Information Literacy: How do librarians and academics work in partnership to deliver effective learning programmes?

by

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Submitted to the School of Information Management,
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**'Information Literacy: How do librarians and academics work in
partnership to deliver effective learning programmes?'
(hereafter referred to as 'The MLIS Research Project')**

being undertaken by

Ruth Florence Ivey

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Abstract

The growing awareness in universities of the need to produce graduates who are information literate is resulting in the need for academics and librarians to provide learning programmes that develop students' information literacy. Unfortunately, little detail about the operation of information literacy programmes and the teaching partnerships between librarians and academics is reported in the literature.

So a qualitative study was conducted at The University of Waikato to investigate how librarians and academics have worked together to develop students' information literacy. The study also sought to identify factors that influence the development and sustainability of successful collaborative partnerships.

The results showed that the effectiveness of information literacy programmes depends on a shared understanding of information literacy theory by the teaching partners, as well as the allocation of appropriate resourcing to develop and deliver the programmes. Good communication systems and positive working relationships between the partners are some conditions that were found to be essential to the success of collaborative teaching partnerships, and useful strategies were identified for initiating, developing, and sustaining those partnerships.

Keywords: **[information literacy] [academics] [faculty] [librarians]**

[collaboration] [partnerships] [course-integrated instruction]

1.   Background

1.1   Need for the study

A frequently quoted definition of information literacy was released by the American
Library Association Presidential Committee on Information Literacy in 1989:

> To be information literate, a person must be able to recognise when
> information is needed and have the ability to locate, evaluate, and use
> effectively, the needed information … Ultimately, information literate people
> are those who have learned how to learn. They know how to learn because
> they know how knowledge is organised, how to find information, and how to
> use information in such a way that others can learn from them. They are
> people prepared for lifelong learning, because they can always find the
> information needed for any task or decision at hand (Radomski 1999, 19).

While this definition places the concept of information literacy within the role of
libraries, putting it into practice means going beyond the scope of traditional user
education, bibliographic instruction, or the teaching of library skills. Effective
information literacy programmes include the content of those programmes, and
implement the following teaching practices:

- Collaborative teaching partnerships (Breivik 1998; Campbell, McGee & Yates
  2000; Dunbar, Edwards & Stemler 2001).

- Development of information literacy through resource-based or problem-based
  learning programmes, where students learn the content through the process of
  meaningful, effective use of information (Breivik 1998, Bruce & Candy 2000,

Donnelly 1998, Haycock 2000, Karelse 2000, Kreiser & Hortin 1993, Laird 2000, Leckie & Fullerton 1999, Macklin 2001, Rader 1999, Radomski 1999).

- Use of a facilitative teaching style which requires a pedagogical shift from 'the sage on the stage' to the 'guide on the side' (Stone et al 2000, Waikato Information Literacy Project Team 1999, Bruce & Candy 2000).

Information literacy is an increasingly important issue in tertiary institutions as staff and students are faced with a continually growing amount of information, packaged in a wide variety of formats. Many of these institutions are also aware of the need to produce information literate graduates who are able to succeed in a competitive workplace environment where there is a demand for employees who are able to solve problems by finding, navigating, evaluating, and using the vast amount of information available (Genoni & Partridge 2000, Moore 1997).

1.2   Problem statement

While many examples of information literacy programmes are documented, there is little detail about how they operate, which makes it very difficult for librarians and academics to develop and implement new programmes. People wishing to develop these programmes also need to know how successful collaborative partnerships operate, and to understand the factors that influence the effectiveness and sustainability of that collaboration.

This study will investigate how collaborative teaching partnerships are initiated, developed, and sustained, and will identify the important elements of those partnerships. It will also seek information on the roles of the partners in planning,

teaching, and evaluating learning programmes, and the challenges or problems they have experienced. In addition, the study will investigate librarians' and academics' understanding of the term 'information literacy' and their perceptions of who is responsible for teaching the various elements.

1.3 Value to the organisation and to LIS

Such information will assist librarians and academics who wish to develop collaborative teaching partnerships, and will help those working in established programmes to increase the effectiveness of their existing partnerships. The findings from this study will also provide information that could be used in the development of a campus-wide information literacy initiative. Furthermore, this research report will add to the Library and Information Studies literature, particularly as it investigates barriers to the implementation of information literacy programmes, a research focus identified by a review of information literacy research (Bruce 2000, 215).

1.4 Research question

Information literacy: how do librarians and academics work in partnership to deliver effective learning programmes?

1.5 Theoretical frameworks

The following two models provide useful frameworks for the study:

1.   The theory of information literacy is reflected in these attributes of an information literate person:

- Recognises the need for information

- Recognises that accurate information is the basis for intelligent information

- Formulates questions based on information needs

- Identifies potential sources of information

- Develops successful search strategies

- Accesses sources of information, including computer-based and other technologies

- Evaluates information

- Organises information for practical application

- Integrates new information into an existing body of knowledge

- Uses information in critical thinking and problem solving (Doyle 1992, 2)

- Uses critical thinking and problem solving in handling information (Penny Moore, personal communication, December 1, 2001)

NB.   At the second bullet point, Doyle actually stated "accurate and complete information", but the practical application of that statement is unrealistic.

2.   In a study of successful collaborations where the characters, personalities, eras and fields were all different, Michael Schrage (1990, 151-163) discovered consistent themes and characteristics. He warns that replicating the identified behaviours will not guarantee successful collaboration but found that these behaviours revealed patterns of interaction that consistently led to successful collaborative outcomes:

- Competence for the task at hand by each member of the collaborative team

- A shared, understood goal

- Mutual respect, tolerance, and trust

- Creation and manipulation of shared spaces

- Multiple forms of representation

- Playing with the representations

- Continuous but not continual communication

- Formal and informal environments

- Clear lines of responsibility but no restrictive boundaries

- Decisions do not have to be made by consensus

- Physical presence is not necessary

- Selective use of outsiders for complementary insights and information

- Collaborations end

1.6 Term definitions

Collaborative partnerships referred to in this study are partnerships between academics and librarians where each partner contributes expertise and resources to a shared programme that results in better opportunities for information literacy development than either of the individuals could provide.

Course-integrated instruction meets the following criteria:

1. Academics are involved in the design, execution and evaluation of the programme

2. The instruction is curriculum-based, in other words, directly related to the students' course work or assignments

3. Students are required to participate (Young & Harmony 1999, 29)

Resource-based learning selectively integrates the resources and services of the library, and of the world, into teaching programmes so that students learn how to use them in practical learning situations and are encouraged to transfer that knowledge to problems they are likely to face in their daily lives (Breivik 1998).

2. Literature review

An investigation of the literature from the last decade was made in order to identify theoretical frameworks related to this study; existing models of information literacy programmes and collaborative partnerships between academics and librarians; how the programmes were established and how they operate; the key issues and barriers involved; and any related research studies. Doyle's information literacy model (Doyle 1992, 2) and Schrage's model of successful collaboration (Schrage 1990, 151-163) provided useful theoretical frameworks (see 1.5).

2.1 Existing models

Many information literacy programmes are reported, including those that are course related add-ons, and stand alone information literacy courses. Of greater interest to the present study are those that are fully integrated into the teaching curriculum. Some of these programmes operate across the entire institution, while others are integrated into academic units or single courses. Common characteristics of the programmes are:

- facilitative teaching

- student-centered learning

- the promotion of critical thinking

- an evolving structure that is driven by ongoing evaluation and modification to incorporate new technologies or to improve the programme.

The basic belief of these programmes is that "information literacy cannot be separated and taught on a stand alone basis. It must be seen as an integral part of the students' understanding of the content" (Donnelly 1998). A list of programmes identified in the literature can be found in Appendix 1.

2.2 Initiating and establishing partnerships and programmes

Some institutions have used a top-down approach to introduce a campus-wide awareness of information literacy. For example, graduate profiles, standards, attributes, or competencies, have been developed by some universities and were used to drive the development of institution-wide information literacy programmes at the University of Ballarat (Radomski 1999, Bruce 2001), the University of South Australia (Rigmor et al 2000, Bruce 2001), and the University of Wollongong (Wright & McGurk 1995). Another strategy recommended in the literature, is to enlist the support of senior administrators for the development of information literacy across the campus, and to have this reflected in university policy and mission statements (Bruce 2001, Haycock 2000, Iannuzzi 1998). Teams of librarians and faculty at the University of Ballarat and the University of Wollongong (Bruce 2001) have worked in collaboration to develop these documents.

A grass roots approach, in which individual academics or librarians have initiated teaching partnerships and information literacy programmes, is frequently reported. Most of the literature relating to information literacy is produced by librarians, and many writers emphasise the importance of librarians being proactive in raising the awareness of educators about the value of working in partnership with them to develop information literacy programmes (Farber 1993, Hartzell 1999, Iannuzzi 1998, Laird 2000, Moore 2000). Librarians making initial contact with academics and developing ongoing liaison activities that support their research and teaching needs are recommended strategies for developing positive working relationships (Kotter 1999, Thompson 1993). Librarians identifying and working with academics who value information literacy, or who use resource-based learning methods, are strategies

suggested by Breivik (2000) that have been used to initiate pilot programmes and to integrate information literacy into courses (Farber 1993, Laird 2000, Hughes 1998). Guidelines for librarians to proactively teach information literacy, by using problem-based learning methods within an existing user-education programme, are provided in a paper written by an instruction librarian at Purdue University Libraries (Macklin 2001).

Professional development initiatives have been instrumental in developing collaborative partnerships, as academic staff become aware of librarians' expertise in teaching and information literacy development. These include situations where academics and librarians learn alongside each other (http://twist.lib.uiowa.edu/about/, Hughes 1998, Stone et al 2000), and librarian-initiated training for academics such as workshops, or one-on-one training to meet research and teaching needs (Baker 1997, Hartzell 1999, Hughes 1998, Iannuzzi 1998, Young & Harmony 1999).

2.3   The operation of partnerships and programmes

Although many programmes exist, there is very little documentation of the collaborative processes involved in planning, implementing and evaluating them, or about the roles of librarians and academics. The following examples provide some insight to these processes:

At the University of Iowa Libraries, reference librarians, faculty members and instructional technologists work together to develop course Web pages. Together, they discuss the course goals, appropriate electronic resources the library has access to, the print resources that should be integrated into the course, the information-

related skills students need to acquire in order to fully participate in the course, and how the library instruction fits into the course (Hughes 1998).

In another online teaching initiative, at The University of Waikato's School of Education, librarians are members of the teaching team in their role as information coaches (Perrone 2000). Information coaches are empowered by having access to the course readings, lectures, tutorials and discussions and, more importantly, by working alongside good teachers. In addition to coaching students to find and use information for themselves, the librarians monitor and assist with the facilitation of the online course discussions. While the major aim of this programme is to develop students' information literacy, additional benefits include the shared workload for academics, the personal contact and development of relationships between staff and students, and the enhanced status that comes with it for librarians.

Librarians and faculty at Millikin University, Illinois, have developed strong collaborative teaching partnerships by deciding on a set of shared goals for teaching information literacy, by defining their unique roles, and by supporting each other in their teaching practice (Avery, DeJoy & McQuistion 2001). Librarians identify the skills needed by students and provide course-integrated instruction and assignments, while faculty reinforce this by attending instructional sessions with their students, and by providing related follow-up assignments.

A system of linked courses, where librarians integrate information literacy into subject disciplines, allows students at the University of Washington to take information literacy seminars in conjunction with their courses (Wilson 2001).

Librarians and faculty recognise that the complexity of information literacy development requires "a substantial response, not just adding something on top of a course" (Wilson 2001, 11). Flexibility and collaboration are required as linked courses continue to develop, and those involved include faculty, teaching assistants, writing instructors, librarians, technologists, and instructional and Web designers.

A pilot programme implemented at Deakin University (Macauley 2001), has an experienced librarian working in collaboration with research students, who are studying at higher degree level, and their supervisors. While the over-riding goal of this programme is the development of information literacy skills for the students and their supervisors, other proposed outcomes include stronger partnerships, better student retention rates, as well as increased and faster course completion rates. A research-mentoring programme operates at Pennsylvania State University (Moyo & Robinson 2001), where librarians have found that although online tutorials, Web-based research guides, and virtual library instruction are available, there is still a real need for the human interface. This programme is primarily for undergraduate students, and returning adult students who need more assistance with electronic information resources, but any student who needs research guidance can sign up. A process approach is taken to developing information literacy. Students make appointments when they need assistance, and records are kept of their progress.

At Ball State University, instruction librarians and nursing faculty have worked collaboratively to develop Web-based, course-integrated instruction at graduate level, which allows students to access the help they require when they need it (Dorner, Taylor, & Hodson-Carlton 2001). Librarians and faculty collaboratively planned the

content, where and how it would be integrated and the roles they would have in developing the course. This involved the librarians working for the first time in curriculum design. Strong collaborative partnerships were developed as faculty and librarians learned how to incorporate technology into the learning environment, and worked together to identify the competencies that students should have when they graduate.

