		3/2-2/S211	66–69	I find that I get a bit of that in the feedback from the work we do and we’re being told to evaluate sources—or that’s implied—but there hasn’t been any instruction really or anything to say ‘heh, for example, look at these two sources—how are they different’ and stuff, not really—it hasn’t really been driven home.

Note: Transcript code=Focus group/course/semester, year. All transcripts included line numbers. The code number was manually written on transcripts and then data transferred into spreadsheets as shown here.

APPENDIX C: COURSE 1-1–SOURCE JUSTIFICATION TASK INSTRUCTIONS

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.

Pick one of each of the following source types to review:

- Scholarly source
- Government report/paper
- News item
- Popular source
- 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.

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 D: COURSE 1-1—IMAP INSTRUCTIONS

In addition to the essay, you will also need to produce an imap. An imap “is a way of recording the research stages of a project, focusing 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 imap is on the following page. Further instructions will also be given in class.

The imap—An information map (imap) 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 imap will help you develop your IL skills. Making an imap 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 imap)

Your imap 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 imap 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 imap will be marked on:

1. The quality of the process, as depicted by the imap.
2. The way in which the process is depicted, i.e., the quality of the visual presentation.

APPENDIX E: COURSE 2-2—PROFESSIONAL READING AND LEARNING LOG INSTRUCTIONS

1. ASSESSMENT OBJECTIVES

- To enhance your ability to identify and evaluate planning information.
- 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 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—PART I

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 Minister 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:

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 **not** in bullet points.

PART II

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,
4. how and why these are planning issues and
5. how plans and planners might respond to these issues.
6. What you have written must be presented in well-constructed paragraphs and **not** 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 website 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 websites 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 Manawatu Evening Standard.
- 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 websites 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.