The Department of Nursing and a faculty librarian at The University of Wollongong have developed a curriculum integrated information literacy programme for undergraduate students (Brewer 2000). The course co-ordinators and librarian worked collaboratively to integrate information literacy objectives into the knowledge and content objectives of the curriculum, and they continue to review these objectives regularly to ensure they remain relevant (Wright & McGurk 2000). New skills are introduced by the librarian during a lecture, and are consolidated with tutorials where students work on assessment tasks in the library, supported by the librarian and tutors. This scaffolding approach aims for student proficiency in one area before moving on to the next skill level.

2.4   Key issues and barriers

Concern is expressed that while the term information literacy is gaining popularity in academic institutions, it is often misused because the theoretical definition and its implications are not clearly understood (Julien 1998, Stone et al 2000). Although a definition of information literacy was provided in a survey instrument used by the Association of College and Research Libraries (Breivik 1998, 141-153), research results appeared to be distorted by the respondents' misconceptions of this term. This

misunderstanding is also evident in the literature and in research on information literacy which actually focuses on library instruction. Ongoing confusion between information literacy and IT literacy, and the widespread mistaken use of the term information literacy, are obstacles identified by the LIANZA Taskforce on Information Literacy (Stone et al 2000), and by Breivik (1998).

A crucial issue raised in the literature is the resourcing of information literacy programmes. The need for sufficient numbers of skilled library staff to develop and maintain the partnerships and teaching programmes effectively, and the importance of ensuring this resource before initiating such programmes, is identified in practice (Laird 2000, Peacock 2000) and in research (Julien 2000).

Time to develop partnerships and effective learning programmes is another resource issue that is frequently raised. Even where effective partnerships and information literacy programmes are evident, librarians encounter problems with the amount of time available for planning and teaching (Radomski 1999, Laird 2000). The problem of faculty allocating insufficient time for librarians to deliver effective user education programmes is often mentioned and is also identified in a study of user education (Julien 1998). The ever-increasing burden on faculty caused by new models of programme delivery is acknowledged in the literature, and the establishment of instructional teams that include faculty, librarians, technology and instructional design personnel is recommended as a solution (Hughes 1998, Radomski 2000). Breivik (2000) suggests that such teams can institute pedagogical change by working to develop programmes that shift the focus from lecturing to facilitating students' learning. Librarians working in the Library Research Mentoring Programme at

Pennsylvania State University acknowledge that this type of teaching is intensive in terms of time and effort but are managing it by using a project driven model (Moyo & Robinson 2001).

Collaboration, already identified as a key factor, is defined as a "purposive relationship" where "people share their expertise and resources to solve a problem, to create, or to discover something" (Schrage 1990, 36). Barriers to the development of collaborative partnerships between academics and librarians are well documented and a number of studies have investigated this problem. Organisational culture; the perceptions, attitudes, and teaching style of academics; and the status of librarians on campus are identified as the major contributing factors. A study of faculty perceptions found that even when librarians had faculty status, teaching faculty did not perceive them to be their academic equals (Ivey 1994). Other reports state that while faculty acknowledge the importance of information literacy programmes, and are prepared to work collaboratively with librarians, they tend to be more focused on pursuing and disseminating knowledge through research, publication, and teaching (Leckie & Fullerton 1999, Hardesty 1995). Furthermore, the culture they work in promotes academic freedom and professional autonomy so they are not inclined to critically analyse their teaching styles or to consider the concept of team teaching. Leckie (Leckie & Fullerton 1999) suggests avenues for dialogue and advises librarians to identify and acknowledge their own areas of expertise and knowledge and to understand the faculty perspective.

Anxiety among academics and librarians at the prospect of working in new ways, and the professional development required, are also identified as barriers. In addition to

the previously mentioned needs of academics, studies of information literacy instruction in Canadian and New Zealand libraries highlighted the need for librarians to be trained in learning and teaching theory (Julien 1998, Julien 2000). A range of methods for meeting these needs is documented in the literature. Peacock (2000) describes a staff development initiative at Queensland University of Technology, where librarians work together to develop their teaching skills. And at the University of Iowa academics and librarians participate in shared staff development initiatives (Hughes, 1998).

The clarification of each partner's roles and responsibilities "to avoid underestimation of the potential and actual contribution of libraries by the wider community" is an issue raised by the LIANZA Taskforce on Information Literacy (Stone et al 2000, 15). Kuhlthau (1999) also cites confusion of roles as an inhibitor to the process of collaborative programme development and delivery by librarians and faculty.

Communication is an important issue identified in the literature and the results of good and poor communication are well documented. A survey that investigated faculty perceptions of a library liaison programme found that consultation and communication were regarded as the most important services (Yang 2000). Other research studies verified the importance of ongoing communication between librarians and academics (Cannon 1994, Kotter 1999, Leckie & Fullerton 1999). The Earlham model (Farber 1993, Hardesty 1993, Hardesty et al 1993, Thompson 1993) illustrates the benefit of establishing friendships with academics, taking a supportive interest in their research and teaching interests, and developing a strong working relationship before attempting to initiate collaborative programme planning. Kotter

also recommended these strategies (Kotter 1999), and Young and Harmony (1999) stress the need to understand faculty attitudes and needs before planning information literacy initiatives. The successful programme at the University of Ballarat (Radomsky 1999) is attributed to the working relationships established between librarians and other members of the university community and especially to the interest taken by the Deputy Vice Chancellor (Bruce 2001).

2.5   Related research studies

In an international review of information literacy programmes and research, Christine Bruce stated:

> Information literacy research is still in its infancy. Not only is the number of studies completed relatively small, the agenda is ill defined and suitable theoretical frameworks are only just beginning to be explored (Bruce 2000, 213).

However, some research has been undertaken on the types of information literacy programmes that operate in tertiary institutions. In one example, four different approaches were examined:

1.   Required, core-curriculum, for credit model

2.   Required, discipline-specific, for credit course model

3.   Elective, for-credit course model

4.   Course-integrated model

The researcher summed up the findings with the following statement:

Regardless of their philosophical differences, these real world approaches

prove the need for colleges and universities everywhere to establish a concrete

structure for teaching information literacy (Donnelly 1998, 2).

Some studies of faculty attitudes towards bibliographic instruction, liaison

programmes, library services, students' use of the library, and working with librarians

have been reported. Quantitative research methods have been favoured, although

some studies have used a two-phase model, incorporating interviews or focus groups

with surveys, to elicit appropriate or more detailed information and to enable

triangulation of the findings. Focus groups and interviews were used as a means of

developing questions for a subsequent survey (Baker 1997, Julien 2000), and

interviews were used to enlarge on the information collected by a survey (Leckie &

Fullerton 1999).

A comparative study of user education in Canadian and New Zealand tertiary libraries

investigated librarians' understanding of the term information literacy and how much

responsibility they believed they should take for teaching the various elements (Julien

1998, Julien 2000). The study shows that librarians have mixed understandings of the

term information literacy, they feel partially responsible for teaching all of the

elements, and they identify teaching faculty as the other group responsible for that

teaching.

2.6   Gaps in the literature

1.   There is a lack of information about the roles of partners and the collaborative

process of planning, delivering and evaluating the learning programmes.

2   There are no New Zealand studies focusing on the perceptions, attitudes and
         practices of academics in relation to information literacy.

3.   There are no New Zealand studies about collaborative teaching partnerships
         between academics and librarians.

2.7   The resulting study

As a result of the previously stated need for such study, the problem statement, and
the gaps identified in the literature, it was decided to undertake qualitative research
that will investigate the experiences of librarians and academics who have worked in
collaborative partnerships to develop students' information literacy at the University
of Waikato.

2.8   Objectives of the study

1. To identify the important elements involved in the establishment and operation of
   collaborative partnerships between librarians and academics.

2. To discover each partner's understanding of the term 'information literacy', and
   who they think is responsible for teaching various aspects of it.

3. To determine the roles of the partners in planning, teaching, and evaluating the
   learning programmes.

4. To identify the challenges or problems involved and how these are managed.

5. To compare the perspectives and experiences of academics and librarians
   regarding the first four objectives.

6. To discover the differences and similarities between three different schools of
   study.

3.   Methodology

3.1   Research sample

As the research study is focused on investigating the actual experiences of librarians and academics, a purposive sample was used. Seven subject liaison librarians, who were known to have worked in teaching partnerships with academics to develop students' information literacy, identified twelve academics they had worked with. Seven of those academics work in the Faculty of Arts and Social Sciences, three in the School of Law, and two in the School of Education.

Owing to the time allowed for the proposed study and the qualitative method to be used, a maximum of 12 interviews (excluding the pilot study) was decided on. The prospective interviewees were divided into the three schools of study in two groups (academics and librarians), then sorted so that the schools were evenly represented and so that partners could be interviewed, although some of these people worked with more than one of the prospective interviewees.

The result was that, depending on their willingness and ability to participate, two academics and two librarians representing each of the three schools would be interviewed for the research project, and pilot interviews would be conducted with one academic in the Faculty of Arts and Social Sciences and one librarian in the Education Library. Most of the interviewees required no selection but, where a choice of person was possible, the first available person, drawn from a random list, was interviewed.

Initial contact was made with the prospective interviewees by phone. A letter followed explaining the purpose of the study and the interview process (see Appendix 2). Every person who was invited to participate expressed interest in the project and agreed to be interviewed. The librarians were all female, and three of the academics were male. All of the interviewees worked with first year students, most worked with students at all levels through to graduate, and some worked with masters' students. The length of time these people had worked in a teaching partnership ranged from 15 months to 22 years. Most partnerships ranged from three to eleven years duration, and one has existed for 22 years. However, one academic and one librarian have held their positions for less than 2 years and the partnerships they work in are still in the developmental stage.

3.2   Data collection

In-depth interviews of 50-60 minutes duration were used to collect the data. Contributing factors in deciding on this collection method were the size of the available sample, and the wealth of information these people had to share. The interviews were conducted over a period of five weeks, from February to mid- March 2002, before the first teaching semester was fully underway.

A set of 24 questions (see Appendix 4), which the interviewees received a few days before the interview, formed the basic structure of the interview. A tape-recording was made, and each interview was conducted in a place that suited the interviewee. In most cases, this was their own office but in a few cases it was their home or a group study room. In addition to the interviews, some field notes were taken of relevant information that was shared but not tape recorded. The interviewer

transcribed each interview in full, added the field notes to the appropriate questions or to the end of the transcript, and emailed the transcript to the interviewee for proof reading. Interviewees were asked to verify that the interviews were transcribed accurately and, in a few cases, minor corrections were made.

Ethical permission for this study was obtained from the Human Ethics Committee at Victoria University of Wellington, and the University Librarian at the University of Waikato gave approval. Written informed consent was obtained from the interviewees, which included permission for the interview to be tape-recorded (see Appendix 3). The interview transcripts were destroyed and the tape recordings electronically cleaned when the research report was submitted.

3.3   Development of an interview schedule

A semi-structured interview was designed to gather the data needed to address the objectives of the proposed study, and to provide a structure for analysing the rich data gathered through in-depth interviews (see Appendix 4). This structure enabled one interviewee, who is currently living overseas, to be interviewed by email and also increased the reliability of the data as each interviewee was asked the same questions, and in the same order.

Interview questions addressed the objectives (outlined in section 2.8) as follows:

- Questions 1-3 (Objectives 5 and 6)

- Questions 4, 5 (Objective 2)

- Questions 6-8 (Objective 1)

- Questions 9, 11 (Objective 3)

- Questions 10, 12-15 (Objective 1)

- Questions 16-17 (Objective 4)

- Questions 18-23 (Objective 1)

The interview included a mixture of closed and open questions, and probe questions were used to investigate more deeply when this was needed. Based on Doyle's attributes of an information literate person (see Appendix 4), question 5 provided a definition for information literacy, thus increasing the validity of the collected data while also informing the interviewees about the term information literacy. Question 19 required the interviewees to select what they considered to be the most important behavioural elements of successful collaborative partnerships. This also increased the validity of the data as the elements came from a theoretical framework arising from Schrage's study of successful collaboration (see Appendix 4).

The first 22 interview questions investigated the following broad categories or themes:

- Demographic data (Questions 1-3)

- Information literacy (Questions 4, 5, 21)

- Establishment of partnerships (Questions 6-7)

- Roles of partners (Questions 9, 11)

- Communication (Question 15)

- Challenges and ongoing problems (Questions 16-17)

- Collaboration (Questions 8, 10, 12-14, 18-22)

Question 23 was designed to fill any gaps left by the preceding questions, and question 24 established the interviewee's preferred method of further communication.

Where questions had sub-questions, only one question was dealt with at a time. The basic set of questions remained constant but some additional questions were asked and some words were changed to suit the situation. These included probe questions, names of individual partners, and changing to past tense for partnerships that have ended.

3.4   Pilot study

The method of introducing and organising the interview, as well as the cover letter, the consent form, the interview questions, and the interviewing process, were pre-tested with one academic and one librarian from the identified sample. These people were included in the original research sample, and were able to be spared from it.

As recommended by Gorman & Clayton (1997, 100), the pilot participants knew they were part of a pilot study and that, as well as taking part in the interview, they should reflect on the questions to see if these were clear and appropriate, and suggest other questions that should be asked. Although their suggestions were invited, the interviewees made no recommendations and the only modification made by the interviewer was to eliminate one redundant question. So, after consultation with the supervisor of this project and the pilot study participants, it was decided to include them in the research sample, bringing the total number of interviewees to 14.

3.5   Data analysis

The transcripts were colour coded according to whether the interviewee was a librarian or an academic, and then according to the partnerships each person worked in. Four major themes were established for analysing the data as follows:

1. Information literacy

2. Successful collaboration

3. Partnerships

4. Challenges and problems

The data was coded according to categories within these themes, using a method recommended by Miles & Huberman (1994, 58-66) (see Appendix 5). Some categories were pre-determined, and others arose from patterns in the data. For example, codes for the second theme were constructed from the theoretical framework resulting from Schrage's list of behaviours that exist in successful collaborative partnerships (see 1.5. or Appendix 4), while common or significant statements found in the transcripts determined the categories and codes for the fourth theme.

When the coding was completed, a total of 47 categories had emerged but, as that was more than could be analysed in the time permitted for this study, they were collapsed into similar categories. For example, all categories relating to teaching were put together, and direct opposites such as enthusiasm and lack of interest were combined. After analysing the data relating to question 19, where interviewees selected what they considered to be the three most important collaborative behaviours, four categories stood out from the rest. So it was decided to focus on those four categories, as they were obviously important, and to include any other categories that were significantly relevant or challenging. After this process was completed, a total of 21 categories were identified for detailed analysis, and the rest were kept for subsequent referral if they became particularly relevant to the results. The categories for detailed analysis covered the four themes in the following way:

1   Information literacy   (7 categories)

2. Successful collaboration   (7 categories)

3. Partnerships   (3 categories)

4. Challenges and problems   (4 categories)

The perspectives of academics and librarians were compared as well as those of interviewees associated with each of the three schools. Tables of data were compiled to assist in analysing questions 1-3 (demographic data), 4-5 (information literacy), and 19 (collaborative behaviours).

3.6   Limitations and delimitations of the study

Limitations

The purposive selection method and the size of the research sample, combined with the fact that all of the participants showed strong commitment to this research study and were very willing to be interviewed, means that the research sample is very focused. Therefore, the results cannot be generalised but some of the identified themes could be applied in other settings.

Reliability of the results is decreased as the data gathered was dependent on the hindsight of the people involved, and it is known that recollected and self-reported data usually suffer from bias (Fister 1992, 3). As the interpersonal nature of interviews has an impact on the results, the possibility of interviewee and interviewer bias must also be acknowledged (Kvale 1996). Although the interview questions were asked in a consistent way, the interviews were conducted in a relaxed setting, and leading questions were avoided, interviewer bias presents a real threat to the

validity of interviews (Powell 1997, 112). Some researcher bias is also possible, as the researcher has worked in teaching situations with some of the interviewees and has more knowledge of some partnerships included in the study than was shared during the interviews.

Delimitations

The interviewees knew that their partners were also being interviewed, thus reducing the potential for decreased reliability as a result of interviewees reporting on their teaching programmes and experiences in hindsight. Reliability of interviewing, and of transcribing, analysing, and interpreting the data, was enhanced by the use of a sole researcher.

Internal validity was aimed for by careful questioning to ensure the interviewees understood each question, and also by careful interpretation of each answer. The latter included the rephrasing of complex answers by the interviewer to check that they were understood correctly, transcript checking by interviewees, and further communication by phone or email to clarify any obscure answers. Validity was also increased by basing questions 5 and 19 on theoretical frameworks for information literacy and collaborative behaviour (see 3.3, and Appendix 4).

Triangulation of the data was achieved by comparing statements made by partners, and by comparing comments made by the interviewees during the interviews with their answers to questions 5 and 19 (see Appendix 4). Using the interview schedule with other populations in similar institutions, or adapting it and applying it to a large unfocused research sample could establish external validity.

4   Results

4.1   Defining and using the term information literacy

When asked to define the term information literacy, the interviewees appeared to be on a continuum of understanding. Two librarians mentioned information literacy models ("The Big 6" and "Patricia Senn Breivik's model") that they agreed with, or use. One of these people said that while it is reasonable to acknowledge such models, it's really all about "being able to make informed decisions". Another librarian and five academics focused on the process of becoming information literate. Most of these people said this meant being able to find, use, communicate and evaluate information. One academic focused on the importance of "people knowing what they need to know" as a first step in developing information literacy and later in the interview outlined the following model:

> I get people to really look at their own situation as a learner in terms of where
> they might get support from, and what their needs are, and what their
> obligations are. So if I'm a learner in this class, what do I need from the
> person teaching it, from the other class members, from the university
> institution, from the library? I'm trying to say to them, this is a 2-way process.
> This is not me giving you stuff.

Another academic referred to "the blurring of the term…from a library skills focus to empowering the students to become information literate", and another emphasised the role of librarians and academics in helping students to become independent rather than developing dependency relationships with librarians. However, two academics

and four librarians were more focused on the importance of teaching bibliographic skills, or user education.

The idea of a continuum or progression of understanding was reinforced by two librarians speaking about the programmes developed by their partnerships. One librarian spoke about the need to revise an existing programme that is taught to all first year students and covers a generic set of skills. As the students have no real need to use some of these skills for another two years, and technology is progressing rapidly, they often forget what was taught and need individual assistance later on. Another librarian explained how the user education programme she and her partner have developed over a period of years has become more focused on the process of developing students' information literacy. So while it is generally accepted that information literacy programmes are based on a sound understanding of information literacy theory, it seems that some programmes evolve from bibliographic instruction or user education as academics and librarians become aware of the need to develop students' independency, and through increased understanding of the term information literacy. The academics appeared to be more comfortable using the term information literacy than the librarians, and one academic said:

> I think this is right through the academic teaching culture at present.
> We're constantly reading about the need for students to develop skills to access information and knowledge in the broader sense. It's something that's in the air. Librarians don't need to create these expectations. We all have them, or ought to have them. I read very widely about these matters and I'm keenly interested in what the electronic revolution will mean. It has already

meant a total change in access to resources. So I expect we'll be able to be much more enabling for students than has been the case in the past. I'm very enthusiastic about helping students to gain these skills, and most of my colleagues in this department are also very enthusiastic about helping students to develop access skills or information literacy skills more generally.

Five academics and four librarians said that they use the term information literacy, but some librarians are selective in who they use it with and prefer to articulate exactly what they'll be teaching. There is concern among librarians that some people misuse this term by simply adopting information literacy as a new name for user education. Some academics referred to other literacies that stand alongside information literacy such as technical literacy, discipline literacy, research literacy, tertiary literacy, and law literacy. One academic said that information literacy is like the umbrella that the other literacies sit under, one prefers the term critical literacy, and another sees information literacy as a sub-set of the term digital literacy. This frequent usage of the term literacy could explain the confidence shown by academics in using the term information literacy, but these variations suggest there is no common understanding.

4.2   Responsibilities for teaching information literacy

While some interviewees had clear views about the responsibilities of librarians and academics for developing students' information literacy according to Doyle's list of attributes (Appendix 4), others were less certain. In response to the question:
"Looking at these attributes of an information literate person, which do you see academic staff responsible for teaching, which are the responsibility of librarians, and which are the responsibility of both?", Some interviewees said the responsibility was

shared, with a stronger emphasis towards either the academic or the librarian. Others addressed only some attributes, and one librarian had difficulty separating the attributes from a holistic view of information literacy. Table 1 does not include the opinions of every interviewee because some did not make a clear statement about who is responsible for each attribute. The categories have been collapsed, so that where an interviewee said an attribute was the responsibility of both, with a stronger emphasis to either the academic or the librarian, it has been put in the category of stronger emphasis and the categories have been labelled as showing the main responsibility.

Table 1

The number of librarians or academics who shared the same view

Attributes	Academics			Librarians		
Main responsibility	Academic	Librarian	Both	Academic	Librarian	Both
Recognises the need for information	3	1	2	2	1	3
Recognises that accurate information is the basis for intelligent information	3	0	2	2	2	1
Formulates questions based on information needs	4	1	1	2	1	1
Identifies potential sources of information	0	1	5	0	4	2
Develops successful search strategies	0	3	3	0	5	1
Accesses sources of information, including computer-based and other technologies	0	2	3	0	5	1
Evaluates information (*)	2	1	3	4	0	2
Organises information for practical application (*)	1	0	5	2	1	2
Integrates new information into an existing body of knowledge (*)	2	0	4	3	1	1
Uses information in critical thinking and problem solving	3	0	3	3	0	3
Uses critical thinking and problem solving in handling information	1	1	4	1	0	4

The categories which illustrate the areas of greatest disagreement are the perceptions of responsibility for teaching students how to identify potential sources of information;

how to develop successful search strategies; how to access sources of information, including computer-based and other technologies; how to evaluate information; how to organise information for practical application; and how to integrate information into an existing body of information.

While it is no surprise to see librarians saying that it is mainly their role to teach students how to identify potential sources of information, how to develop successful search strategies and how to access sources of information, it is interesting to see that most academics see these as equally shared responsibilities. In fact, apart from the first three attributes, which many interviewees interpreted as being related to the subject discipline and, therefore, the role of the academic, most academics said the responsibility for teaching all of the attributes should be shared.

It is encouraging to see most librarians and academics agreeing that they have equal responsibility for teaching the last two attributes, related to critical thinking and problem solving, as these attributes differentiate information literacy programmes from user education. Apart from these two attributes, and teaching students to recognise the need for information, the librarians tended to say that teaching responsibilities lie with either the librarian or the academic.

A problem arises with three attributes (marked *) as most librarians think that academics have the major responsibility for teaching students how to evaluate, organise and integrate information, while most academics think librarians and academics have equal responsibility. During the interviews, most of the librarians referred to these attributes as discipline-related because the resources they would be

using to teach them would be subject specific and they didn't think librarians would have the necessary subject knowledge. The data shown in Table 1 is also reflected in the following comments made by librarians and academics during the interviews. One librarian said:

> Librarians have to teach a certain amount of evaluation skills, as students can turn up so much information on databases and the Internet. But I believe that if the role of the academic and the librarian becomes blurred, then the students will become confused as to who is supposed to teach them what. But if both academic and librarian recognise each other's expertise, then the students are in a win-win situation.

And an academic stated:

> I would hate to think that we had clearly defined roles. Because what tends to happen, if you do that, is that you each think the other is doing it, and nobody does. So it falls down in the cracks. I would like to think that the academic staff and the staff who work in libraries have more of a team teaching approach, that they both appreciate each other's perspective, and are both working towards the same goals and reinforcing things.

Both groups described their specific areas of expertise during the interviews and agreed that academics are specialists in their subject disciplines while librarians are specialists in accessing and retrieving information. They also agreed on the need to respect that expertise, and to avoid attempting to fill each other's role. All of the

interviewees perceived librarians as the interface between information sources and the students. Some said that this happens at the first level of seeking information, and then the academic takes it further into the discipline.

When the interview data is combined with the data in Table 1, it seems that most of the academics see the development of information literacy as the shared role of librarians and academics but that this is apart from their areas of expertise, while most of the librarians see components of teaching information literacy as closely related to one area of expertise or the other. This could also mean that most of the academics perceive the development of information literacy to be a process that is taught through the disciplines of their subject and the subject of bibliographic instruction, while most of the librarians perceive information literacy to be a discipline in itself with the responsibility for teaching certain aspects falling to academics or librarians as they apply to either discipline.

4.3 Planning information literacy programmes

While librarians are largely responsible for planning what they teach, six academics described how they plan aspects of the programme with the librarians. This planning process is sometimes quite comprehensive and may include some or all of the following: deciding on timeframes and the general content, discussing student needs, setting learning objectives, selecting resources that will be incorporated, deciding on assessments, designing assignments, and constructing questions that will be easily understood by students. Academics and librarians explained how they email their ideas and draft questions to each other and often trial the exercises set by their partners in order to fine-tune them.

However, sometimes the collaborative planning process is not so thorough. One librarian said that the planning input from some academics consists of the timeframe, information about the course content, and whether an assessment should be included. And one academic expressed a desire for information sharing sessions between librarians and academics so that they would know what librarians had to offer. In some cases, it seems that the amount of collaborative planning is relative to the extent that both partners are involved in the teaching but there is obviously a need for time to be allocated to the planning process in the same way that it is for the actual teaching sessions.

4.4   Learning programmes and teaching styles

The programmes outlined by interviewees included information coaching with distance students in the School of Education's Mixed Media Programme, a credit bearing programme for all first year Law students, and programmes that are a component of, or that support individual courses. The librarians teach groups of students in hands-on computer labs, lecture theatres, electronic database areas, or in display areas and seminar rooms in the library. They also teach individual students at the library shelves, at database workstations, or online in the Mixed Media Programme. Of the programmes operating, there is a strong focus on bibliographic instruction, although some are incorporating information literacy concepts.

When describing the content of the programmes, five academics and three librarians (covering the three schools of study) focused on bibliographic instruction but these academics and six librarians explained how the instruction is integrated into the course content. For example, some librarians develop teaching programmes around

the students' assignments and others work in partnership with the academics to design teaching that supports the students' research needs. Two of those librarians and two of the academics also emphasised the importance of resource-based learning, which involves practical learning activities using textual and electronic information sources.

Two partnerships are more focused on the process of developing information literacy. For example, online courses involving librarians as information coaches focus on teaching students how to learn, with the information literacy teaching arising out of the teaching program, which is delivered through Class Forum software. Librarians are provided with the entire course program and log into the Class Forum course site at least once daily to participate in class discussions and to see if any students need help. While individual students ask for specific help, the librarian's response can be shared with the whole class when this is appropriate. Activities described by the other partnership include librarians modelling a step-by-step process of conducting research for an assignment as part of a lecture, and then working with the students individually as they come to the library to do research for their assignments.

One partnership uses a team teaching approach, and two others occasionally teach as a team. But most librarians teach the students with the academic in attendance, supporting the teaching and participating minimally in discussions. The following answer to a question about what makes a successful teaching partnership sums up the comments of all the academics interviewed:

> A willingness to share power. It's a sharing, a whole team-teaching
>
> philosophy. I want to learn from this relationship, just as I want them to learn.

I don't know everything, and I never will. The day I stop, is the day I don't

want to do this any more. So I learn a lot from the librarians.

Two academics mentioned the importance of the students being involved in a three-

way learning partnership. One of these people said that each course is different from

the one before because, although the content doesn't change, the students have

different needs and these are addressed in conjunction with the librarian. The other

academic described how the students were involved in the planning and development

of a web site that became an information resource for their own research needs.

Innovation is a term that was frequently mentioned by both academics and librarians

in relation to teaching programmes and styles. In fact, all of the academics either said

they were interested in innovative teaching methods, or their partners described

innovative techniques that the academics used. Three librarians and four academics

from the three schools of study also referred to the importance of using a facilitative

teaching style, and moving from a top-down model to a partnership model. One

academic expressed this as a "need to empower people", and went on to say:

I'm not a sage on the stage kind of person. My success comes from getting

everybody to the winning post at the end. It's not a race, or a competition.

While questions are sometimes asked about librarians being recognised as teachers,

some of the librarians that were interviewed are qualified teachers and have been

employed to teach students and academics how to access and retrieve the information

they need. During the interviews, one academic stated:

They might not always call it that, but any library person who is involved in my classes is definitely teaching.

However, two librarians in the Education Library mentioned the difficulty of adjusting to someone else's teaching style, and one spoke about the challenge of teaching a class compared with working with individuals in the library. An academic in the School of Law reinforced this by saying that not all of the people in the library who have the skills and knowledge, and have demonstrated their one-on-one teaching ability, are keen to teach groups of students. These comments highlight the importance of subject liaison librarians having teaching qualifications, or undertaking courses such as the Certificate of Adult Teaching or the Diploma in Tertiary Teaching, and having an interest in group teaching.

Other problems that arose when talking with academics were the tendency for librarians to overload them and the students with unnecessary information, and the ineffectiveness of teaching generic skills to large groups of students. Two academics said it would be good to have information literacy developed, as students were ready to progress to the next stage. One suggested targeting a paper each year as the information literacy paper and incorporating a component that helps to develop students' information literacy. The other suggested an individualised programme for graduate students where they register with a librarian in the way that a patient registers with a doctor, and work with the librarian when they are ready for the next stage in the process of developing their information literacy. This programme was described as a "skills ladder" with the librarian keeping a record of what has been covered with each student.

4.5   Evaluating information literacy programmes

While academics were more involved in evaluating student learning than librarians, there was good corroboration between the partners when describing their evaluation methods. Academics and librarians working in the Faculty of Arts and Social Sciences and the School of Education favoured qualitative methods such as practical tasks and observation, assignments, course evaluations and application of skills in other courses. Law Librarians and academics in the School of Law used some of these methods, but appeared to be more focused on quantitative methods such as tests and surveys.

When the interviewees were asked what benefits the students get as a result of the work they do with their partners, five academics and two librarians, representing the three schools of study, said a very important benefit is that any negative preconceptions the students have of libraries and librarians are dispelled and that the students really learn the value of what the library has to offer. One academic said:

> The whole atmosphere in the [library] is one of supporting the students, and the students sense that. I think it comes from the leadership that [partner's name] gives, it really does. It just shows in the students, particularly Māori students and any other students who are a bit diffident. The [library] is home, home base. And that's wonderful.

Two librarians and one academic said they keep a log of collaborative activities, which includes evaluation details. Another academic recalled the benefits of keeping a reflective journal when co-teaching with a colleague, saying that it was a "total

collaborative process", that "had huge applications for their teaching", and that she'd like to try it with librarians.

Feedback during and after the teaching was the most commonly used method of evaluating what the librarians teach. Four librarians involved in the three schools of study spoke about how they meet with academics after the teaching to discuss what went well and where improvements could be made. A partner of one librarian validated this and said: "The rapport we have means that I get some very honest feedback".

Five librarians and one academic mentioned that they have received positive feedback from students and staff, and this was quite specific feedback in some instances, particularly from the online teaching. However, another academic voiced concern about the lack of time to explore the strengths and weaknesses of the programme, with the result that people are more inclined to give positive feedback than honest feedback that might offend. One librarian also expressed the need to communicate constructive feedback to academics in terms of course evaluation. As evaluation is closely related to planning, these findings highlight the need to schedule specific time slots within the teaching programme for those two important elements.

4.6   Initiating and developing partnerships

All of the partnerships investigated by this study were initiated by the academics, which contradict the findings of the literature review that such initiation is the responsibility of librarians. One academic had been a librarian, and the others had already experienced good working relationships with librarians and knew that a

librarian would be a valuable teaching partner. An academic in the School of Law, who initially sought help from librarians to develop her own knowledge, said:

> When I realised how good they were at communicating the information I needed, it was a very small jump from that to – why aren't you the one telling the students, with us, about this?

Another academic in the School of Education said that she actively seeks librarians who are risk takers and then cultivates them. This strategy was verified by a librarian, who worked in partnership with that academic, stating that she was "willing to look outside the role of the traditional librarian". Two librarians said that their working environments had allowed them the freedom to pursue their interests, and that this had enabled them to develop collaborative partnerships with academics.

The Deans in the School of Education and School of Law also played a role in the development of collaborative teaching between academics and librarians. A librarian working in the Education Library highlighted the fact that the Dean has praised the work of librarians, has invited them to school discussions, and has made a point of welcoming them when they attend school functions. A Law Librarian also said that the Dean has always been very encouraging and has provided funding for graduate assistants to help them with the technical aspects of collaborative teaching activities.

Three librarians spoke about their efforts to initiate partnerships by contacting academics and showing them what they would offer their students. They also mentioned proactive marketing strategies, such as developing acquaintances with

academics, finding out about their interests and research needs, helping them with their research, informing them about new resources related to their interests, attending departmental meetings and social events. Three librarians and three academics said that it is easier to establish a collaborative partnership when the partners already know each other and have a positive working relationship.

The academics were unanimous in saying that their partners in the library supported them beyond the teaching programme. Four academics and three librarians emphasised the benefits and enjoyment they gained from their collaborative partnerships, and also the holistic nature of those partnerships. One academic said:

> They're not just seeing me as [name] the academic. They're seeing [name] as a person with lots of interests.

The five interviewees associated with the School of Education referred to the benefits of working in the same building and having tea and lunch breaks together. This proximity increases the opportunity for collaborative partnerships to be initiated and developed. Academics also spoke about librarians putting new resources that they thought might be of interest into staff pigeon holes, and librarians said that academics often call into the library on their way to and from their offices down the hallway.

Two of the partnerships investigated by this study have written joint papers and made presentations together at conferences. The evolving nature of these partnerships was apparent and one librarian said that this made it difficult to describe how the partnership had been initiated and developed.

4.7 Sustaining the partnerships

Four academics representing the three schools and two librarians, including one partnership, said that the enthusiasm of their partners was an important factor in the continuation of their collaborative work. This is reflected in the following statement made by a librarian:

> She's such an exciting person to work with because she constantly brings in new ideas. And so we've thrived on the fact that she's been doing that.

And a male academic stated:

> She was quite enthusiastic about being involved in this course because it's new and is quite innovative. There's a whole series of things we're doing that haven't been done before. The librarians got enthusiastic about it, and that helped me to become enthusiastic about it.

Other elements mentioned by the partners that help to keep the collaboration going are like-mindedness, innovative tendencies and ongoing communication. Some interviewees said that although friendship is not a pre-requisite, it often develops as a result of the collaboration. In talking about compatibility and the importance of commitment by the individuals in the partnerships, one academic said:

> The other thing I realise is how much it is personal rather than institutional. It's taking place in an institution, but it is actually built up because of the working relationships of the individuals. I don't think you can say you have

the strategies in place, and they will work quite apart from the individuals.
They don't. The strategies are there as an example of what people can do.
But unless you're hitting it off, unless there's a time investment from both
sides, unless there's knowledge from both sides, a very successful series of
strategies might go by the board for some time if people aren't compatible, or
don't have the knowledge they need. That's a real problem. This happens
with changes in academic staff. But I think a change within the library is more
likely to affect the partnership. If the academic staff member goes off, the
librarian has a lot of strategies that they know have worked. But there's no
demand on them until another academic generates it or enquires about it. It
comes down to the willingness of library staff and their availability. I've been
incredibly lucky. I can't imagine teaching without it.

While some partnerships have been affected by staff changes, one partnership has
lasted 22 years. During this time, the partners have developed their collaborative
efforts from teaching bibliographic instruction as a course add-on, to teaching course-
integrated information literacy. They have made a conference presentation and
written a paper together, and have nurtured their partnership with small acts of
thoughtfulness, such as exchanging items from their pantries and gardens. The
reserve of good will and knowledge of each other that has been established means that
the time required for collaborative planning and preparation can be minimised.

4.8   Important behaviours for successful collaboration

Although all of the 13 behaviours that appeared in Schrage's study of successful
collaborations (see 1.3, and Appendix 2) were not identified by each of the

interviewees, all of these behaviours were referred to during the interviews. When

asked to select the three most important behaviours from the list of thirteen, only three

were not chosen by any of the interviewees. This corroboration with Shrage's

findings means that the theoretical framework is applicable to this study.

Table 2

The number of interviewees ranking the behaviour as one of three that are most important

Collaborative behaviours	Academics	Librarians	Totals
Competence for the task at hand by each member of the collaborative team	4	3	7
A shared, understood goal	7	6	13
Mutual respect, tolerance, and trust	5	4	9
Creation and manipulation of shared spaces	0	1	1
Multiple forms of representation	0	1	1
Playing with the representations	0	0	0
Continuous but not continual communication	2	4	6
Formal and informal environments	0	1	1
Clear lines of responsibility but no restrictive boundaries	1	1	2
Decisions do not have to be made by consensus	0	0	0
Physical presence is not necessary	1	0	1
Selective use of outsiders for complementary insights and information	1	0	1
Collaborations end	0	0	0

Table 2 shows that 10 of the behaviours are perceived as being important but there is

definite agreement between librarians and academics that the following four

behaviours are very important:

1. A shared, understood goal

2. Mutual respect, tolerance and trust

3. Competence for the task at hand by each member of the collaborative team

4. Continuous but not continual communication

Data gathered during the interviews reinforced these opinions and some interviewees

said that the four behaviours are interdependent because if the 1st, 3rd, and 4th, exist,

then the 2nd will be a natural consequence. This section will focus on those behaviours, in order of importance according to the data displayed in Table 2.

4.8.1 Shared, understood goals

All of the interviewees mentioned the benefits of having a shared goal and a few academics referred to the consequences of not sharing their goals with librarians. One academic said: "What librarians want students to know, and what academics want students to know, aren't always the same thing". Later in the interview, when asked: "What do you think are the most important ingredients for a successful teaching partnership?", the same person answered: "Knowing what you're trying to do and agreeing on it, so both parties are aware of it". Three academics emphasised the importance of both partners working towards the same goals and reinforcing the teaching, without worrying about whose role it is. These ideas are summed up in the following statement:

> Once you have shared goals, and each knows what the other can do, then I think what you get is good communication and collaboration towards meeting the goals. And nobody cares whose official job it really is. You just respect that some people are very, very good at things. So they should be contributing to the education of the students. There's a whole load of politics around that. What is an academic? What is a librarian?

The librarians echoed those ideas and there was excellent corroboration between the comments of the partners. Some said it is important to have a purposeful end goal that is agreed to by both partners, and to have commitment from both partners for

shared tasks. As well as talking with the academics about the learning goals, at least one librarian attends some lectures to gain a clearer understanding of what the students need to know, and in some cases the course notes and assignments are given to the librarians.

In two partnerships, the academic and librarian had the same goal of wanting to teach students how to access and use electronic resources before they began working together, and found that this helped the development of a collaborative partnership. One of these partnerships was also based on a shared goal arising from each person's interest in exploring new educational methods.

4.8.2   Mutual respect, tolerance, and trust

During the interviews, the partners in five of the six partnerships emphasised respect, tolerance and trust as being important ingredients in a collaborative partnership. One academic said that she appreciates the patience and tolerance exhibited by the librarians she works with, and another gave the following example when talking about the value of collaborative partnerships with librarians:

> They're not involved in marking or anything, but the feedback that they give is like this: "I was involved in research with the students and these are the parameters that were decided". That sort of feedback is absolutely critical, particularly if it's a new topic. It means that I can spend my half hour with the students in a more focused way because I know that they've already thought through some questions related to my teaching plan. This is where that mutual respect, tolerance and trust comes in. Because if you have that, you know that

when something useful happens about the topic, then they will share that with you.

All of the interviewees referred to the professional respect they either received from, or attributed to, each other. Academics recognise the professional skill of librarians, as well as their multi-subject knowledge and experience in working with students at all levels. They frequently mentioned the personal benefit they gain from attending sessions taught by the librarians. One academic said that she admires the fresh approaches and the questioning of things she takes for granted that are demonstrated by some librarians when teaching students how to problem solve and think critically when retrieving information. Librarians admire the knowledge the academics have of their subject discipline, as well as their excellent teaching skills and the rapport they have with their students. When talking about professional respect, one librarian said:

> Academics will only be convinced to work in partnership by obvious
> professionalism and enthusiasm.

Academics and librarians both spoke about the need to respect each other's expertise, and how that mutual respect resulted in students responding more positively towards librarians. One librarian mentioned that the academics introduce her to the students as a member of the teaching team, and another librarian spoke about the respect she received from academics when it was announced that she had completed a master's degree. She is convinced that the academic recognition of this qualification enabled her to develop a collaborative teaching partnership in which she had academic standing.

Librarians and academics working together in the School of Education spoke frequently about trust. One academic referred to the importance of trusting the person and the process so that both operate effectively, and went on to say that this trust includes librarians knowing that the academic will support them if problems arise. The librarians emphasised the need to develop trust and saw it as a continuum, where the more trust builds up, the stronger the partnership becomes.

One librarian said that a certain amount of trust was needed before she was invited to work with the academic's class, that trust has increased over time and is now shared, as new librarians are trusted on the basis of the trust already built between librarians and academics. This librarian also explained that if one of her colleagues was taking over some of the work that she had been doing, she would seek approval from the academics before saying that someone else would be working with them, and said: "Keeping that element of control within their realm is important to them".

4.8.3   Competence

While four academics and three librarians rated competence as one of the three most important behaviours in a collaborative partnership, all of the academics and six librarians spoke of its importance during the interviews. One academic described competent partnerships for teaching information literacy as follows:

> You need a good skill base, on both sides. I also think you need to be interested in the students, and really have a passion for helping them to develop their skills. You also have to be willing to let them do a bit of exploring and development themselves.

Some academics emphasised the need for their partners to effectively accomplish what they promise to do, and librarians spoke about their need to be competent if partnerships with academics are to succeed. Two librarians in the School of Education said that their teaching qualifications and experience were recognised by academics and that this had enabled them to work in collaborative partnerships, while one Law Librarian spoke about a time when a particular expertise was missing from their staff and they had to relinquish that aspect of their collaborative teaching.

Two academics mentioned the strengths that came with partners who had previously been students in their courses, one of which was delivered online. The academic in that partnership said it is very difficult to teach online without experiencing that kind of role reversal, and also spoke about the challenge of people being expected to teach in ways that they've never been taught themselves.

Academics and librarians referred to the competencies they develop through observing each other's expertise. Librarians improve their teaching skills by watching good teachers at work, and academics learn techniques for searching and accessing information alongside their students. Partners in the Schools of Education and Law also related how academics had either shared their teaching skills with librarians, or had run workshops on teaching techniques that librarians had attended.

4.8.4 Communication

During the interviews, six academics and all of the librarians emphasised the need for good communication. Some spoke about the importance of keeping in touch with each other, even if it was just saying hello or passing on information about new

resources. Others said that listening carefully to each other's ideas and being proactive about communication are strategies that promote the growth of trust and confidence between partners. One academic made the following statement that highlights the importance of communication in a teaching partnership:

> You've got to have the open sort of communication where the academics are willing to listen to the librarians when they talk about a particular approach, and maybe modifying it after that. There needs to be that kind of listening on both sides.

Librarians in the Education Library appreciate the fact that they share a tearoom with the academics, and say that this enables them to establish and maintain contact with academics during tea and lunch breaks. However, they emphasised the need to be proactive in communicating with academics, and that it needs to be more than just sitting around having cups of tea together. One librarian socialised frequently with academics and said that some of the most useful conversations took place at social events and university functions or over coffee at a campus cafe.

Most interviewees described a process of communication that includes an initial consultation to plan a teaching programme or lesson, followed by ongoing communication during and after the teaching. In some cases, this means more than one meeting as well as email messages before the teaching begins, to ensure that both parties are happy with the teaching plan. Feedback during or after the teaching sometimes results in changes to the programme. With the exception of one academic who teaches and collaborates online, all of the interviewees said that face-to-face

meetings, followed by email and telephone contact, was the most effective communication method. Online collaboration is managed through an area in Class Forum that is set up so that only the partners have access to it and can leave messages there for each other.

4.9 Challenges and problems

While some challenges and problems have already been mentioned, the following four were emphasised during the interviews:

4.9.1 Academic culture and negative attitudes

Two academics referred to academic culture when they spoke about "hierarchical status stuff", and "the politics surrounding what is an academic or a librarian". A librarian emphasised the importance of "librarians walking the academic walk when they work with academics", and explained that this meant librarians understanding the academic culture and adapting their language, the way they act, and the process they use to that of the academic world. Another librarian stated:

> Many academics are not prepared to give up course time or assessment to librarians.

A librarian and an academic in one partnership spoke about the jealousy and resentment they had received from some of their colleagues when they began teaching about, and with, information technology, which was a new medium at that time. The academic said that this made it a very lonely experience, and that she had experienced the same reaction with teachers in schools. When asked how this challenge was

overcome, the academic said: "I have to make sure I give them lots of positive reinforcement in more subtle kinds of ways." The librarian said that she thrived on the collaborative relationship because they were always moving ahead in their knowledge and experience of educational theory.

While the academics participating in this study are enthusiastic about developing students' information literacy and working collaboratively with librarians, lack of interest on the part of some academics is a challenge that was mentioned by one academic and two librarians. One librarian said: "Sometimes it can take years to convince academics about the benefits of what we can offer". An academic also mentioned that, while some of her colleagues work collaboratively with librarians and are committed to developing students' information literacy, the real challenge is to convince those who have already decided not to include these elements in their teaching programmes. This person suggested that a practical strategy for encouraging collaborative partnerships would be to arrange for new staff to meet with librarians to discuss their research and teaching needs.

4.9.2 Time

Time is a challenge that was emphasised by all the librarians and five academics. Both groups referred to the time constraints on librarians, and one librarian said that when she got busy she "backed out" of the collaboration and left the academic to it. In answer to the question: "What would make it easier for you to work collaboratively?", the academic in that partnership said:

> If the situation existed for library staff to voluntarily be part of this kind of approach. Also to be given the time to do it, and time to learn how to do it.

Two academics and two librarians referred to time constraints on academics. The academics emphasised the lack of time they have to keep up to date with information resources, and to collaborate effectively with librarians. However, an academic who is finding it increasingly difficult to spend time on planning and evaluating learning programmes with librarians emphasised the fact that everyone has the same amount of time in a day but some manage it better than others. One academic suspected she might not be giving the librarians sufficient time with the students, and some librarians reinforced this statement by saying how difficult it is to get sufficient time to run an effective number of teaching sessions. An academic in the Faculty of Arts and Social Sciences made the following observation:

> I'm sure I could teach a very good course with a couple of colleagues
> and a couple of librarians. But it would be a time commitment both
> here and in the library which would have to be negotiated, because it
> would bring a librarian, or librarians, in as co-teachers, and not simply
> collaborators. But that's a whole universe away from what is possible
> at present.

4.9.3   Resourcing information literacy programmes

Closely related to the challenge of time management is the problem of insufficient resourcing for new initiatives such as collaborative teaching partnerships. Five academics expressed concern about insufficient staffing or unrealistic expectations of what librarians can contribute. One academic in the Faculty of Arts and Social Sciences recommended that tasks undertaken by subject librarians be revised so that they have more time for collaborative teaching, and the librarian in that partnership

reinforced this suggestion by saying the number of subjects she was responsible for meant that she couldn't work effectively with all of them. Both academics in the School of Education said that librarians are expected to fit collaborative teaching activities into their existing workload, and that some do this in their own time. One librarian referred to these constraints by saying that information coaching needed to be carefully considered owing to the amount of time that it demands, and that the option of working from home would allow librarians to focus on this work without being distracted by other library duties. When asked what would make it easier to work collaboratively, an academic in the School of Law replied:

> Funding for staffing. Because I do believe in small group teaching, and I don't believe in innovation through exploitation. It would be a lot better if the innovation was resourced. That, I would definitely like to see.

In answer to the same question, an academic in the School of Education said:

> It needs to be valued and recognised as part of the job description. There's only so long that we can rely on enthusiasts and their goodwill to carry on.

Librarians who work with the three schools of study agreed with these concerns, by saying they are not resourced as teaching units and this means they have difficulty finding time for planning and evaluation, as well as finding enough teaching staff to meet the requests from academics.

Staff workload is a closely related issue and during the interviews it became apparent that both academics and librarians are under pressure to fit more into their work schedules. Some academics said they have difficulty managing their workload and are very aware of how busy librarians are. Librarians echoed these statements by outlining the current library projects they are involved in, plus their normal work commitments, and the fact that they sometimes rush from teaching to working on an information desk. This problem is expressed in the following reply from an academic to the question: "What are some of the challenges you've experienced when working in collaborative partnerships with librarians?"

> The main challenge I've referred to before, and that is workload. We got carried away with our enthusiasm for the collaboration to the point where the librarians were working awful hours, getting really stressed. And I was over here doing the same thing.

Many of the interviewees mentioned the excitement of doing new and wonderful things and the enjoyment they experienced through working in a collaborative partnership but some said that the cost was unhealthy in terms of their workload. One academic has decided to manage this by recycling some assignments that have worked particularly well rather than constantly implementing innovative ideas. Another partnership has agreed to be less ambitious and although they know that this means scaling back and providing less of a service to students, they have been forced to be more realistic about what they can do. When asked if it would be useful to keep a log of collaborative activities, one academic replied:

It would be especially useful if we were to seriously argue for more resourcing, and make a very loud noise about things such as collaboration.

4.9.4   Lack of information literacy policy

Three academics in the School of Law and the Faculty of Arts and Social Sciences expressed concern at the present ad-hoc system of teaching partnerships between academics and librarians that is difficult for new staff to enter, or to even know about. The following statement by an academic outlines the present system:

It was very much a course and librarians' initiative. The school wasn't interested in formulating policy through all the courses.

This person referred to the problem of other courses seeing the same need, and the resulting heavy workload for librarians "swamped by their own popularity and success". Two other academics spoke of the difficulty in not knowing how many of their colleagues are seeking to use librarians' time, as they're all negotiating individually, and one academic stated that it would be beneficial to develop some sort of policy between the Library and the School of Law. Two academics in the School of Law also said that it would be very useful, institutionally, for them to keep a log of collaborative activities so that new staff could refer to it and see what had been done before. One of these people said that there had been considerable staff turnover in both the School of Law and the Law Library during the last 10 years, and that the few staff members who have remained throughout that period hold the only institutional memory of the collaborative teaching that has occurred.

Academics in the three schools of study said they have spoken with the University Librarian and know that she supports the concept of information literacy but they are dubious about how much support the librarians working in their partnerships actually receive. One academic said:

> There's not real recognition that I observe, within the library structure, that is promoting this kind of collaborative behaviour. It would be good to have something that's supported from the top and encouraged, because there are a lot of people that are interested. But they're only going to be really interested if they know what it involves, what they're going to have to do, what's in it for them, and who's going to support them. And if they're not going to get that, they're going to take the easy road and not do it.

The librarian who worked with that academic reinforced this statement by saying that having the support of the library would have made it easier for them to work collaboratively. These comments, combined with the concerns about the uncertainty of what is available in the present ad-hoc system and a desire for meaningful, structured programmes, indicate a readiness among the academics participating in this study to establish formal information literacy programmes.

5.   Discussion

When considering how the results meet the objectives of this study, it must be remembered that the research sample was limited to seven librarians and seven academics who are very interested in, and supportive of, the research topic. However, while this means that the results cannot be generalised, some themes, such as important elements that exist in successful collaborative partnerships, are not affected by such a focused research sample and could be applied in other settings.

5.1   Important elements of collaborative teaching partnerships

This study investigated the dynamics of collaborative teaching partnerships through a combination of closed and open questions based on a theoretical framework (see Appendix 4) that was found in a study of successful collaboration (Schrage 1990, 151-163). When the answers to open questions were compared with the data resulting from question 19 (see Appendix 4), the following four behaviours were found to be essential for successful collaborative partnerships:

- A shared, understood goal

- Mutual respect, tolerance, and trust

- Competence for the task at hand by each of the partners

- Effective communication

The importance of teaching partners establishing shared goals was also emphasised in some of the documented programmes (Avery, De Joy & McQuiston 2001, Dorner, Taylor & Hodson-Carlton 2001, Hughes 1998), and the remaining three behaviours were consistently mentioned in the literature.

Like-mindedness, commitment, enthusiasm and innovation are other important elements that were identified by this study. Librarians and academics agreed that it is important for people to have established a good working relationship before attempting to develop a collaborative partnership. Wade Kotter also identified this pre-requisite (Kotter 1999), and the literature repeatedly urges librarians to identify and work with academics who value information literacy or who use resource-based learning methods (Breivik 2000, Hartzell 1999, Hughes 1998, Iannuzzi 1998).

5.2   Initiating, developing, and sustaining the partnerships

The research revealed a range of strategies for initiating and establishing collaborative partnerships. Proactive marketing by librarians of their teaching and academic qualifications and of how they can assist academics with their research and teaching, as well as the proactive actions of academics who convince librarians to work with them, were found to be the most common strategies for initiating partnerships. This study also found that the holistic nature of some partnerships, where librarians support the research interests and wider needs of their academic partners, enhances the development and sustainability of collaborative partnerships. These findings agreed with the literature, as the identified strategies were recommended as methods for intiating teaching partnerships and information literacy programmes from the grass roots level (Hardesty et al 1993, Hartzell 1999, Iannuzzi 1998, Leckie & Fullerton 1999, Moore 2000). In regard to librarians promoting their qualifications, June Laird said that the academic achievements of librarians are not always recognised, and emphasised the importance of librarians making their research projects known within their institutions (Laird 2000).

Although the librarians involved in this study actively market themselves as a valuable resource, the teaching partnerships were actually initiated by the academics. Further analysis of the data revealed that the librarians and academics accept that this is the role of academics and that, while librarians have strong liaison responsibilities, their role in the collaborative partnership is mainly to develop and sustain the partnership. This reasoning is probably due to the fact that academics control the teaching programmes but, as this study is very focused, it would be worth investigating the experiences and opinions of a larger group of librarians and academics.

5.3   Understanding information literacy

The participants in this study were found to be on a continuum of understanding about the theory of information literacy, and it appeared that the librarians and academics with the clearest understanding have either studied the topic, are interested in educational theory, or they use the term literacy in other contexts and have consequently developed a context for the term information literacy. Some interviewees demonstrated their understanding by emphasising the process of information literacy development rather than bibliographic instruction. Understanding was also evident in the comments made by most academics and some librarians who described their facilitative teaching style and innovative teaching methods that promote student-centred learning. These teaching methods were identified in the literature as being characteristic of effective information literacy programmes. In addition, an academic participating in this study said that the importance of information literacy is permeating the academic culture at present, including the professional literature.

At the other end of the continuum, a few academics and over half of the librarians were more focused on bibliographic instruction. This finding is consistent with the results of research conducted with librarians in New Zealand tertiary libraries, where librarians were found to have mixed understandings of information literacy theory (Julien 1998). Although one partnership investigated by this study has lasted for 22 years and the partners can see how user education has evolved into learning programmes that develop students' information literacy, the greatest difficulty for librarians in both studies appears to be in understanding the difference between information literacy and user education. Therefore, research into how these terms relate to each other and how students' information literacy is developed would be useful in terms of increasing the understanding of librarians.

5.4   Perceived teaching responsibilities

Differences in understanding information literacy theory affect the perceived responsibilities of librarians and academics for teaching the various aspects of information literacy, and have a resulting impact on the teaching programmes. The results indicate that most of the academics and a few of the librarians involved in this study see the development of students' information literacy running parallel to discipline specific teaching, and see the teaching of most aspects of information literacy as being the shared responsibility of academics and librarians. This could be described as a holistic view or a process approach. However, most of the librarians and a few academics appear to see information literacy as a discipline in itself and the responsibility for teaching many of the aspects as lying primarily with either academics or librarians, depending on whether, in their opinion, the aspects relate to

the subject discipline or to bibliographic instruction. This view is more fragmented and, unless carefully monitored, could lead to some aspects being neglected.

It is easy to jump to the conclusion that the differing views are attributable to the interviewees' levels of understanding about information literacy theory but other reasons are possible. The perceptions of many librarians may be partly due to the fact that bibliographic instruction is the librarians' area of expertise or discipline and, as it incorporates some elements of information literacy, they see their responsibility remaining with those elements. Subject disciplines on the other hand are very specific and, from an academic perspective, information literacy is a generic process that can be applied across all of the disciplines. The literature suggests that as academics are already under pressure to impart subject specific knowledge, they look to librarians for help in developing students' information literacy (Breivik 2000, Hughes 1998, Leckie & Fullerton 1999, Radomski 2000).

The status of librarians in universities and, in this particular study, the status of librarians at the University of Waikato, is another possible reason for the differing opinions. Comments made by librarians during the interviews revealed that they are very aware of the boundaries that exist between the generalist knowledge that is expected of them and the discipline-specific knowledge of the academics they work with. One academic referred to the politics surrounding the status of librarians, and one librarian mentioned the academic recognition she received when academics heard of her academic qualifications. These findings are in line with other research, which also found that the status of librarians on campus is a barrier to the development of collaborative teaching partnerships between academics and librarians (Hardesty 1995,

Ivey 1994). While this study did not research the perceived status of librarians on the university campus or the views of the library or university hierarchy regarding collaborative teaching partnerships between librarians and academics, these issues would be worthy of further investigation, especially if formal information literacy programmes are to be developed.

Whatever the reason, the differences in understanding, and the differing perceptions of librarians and academics about the related teaching responsibilities, indicate the possibility of miscommunication between the partners and the risk of gaps in the teaching programmes. An example of this potential problem is shown in Table 1 (see 4.2) where most of the librarians perceive that teaching students how to evaluate information; how to organise information for practical application; and how to integrate new information into an existing body of knowledge is mainly the responsibility of academics, while most academics said they have equal responsibility with librarians for teaching these three attributes. During the interviews, one academic expressed concern about the possibility of this kind of problem if the teaching partners have responsibility for teaching different elements of information literacy.

These findings highlight the importance of the partners in collaborative teaching partnerships having a shared understanding of information literacy theory and their associated teaching responsibilities. One method of developing these shared understandings would be for the library to work in conjunction with the schools of study to establish information literacy policies that include a definition and teaching guidelines. Some academics involved in this study recommended the development of

information literacy policies, and that strategy was identified in the literature as a way of developing a campus-wide awareness of information literacy (Bruce 2001, Haycock 2000, Iannuzzi 1998).

5.5 Roles in planning, teaching, and evaluating learning programmes

The research found that librarians are not involved in designing courses but are responsible for planning the information access and retrieval aspects of learning programmes, and that the amount of collaborative planning, teaching, and evaluating that occurs when these two aspects are brought together depends on factors specific to each partnership.

While most librarians are totally responsible for planning what they teach, they collaborate with the academics after the initial planning to fine-tune the teaching programmes. However, the depth of collaboration varies, and the interview data revealed some problems that can arise from insufficient collaborative planning. An example, which is also referred to in the literature, is librarians being allocated insufficient time to teach what they think the academics want them to cover. Another, possibly related, is when librarians overwhelm students with unnecessary information. The latter problem could also relate to the librarians' lack of knowledge about information literacy and learning theory, and a tendency to adopt the lecture model of imparting discipline-specific knowledge, in this case bibliographic instruction.

The ad hoc nature of most programmes investigated by this study is typical of the grass roots approach that is frequently reported in the literature, where individuals have initiated teaching partnerships and information literacy programmes. The results

showed that the teaching roles of librarians and academics have changed as the programmes have evolved, as their understanding of information literacy has developed, and as innovative ideas and teaching methods continue to be explored and experimented with.

Some librarians teach a class in an ongoing way, throughout a semester with a mixture of group teaching and individual point-of-need teaching. Some teach a block of sessions designed to increase the information literacy of first year students, and others teach one or a few lessons in conjunction with a particular assignment. While the teaching role of most librarians focuses on the access and retrieval of information, the learning programmes are integrated into the course content and incorporate hands-on learning with the use of information resources in the library, in computer labs, or online. These methods of integrating library instruction and elements of information literacy into existing teaching programmes are recommended in the literature as they are purposeful, avoid any curricular or political issues and also allow for flexibility (Farber 1993, Macklin 2001).

During the interviews, some academics advocated the development of formalised, structured programmes, which agrees with the findings of other research (Donnelly 1998, 2). One academic suggested establishing an individualised programme where students could sign on with a librarian and receive instruction at an appropriate level, and is available as the students need to move on in their information literacy development. Such research mentoring programmes are operating at Deakin University (Macauley 2001) and Pennsylvania State University (Moyo & Robinson 2001). Another academic recommended implementing a systematic method of

developing students' information literacy over the four years of a bachelor degree by targeting a paper each year as the information literacy paper, which is a similar idea to the system of linked courses at the University of Washington (Wilson 2001).

Closely related to the need for collaborative planning is the need to assess students' needs and learning and to collaboratively evaluate the effectiveness of information literacy programmes. This study found that the evaluation of learning programmes is mainly the role of academics and, although the results provide some examples of assessing students' learning, there is no evidence of assessing their information literacy needs. The findings also show that collaborative evaluation is inconsistent and that this sometimes results in miscommunication, which can lead to ineffective teaching. Information literacy programmes reported in the literature also lack details about how students' information literacy needs are assessed and how the effectiveness of the programmes is evaluated. Some reasons given for this are the developmental or evolving nature of the programmes (Moyo and Robinson 2001), funding and a lack of research in information literacy (Laird 2000). However, if a case is to be made for collaborative teaching partnerships between librarians and academics, and the development of information literacy programmes, evidence of how these partnerships and programmes can increase students' information literacy is crucial.

5.6   Challenges or problems

An over-riding concern revealed by the research is the problem of insufficient resourcing to develop collaborative partnerships and effective information literacy programmes. Although the research sample was very focused, many of the academics mentioned that some of their colleagues are also interested in working with librarians

to develop students' information literacy, so there is obviously a demand for librarians to be involved in collaborative teaching partnerships within the three schools of study that were investigated. However, while two academics mentioned their own unmanageable workloads, the major concern of six academics was the workload of the librarians they work with. This problem was confirmed in the comments of librarians and was also consistent with findings in the literature (Laird 2000, Radomski 1999).

When the results of this study are considered in conjunction with information arising from the literature, some reasons for the workload issue become apparent. The development of information literacy programmes from the grass roots level has meant that the partners attempt to incorporate collaborative planning, teaching and evaluation, as well as the development of their partnerships, into their existing workloads. In addition, the innovative tendency of the academics and librarians involved in these partnerships has resulted in increased workloads, as they continually incorporate new ideas into student learning programmes. One academic spoke of librarians becoming "swamped by their own popularity and success". This problem is also mentioned in the literature when the response is greater than the available mentoring resources (Moyo and Robinson 2001).

Some solutions to this problem were suggested during the interviews. The academics who are experiencing workload pressures said they have been forced to set more realistic goals and are curbing their tendency to implement new and ambitious ideas. Most of the interviewees said that librarians needed more support from the library in terms of their changing role, and the study found that some subject liaison librarians

are attempting to change the focus of their instruction from user education to developing students' information literacy within the scope of their original job descriptions. Research into the differences between user education and information literacy that also investigates the associated teaching implications would help to determine the changes necessary to enable librarians and academics to develop successful collaborative partnerships and effective information literacy programmes.

Another resourcing issue that came out in the interviews, and was also raised in the literature, is the need for librarians with teaching qualifications and experience. While some subject liaison librarians do have these qualifications and experience, many were employed on the basis of their library qualifications and experience, as well as their subject knowledge. Julien (1998) found that when librarians are expected to change their working role to include teaching groups of students, they often experience confusion and anxiety, and similar findings appeared in this study. One academic who had received excellent one-on-one teaching from a librarian, was disappointed when the same person was reluctant to teach a group of students. Another example came from a librarian who spoke about the uncertainty she had felt about standing in front of a class to teach what she usually taught students one-on-one in the library.

The nature of information literacy development and the strong emphasis on teaching and learning theory means that skilled staff are needed, particularly when teaching groups of students. Laird pointed out that while other university disciplines can use senior students or graduates to take tutorials, this is not possible in the case of information literacy (Laird 2000). In terms of managing this problem, a range of

professional development opportunities was mentioned during the interviews, from working alongside excellent teachers and attending workshops on teaching techniques, to obtaining qualifications in tertiary or adult teaching. The issue of professional development for both librarians and faculty was also raised in the literature and initiatives such as shared training opportunities were recommended. At Queensland University of Technology Library, they have gone a step further and developed their own teacher training programme for librarians involved in teaching information literacy (Peacock 2000). This issue has major implications for libraries and providers of library and information studies courses in terms of professional development.

A concern of academics in the three schools of study, which has arisen due to the need for information literacy programmemes to be adequately resourced in terms of time and staffing, is the need for information literacy policies to be developed. This is an interesting issue as it demonstrates a move from the grass roots approach, which currently exists and is outlined in the literature review, to the second strategy mentioned in the literature review, where the support of senior administrators is enlisted. It is possible that, depending on the scope of the policies developed, the current situation could be completely inverted and exchanged for the top down approach also described in the literature review. The University of Waikato has already developed a set of six bachelors' graduate profiles, with lists of attributes to be gained in each of the bachelor degrees (University of Waikato 1998), and cases are cited in the literature review where policies and graduate profiles or standards have been used to drive the development of campus-wide information literacy programmes (Bruce 2001, Haycock 2000, Iannuzzi 1998, Radomski 1999, Rigmor et al 2000, Wright &McGurk 1995).

6.   Conclusions

Although the results of this study cannot be generalised, some conditions were identified that are necessary for the development of collaborative teaching partnerships between librarians and academics and for the development of effective information literacy programmes.

A shared understanding of information literacy theory and the associated teaching responsibilities by university and library management, and by the teaching partners, is essential to adequately resource the programmes. This understanding would have an impact on staff training and recruitment, and may involve the development of information policy. As far as the teaching partners are concerned, this shared understanding would result in competence and shared goals regarding the teaching of information literacy, which are also essential factors for successful collaboration.

Also important, is recognition by university and library management that librarians involved in these collaborative partnerships are teachers with expertise in library science and information literacy. It is expected that this recognition would be reflected in adjustment of workloads and job descriptions, and in teaching units that are allocated appropriate resourcing to allow for the development of collaborative partnerships and effective learning programmes. Such recognition, combined with the shared understanding would lead to mutual respect between the partners, which was identified as another essential element of successful collaborative partnerships.

Positive working relationships and ongoing communication between the teaching partners are also essential conditions for collaborative partnerships and effective

learning programmes. This study found that communication is particularly important during the planning and evaluation of teaching programmes and that, while email and phone contact are easier to maintain, regular face-to-face communication is needed.

The assessment of students' information literacy and the evaluation of teaching programmes are crucial to the planning and teaching of effective information literacy programmes. The research found that this area has been neglected and that it must be addressed if the development of collaborative teaching partnerships and information literacy programmes are to be seriously considered by all of the stakeholders.

The need for this study arose from a lack of information available in the literature about how information literacy programmes operate, and how collaborative teaching partnerships between librarians and academics are initiated, developed and sustained. However, the research found that information literacy programmes are constantly evolving, that the librarians and academics involved in those programmes have heavy workloads, and that "information literacy research is still in its infancy" (Bruce 2000). So it is not surprising that little detail about the operation of partnerships and programmes is published. It is also likely that some of the programmes investigated by this research have moved on since the study took place. Therefore, this study is like a snapshot in time of how some academics and librarians have worked in partnership to develop students' information literacy, which also provides insight into how successful collaborative partnerships can be initiated, developed and sustained, and identifies some essential conditions for the development of effective information literacy programmes.

7. Recommendations for further research

As there is a lack of understanding about the difference between user education, and information literacy development, and also about the resourcing needs of teaching programmes that effectively develop students' information literacy, it is recommended that research is conducted to investigate the following questions:

1. How do user education and bibliographic instruction relate to information literacy?

2. How do user education programmes and information literacy programmes differ?

3. How do the resourcing needs of these programmes differ?

Research into how the status of librarians affects the development of collaborative partnerships between academics and librarians, and the establishment and operation of information literacy programmes, has been identified as worthy of investigation, as this issue appeared to have a restraining effect on some of the teaching partnerships investigated by this study. The status of librarians in universities was also identified in the literature as a barrier to the development of collaborative partnerships.

Justification for developing information literacy programmes, may be dependent on proving the benefits of these programmes. Therefore, it is very important that further research is conducted into methods of assessing students' information literacy, and evaluating the effectiveness of information literacy programmes.

This study was conducted with a very focused research sample, so it would be worth comparing the findings regarding the perceived roles of librarians and academics for initiating, developing and sustaining effective collaborative teaching partnerships with a large, unfocused sample.

Bibliography

Avery, Susan, Nancy DeJoy, and Virginia McQuiston. 2001. Creating a successful faculty-librarian partnership for first-year students: Librarian's perspective, faculty's perspective. In *Library user education: powerful learning, powerful partnerships*, ed. Barbara I. Dewey, 82-89. Lanham, Maryland: Scarecrow.

Baker, Robert K. 1997. Faculty perceptions towards student library use in a large urban community college. *The Journal of Academic Librarianship* May: 177-182.

Breivik, Patricia Senn. 1998. *Student learning in the information age.* Phoenix, Arizona: Oryx Press.

Breivik, Patricia Senn. 2000. Information literacy and lifelong learning: The magical partnership. In *Lifelong Learning Conference, papers for the inaugural International Lifelong Learning Conference.* Yeppoon, Queensland, Australia, July 17-19 2000: 1-6.

Brewer, Chris. 2000. Integrating information literacy into the curriculum: Longitudinal study of an information literacy program at the University of Wollongong. In *Concept, challenge, conundrum: from library skills to information literacy, proceedings of the fourth national information conference conducted by the University of South Australia Library and the Australian Library and Information Association Information Literacy Special Interest Group,*

December 3-5 1999, ed Di Booker, 66-75. Adelaide: University of South Australia Library.

Bruce, Christine. 2000. Information literacy programs and research: An international review. *The Australian Library Journal* 49 (3): 209-218.

Bruce, Christine. 2001. Faculty-librarian partnerships in Australian higher education: Critical dimensions. *Reference Services Review* 29 (2): 106-116.

Bruce, Christine, and Philip Candy. 2000. Information literacy programs: People, politics and potential. In *Information literacy around the world: Advances in programs and research*, eds. Christine Bruce and Philip Candy, 3-10. Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University.

Campbell, Nola, Clive McGhee, and Russell Yates. 2000. It is not out with the old and in with the new: The challenge to adapt to online learning. Presented at the *International Distance Education and Open Learning Conference*, University of South Australia. [Accessed from http://www.com.unisa.edu.au/cccc/papers/non_refereed/campbell.htm 28 Sept 2001.]

Cannon, Anita. 1994. Faculty survey on library research instruction. *RQ* 33 (4): 524-541.

Donnelly, Kimberley M. 1998. Learning from the teaching librarians. *American Libraries* 29 (11): 47. [Accessed from EBSCO Academic Search Elite 30 April 2002: 1-3.]

Dorner, Jennifer L., Susan E. Taylor, and Kay Hodson-Carlton. 2001. Faculty-librarian collaboration for nursing information literacy: A tiered approach. *Reference Services Review* 29 (2): 132-141.

Doyle, Christina. 1992. Outcome measures for information literacy within the national education goals of 1990. *Final Report to the National Forum on Information Literacy.* Summary of Findings.

Dunbar, H. Minnie King, Valerie Edwards, and Suzanne Stemler. 2001. Students as co-partners for information literacy: A modest proposal. Presented at *ACRL Tenth National Conference.* Denver, Colorado, March 15-18, 2001.

Farber, Evan. 1993. Bibliographic instruction at Earlham College. In *Bibliographic instruction in practice: A tribute to the legacy of Evan Ira Farber*, ed. Larry Hardesty, 1-26. Ann Arbor, Michigan: Pierian Press.

Fister, Barabara. 1992. The research processes of undergraduate students. *Journal of Academic Librarianship* 18 (3): 163-169. [Accessed from EBSCO Academic Search Elite 28 September 2001: 1-13.]

Genoni, Paul, and Jan Partridge. 2000. Personal research information management: Information literacy and the research student. In *Information literacy around the world: Advances in programs and research*, eds. Christine Bruce and Philip Candy, 223-235. Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University.

Gorman, G.E. & Peter Clayton. 1997. *Qualitatitve research for the information professional: A practical handbook.* London: Library Association Publishing.

Hardesty, Larry, ed. 1993. *Bibliographic instruction in practice: A tribute to the legacy of Evan Ira Farber*, v-ix. Ann Arbor, Michigan: Pierian Press.

Hardesty, Larry, David Henderson, Bill Winston, and Sandra Harris. 1993. Working with the classroom faculty: A panel discussion. In *Bibliographic instruction in practice: A tribute to the legacy of Evan Ira Farber*, ed. Larry Hardesty, 107-114. Ann Arbor, Michigan: Pierian Press.

Hardesty, Larry. 1995. Faculty culture and bibliographic instruction: An exploratory analysis. *Library Trends* 44 (Fall): 339-367.

Hartzell, Gary N. 1999. Indirect advocacy. *Book Report* 18 (1): 8-13. [Accessed from EBSCO Academic Search Elite 25 September 2000: 1-8.]

Haycock, Ken. 2000. What all librarians can learn from teacher librarians: Information literacy a key connector for libraries. In *Concept, challenge,*

conundrum: From library skills to information literacy, proceedings of the fourth national information conference conducted by the University of South Australia Library and the Australian Library and Information Association Information Literacy Special Interest Group, December 3-5 1999, ed Di Booker, 15-24. Adelaide: University of South Australia Library.

Hughes, Carol Ann. 1998. "Facework": A new role for the next generation of library-based information technology centers. *Library Hi Tech* 16 (3): 27-35. [Accessed from http://www.emerald-library.com 18 August 2001.]

Iannuzzi, Patricia. 1998. Faculty development and information literacy: Establishing campus partnerships. *Reference Services Review* Fall/Winter: 97-102, 116.

Ivey, Robert T. 1994. Teaching faculty perceptions of academic librarians at Memphis State University. *College & Research Libraries* 55(Jan): 69-82.

Julien, Heidi. 1998. User education in New Zealand tertiary libraries: An international comparison. *The Journal of Academic Librarianship* July: 304-313.

Julien, Heidi. 2000. Information literacy instruction in Canadian libraries: Longitudinal trends and international comparisons. *College & Research Libraries* 61 (Nov): 510-523.

Karelse, Cathy-Mae. 2000. INFOLIT: A South African experience of promoting quality education. In *Information literacy around the world: Advances in*

programs and research, eds. Christine Bruce and Philip Candy, 37-50. Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University.

Kotter, Wade R. 1999. Bridging the great divide: Improving relations between librarians and classroom faculty. *The Journal of Academic Librarianship* 25 (4): 294-303.

Kreiser, Latane C., and John Hortin. 1993. Research of the curriculum integrated library program. *International Journal of Instructional Media* 20 (4): 361-372. [Accessed from EBSCO Academic Search Elite 3 December 2001: 1-9.]

Kuhlthau, Carol. 1999. Collaboration in the learning process: Challenges for librarians in the information age university. *Library Hi Tech News* 16 (12). [Accessed from Emerald Fulltext 23 November 2001: 1-6.]

Kvale, Steinar. 1996. *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, California: Sage Publications.

Laird, June. 2000. Lincoln University Library's information studies programme. Presented at the *COMLA Seminar User Education for User Empowerment*. Christchurch, New Zealand, October 2000.

Leckie, Gloria, and Anne Fullerton. 1999. Information literacy in science and engineering undergraduate education: Faculty attitudes and pedagogical practices. *College & Research Libraries* 60 (Jan): 9-29.

Macauley, Peter. 2001. *The higher degree by research project.* Geelong: Deakin University. [Accessed from http://www.deakin.edu.au/library/hdrpilot.html 10 December 2001: 1-3.]

Macklin, Alexius Smith. 2001. Integrating information literacy using problem-based learning. *Reference Services Review* 29 (4): 306-314. [Accessed from Emerald Fulltext 30 March 2002: 1-8.]

Maykut, Pamela, and Richard Morehouse. 1994. *Beginning qualitative research: A philosophic and practical guide.* London: Falmer Press.

Miles, Matthew B., and A. Michael Huberman. 1994. *Qualitative data analysis.* Thousand Oaks, California: Sage Publications.

Moore, Ivan. 1997. Graduate standards. *The New Academic* Summer: 2-4.

Moore, Penny. 2000. It's not the tool that works – it's how it's applied. *Library Life* 245 (May): 1-3.

Moyo, Lesley, and Ashley Robinson. 2001. Beyond research guidance: The Gateway Library Research Mentoring Program. *Library Management* 22 (8-9): 343-350. [Accessed from Emerald Fulltext 30 March 2002: 1-9.]

Peacock, Judith. 2000. From trainers to educators: Librarians and the challenge of change. In *Concept, challenge, conundrum: From library skills to information*

literacy, proceedings of the fourth national information conference conducted by the University of South Australia Library and the Australian Library and Information Association Information Literacy Special Interest Group, December 3-5 1999, ed Di Booker, 182-192. Adelaide: University of South Australia Library.

Perrone, Vye Gower. 2000. The changing role of librarians and the online learning environment. Presented at the *International Distance Education and Open Learning Conference*, University of South Australia. [Accessed from http://www.com.unisa.edu.au/cccc/papers/refereed/paper34/Paper34-1.htm 28 Sept 2001.]

Powell, Ronald R. 1997. *Basic research methods for librarians*. Greenwich, Connecticut: Ablex Publishing Corporation.

Rader, Hannelore B. 1999. Faculty-librarian collaboration in building the curriculum for the millennium: The US experience. *IFLA Journal* 25 (4): 209-213.

Radomski, Natalie. 1999. *Implementing information literacy: Themes, issues & future directions*. Ballarat, Australia: University of Ballarat.

Radomski, Natalie. 2000. Framing information literacy: the University of Ballarat experience. In *Information literacy around the world: Advances in programs and research*, eds. Christine Bruce and Philip Candy, 68-81. Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University.

Rigmor, George, Holly McCausland, Dale Wachem, and Irene Doskatch. 2000. Information literacy: An institution-wide strategy. In *Lifelong Learning Conference, papers for the inaugural International Lifelong Learning Conference*. Yeppoon, Queensland, Australia, July 17-19 2000: 181-187.

Schrage, Michael. 1990. *Shared minds: The new technologies of collaboration*. New York: Random House.

Stone, Lynley, Jane Arlidge, Elizabeth Jones, Lisa Tocker, Liz Probert, and Peter Hughes. 2000. User education and information literacy in New Zealand: A country paper. Presented at the *COMLA Seminar User Education for User Empowerment*. Christchurch, New Zealand, October 2000.

Thompson, Gordon W. 1993. Faculty recalcitrance about bibliographic instruction. In *Bibliographic instruction in practice: A tribute to the legacy of Evan Ira Farber*, ed. Larry Hardesty, 103-105. Ann Arbor, Michigan: Pierian Press.

University of Waikato. 1998. *The University of Waikato Bachelors Graduate Profiles*.

Waikato Information Literacy Project Team. 1999. *Information literacy: Report of the Library Information Literacy Project Team*. The University of Waikato.

White, Sue, and Jane Long. 2000. The information literacy agenda in Australian universities: Priorities for the new century. Presented at the *COMLA Seminar*

User Education for User Empowerment. Christchurch, New Zealand, October 2000.

Wilson, Lizabeth A. 2001. Information literacy: Fluency across and beyond the university. In *Library user education: Powerful learning, powerful partnerships*, ed. Barbara I. Dewey, 1-17. Lanham, Maryland: Scarecrow Press.

Wright, Lynne, and Catriona McGurk. 1995. Curriculum based information literacy skills for first year undergraduate students. In *The learning link: Information literacy in practice*, ed. Di Booker, 136-156. Blackwood, South Australia: Auslib Press.

Wright, Lynne, and Catriona McGurk. 2000. Integrating information literacy: University of Wollongong experience. In *Information literacy around the world: Advances in programs and research*, eds. Christine Bruce and Philip Candy, 83-97. Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University.

Yang, Zheng Ye (Lan). 2000. University faculty's perception of a library liaison program: A case study. *The Journal of Academic Librarianship* 26 (2): 124-128.

Young, Rosemary M., and Stephena Harmony. 1999. *Working with faculty to design undergraduate information literacy programs: A how-to-do-it manual for librarians.* New York: Neal-Schuman.

Appendix 1   List of programmes identified in the literature

Institution-wide programmes:

- California State University, San Marcos (Breivik 1998)

- Curtin University of Technology, Western Australia (White & Long 2000)

- Florida International University (Iannuzzi 1998,

  http://www.fiu.edu/~libraryili/ilibroc.html)

- Queensland University of Technology (Peacock 2000)

- University of Ballarat (Bruce 2001, Radomsky 2000)

- University of South Australia (Rigmor et al 2000)

- University of Washington, Seattle (Breivik 1998,

  http://www.washington.edu/uwired/)

Programmes that are integrated into academic units or into single courses:

- Ball State University, Oregon (Dorner, Taylor & Hodson-Carlton 2001)

- Earlham College (Farber 1993, Hardesty 1993, Hardesty et al 1993)

- Lincoln University, Christchurch (Laird 2000)

- Pennsylvania State University (Moyo & Robinson 2001)

- University of Iowa (Hughes 1998, http://twist.lib.uiowa.edu/about/)

- The University of Waikato (Perrone 2000)

- University of Wollongong (Wright & McGurk 1995, Bruce 2001).

Appendix 2   Letter to interviewees

[Date]

Dear [name]

Thank you for agreeing to be interviewed at [time] on [date] as a participant in a research project that is investigating the collaborative partnerships between librarians and academics who work together to develop students' information literacy. I have enclosed the questions that will be covered, as well as a consent form which I would like you to fill in and either return to me through the internal mail or have ready when I come to interview you.

The main purpose of the interview is to find out how the partnerships were initiated and developed, as well as the challenges or problems that were experienced and how these were managed. It is hoped that the results of this study will help people to improve their existing partnerships and will provide insight for people who wish to establish information literacy programmes or effective liaison between librarians and academics.

The research project is part of my study at Victoria University of Wellington towards the Master of Library and Information Studies (MLIS), and is also a planning tool to improve the University of Waikato Library's service to academic staff and students. My supervisor is Dr Penny Moore, an Educational Research Consultant in Wellington. She can be contacted by email (H&PMoore@xtra.co.nz), by phone (04 938 8060), or by fax (04 972 8061). The project report will be deposited at the library of Victoria University of Wellington, and a copy of the report will be available at the University of Waikato Library. The project findings may be published in professional journals or disseminated at professional conferences.

The project complies with Victoria University of Wellington Faculty of Commerce and Administration Human Ethics Committee guidelines. All data provided by interviewees will be kept totally confidential, and no direct quotes will be used that could reveal the identity any interviewees. If you have no objection, the interview will be tape-recorded as this will allow it to flow more naturally and will ensure no valuable information is lost through hasty note taking.

Please feel welcome to ask questions about any aspect of this project at any stage by either phone or email.

Yours sincerely

Ruth Ivey
Information Services Team Leader
Phone: 838 4749
Email: r.ivey@waikato.ac.nz

Appendix 3   Consent form

Project title: *Information literacy: how do librarians and academics work in partnership to deliver effective learning programmes?*

Please tick the appropriate boxes

☐   I have received and have understood an explanation of this research project.

☐   I have had an opportunity to ask questions and have had them answered.

☐   I understand that I may withdraw myself (or any information I have provided) from this project (before data collection and analysis is complete) without needing to give reasons and without any form of penalty.

☐   I understand that any information I give will be kept confidential to the researcher and her supervisor. My name will not appear on any of the tape recordings or transcribed data, or in the published report.

☐   I understand that, given our relatively small community, some people may guess that I have been involved in this project.

☐   I give permission for the interview to be tape-recorded.

☐   I understand that I will have an opportunity to check the transcripts of the interview before the research report is written.

☐   I understand that the data I provide will not be used for any other purpose or released to others without my written consent.

☐   I understand that the tape-recorded interview will be electronically cleaned, and the transcribed data and interview notes will be destroyed, when the research report is submitted.

☐   I agree to take part in this research.

Signed:_____

Name:_____ (please print clearly)

Date:_____

Appendix 4   Interview questions

Interviewing academics and librarians who work in partnership to develop students' information literacy

The intention of this interview is to discuss how your working partnership with [partner's name] was established, how it operates, the resulting benefits for students, and the challenges or problems you have encountered and/or continue to deal with. I expect the interview to take about 50 minutes, and will ask you to respond to the following questions:

1. Approximately how long have you worked in your present position?

2. What do you teach?

3. What levels are the students you teach?

4. Is *information literacy* a term that you use? What do you think it means?

5. Just looking at this list of attributes of an information literate person (see attached list), which of these do you see yourself responsible for teaching? Which of them do you see [partner] responsible for teaching? Which do you see both of you responsible for teaching?

6. What prompted you to work with [partner]?

7. Has anyone else encouraged, or had an enabling effect on, your working partnership?

8. What skills or attributes does [partner] have that you value?

9. Do you involve [partner]/are you involved in designing the course, or in supporting the course?

10. Have you and [partner] ever talked about your goals?

11. What responsibilities do you have for planning? Teaching? Evaluating? What responsibilities does [partner] have for planning? Teaching? Evaluating?

12. Do either of you involve other experts in the programme?

13. Where does the teaching take place?

14. Do you ever teach together? Do you watch each other teach?

15. What have you found to be the most effective ways of communicating with each other?

16. What are some of the challenges you've faced? How did you overcome them?

17. What problems still occur? How do you manage them?

18. What do you consider are the important ingredients for a successful teaching partnership?

19. From this list of collaborative behaviours (see attached list), which 3 do you think are most important? Why did you choose those particular items?

20. What would make it easier for you to work collaboratively?

21. What benefits do the students get as a result of you working with [partner]? Do you have any data to verify this?

22. One model I found when searching the literature recommended keeping a log of collaborative activities. Would this sort of thing be useful? Would you use it?

23. Is there anything else about your working partnership that you'd like to share with me?

24. If I need to check anything with you later, would it be best for me to email or phone you?

Information literacy is defined according to the following attributes of an information literate person (Doyle 1992. 2):

1. Recognises the need for information

2. Recognises that accurate information is the basis for intelligent information

3. Formulates questions based on information needs

4. Identifies potential sources of information

5. Develops successful search strategies

6. Accesses sources of information, including computer-based and other technologies

7. Evaluates information

8. Organises information for practical application

9. Integrates new information into an existing body of knowledge

10. Uses information in critical thinking and problem solving

11. Uses critical thinking and problem solving in handling information

Collaborative behaviours (Schrage 1990, 152-163)

1. Competence for the task at hand by each member of the collaborative team

2. A shared, understood goal

3. Mutual respect, tolerance, and trust

4. Creation and manipulation of shared spaces

5. Multiple forms of representation

6. Playing with the representations

7. Continuous but not continual communication

8. Formal and informal environments

9. Clear lines of responsibility but no restrictive boundaries

10. Decisions do not have to be made by consensus

11. Physical presence is not necessary

12. Selective use of outsiders for complementary insights and information

13. Collaborations end

Appendix 5   Lists of codes

Successful Collaboration	**SC**

SC:	Competence	SC-Comp
SC:	A shared, understood goal	SC-Sh/Go
SC:	Creation and manipulation of shared spaces	SC-C/M/ShSp
SC:	Mutual respect, tolerance, and trust	SC-M/R/T/Trust
SC:	Multiple forms of representation	SC-Mult/Rep
SC:	Continuous but not continual communication	SC-C/N/C/Com
SC:	Playing with the representations	SC-Pl/Rep
SC:	Formal and informal environments	SC-F/I/Env
SC:	Clear lines of responsibility but no restrictive boundaries	SC-R/N/R/Boun
SC:	Decisions do not have to be made by consensus	SC-D/Not/Con
SC:	Physical presence is not necessary	SC-Ph/Pr/N/Nece
SC:	Selective use of outsiders for complementary insights and information	SC-O/C/Ins/Inf
SC:	Collaborations end	SC-End
SC:	What keeps the collaboration going?	SC- Keeps going
SC:	Professional respect	SC-Prof/R
SC:	Innovative teaching style	SC-Inn/Tg
SC:	Role definition	SC-Role/D
SC:	Team teaching	SC-T/Tg
SC:	Professional development	SC-Prof/Dev
SC:	Collaborative log	SC-C/Log
SC:	Trust	SC-Trust
SC:	Proactivity	SC-Pro
SC:	Friendship	SC-Fr
SC:	Marketing	SC-Market
SC:	Social activities/ campus functions	SC- Soc/Asp

Information Literacy	**IL**

IL:	How this person defines the term information literacy	IL-Def
IL:	Use of the term information literacy	IL-U/T
IL:	Course-integrated information literacy	IL-C/Int
IL:	Information literacy policy	IL-Policy
IL:	Planning information literacy learning	IL-Plan
IL:	Evaluating effectiveness of learning programmes	IL-Eval
IL:	Teaching theory	IL-Tg/Th
IL:	Teaching style	IL-Tg/St
IL:	Teaching programmes	IL-Tg/Prog
IL:	Understanding the theory of information literacy	IL-Un/Th
IL:	Resourcing learning programmes	IL-Res

Partnerships   P

P	Initiating partnerships	P-Init
P	Developing partnerships	P-Devel
P	Demonstration of partnerships	P-Demo
P	Enthusiasm	P-Enth

Challenges / Opportunities   C / O

C	Time	C-Time
C / O	Academic status	C/O-A/Status
C / O	Academic culture	C/O-A/Cult
C	Resentment of colleagues	C-R/Coll
C	Workload	C-Work
C / O	Support from others	C/O-Sup
C	Lack of interest	C-L/Int