Awareness and Perceptions of Information Literacy of Faculty Members in Universities in the Dublin Area

Christina Blau

1605573

MSc in Library and Information Management

Dublin Business School

Supervisor: Clare Thornley

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Declaration

I, Christina Blau, declare that I am the sole author of this dissertation, that during the period of registered study I have not been registered for any other academic award or qualification, nor has any of the material been submitted wholly or partly for any other award. I have personally carried out all the work of which this is a record. The Masters in Library and Information Management of which this is part has been delivered by the School of Business, Dublin Business School.

Signed:_____.

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Commonly Used Terms and Abbreviations

DCU – Dublin City University

Faculty members - For the purpose of this dissertation the term faculty members is used to describe both lecturers and professors who teach students in third level education.

IL – Information Literacy

NUIM – National University of Ireland Maynooth

SPSS – Statistical Package for the Social Sciences

TCD – Trinity College Dublin

UCD - University College Dublin

Abstract

In recent years librarians in Ireland have begun to embrace the concept of Information Literacy (IL) and its importance with many case studies, reports and conferences dedicated to the subject. Despite this, few studies have examined IL in Irish higher education. This research therefore aims to explore the awareness and perceptions of Information Literacy held by faculty members in universities in the Dublin area. This was done through an online questionnaire which was disseminated via email. The research produced a number of key findings: 40% of faculty members in these universities were unaware of the term but nearly all consider the skill very important; faculty members in these universities believe IL to be taught through informal methods and do not often collaborate with librarians in teaching IL; while preferring library orientation classes many respondents would be open to librarian involvement and believe IL should be taught by a collaboration of lecturers and librarians; while time restrictions are identified as the most influential problem in attaining collaboration even these are surmountable; 24% of respondents believe they could become more information literate and many would be willing to attend IL classes. The main conclusion drawn is that despite the literature indicating that integration and collaboration is necessary if IL is to be successfully included in higher education, limited integration has occurred in these universities and more promotion is required. The research therefore suggests: expanding the sources in which IL articles are published; increasing the number of faculty members approached by librarians; campaigning for a national standard and including IL in professional development courses. It is also suggested that any approach taken to promoting IL to faculty members in universities in the Dublin area must take their perceptions, commitments and desires into account if it is to be successful.

1 Introduction

1.1 Context of Research

"To be information literate an individual must recognise when information is needed and have the ability to locate, evaluate and use effectively the information needed." (ALA 1989)

The importance of Information Literacy (IL) has been recognised at an international level. The Prague Declaration (UNESCO 2003 p.1) for example, notes that IL is needed for an information society and that it should be "an integral part of education for all". In both America and Australia work has been done to integrate IL into the national learning agenda and national standards and frameworks for IL have been created (Andretta 2005 p.37). The American Library Association presented its first report on IL in 1989 which defines IL and highlights the importance and need for IL education within the American education system (ALA 1989). Since then, much work has been done to solidify and promote IL. Goff (2007 p.139) in the UNESCO Information Literacy International State of the Art report states "national reports and studies focusing on the need for information and technology literate students abounded."

IL and its education are increasingly being seen as important throughout the world with programmes and initiatives being run in France, Africa, Mexico and Norway (Lau 2007). Ireland does not have national standards or a national framework for IL, but there has been a marked increase in interest in the subject over the last five years (Webber and McGuinness 2007). Despite this increase, little is known about the level of awareness of IL of faculty members in higher education in Ireland. This research therefore proposes *to determine whether faculty members in Universities in the Dublin area are aware of the term "Information Literacy" and how important they believe this skill to be both for themselves and their students*.

The literature of recent years suggests that IL is a key skill required for graduates and should therefore by taught in higher education institutions (Antonesa 2007, McGuinness 2006a, Grassian and Kaplowitz 2009). In Ireland, no comprehensive study of IL has been conducted (McGuinness 2009 p.265). Although, McGuinness (2009) has conducted a study of IL in higher education herself in which she surveyed librarians and described the general state of IL education in Irish higher level institutions. This research focused on librarians and does not explore how faculty members perceive and interact with this subject.

Only one study has been conducted on faculty perceptions of IL in Ireland. In this study McGuinness (2006a) interviewed members of faculty (and librarians) in two departments (Sociology and Civil Engineering) and found that many of the problems discussed in the literature were also present amongst faculty members in Ireland. The qualitative nature and the number of respondents (24 faculty members) limit the scope of this study. A broader, quantitative study will increase librarians understanding of faculty and their view of IL. Thus, in this research *how faculty members in Universities in the Dublin area perceive current IL education and their involvement in the area* is explored.

An analysis of Irish case studies shows that the majority of successful IL programmes have been dependent on the collaboration between a librarian and an individual faculty member. These faculty members are known as "academic champions." Together with librarians they have developed modules which integrate IL components with subject specific content. The literature highlights a number of problems which occur when attempting to achieve this collaboration. However, as collaboration is the most successful approach, this research aims *to explore the influence of problems in achieving collaboration with faculty to integrate IL into Universities in the Dublin Area.*

Furthermore, though collaboration and integration are suggested as the best methods of teaching IL (Ambrose and Gillespie 2003 p.3), the most commonly used methods of IL instruction in Ireland are once off classes and library orientation (McGuinness 2009 p.266). This indicates that faculty members rarely collaborate in the integration of IL. One objective of this research is therefore *to discover how faculty members in Universities in the Dublin area think IL should be taught and who should teach it.*

Another issue with the "academic champion" approach is that while it is successful in the short term, the collaboration may break apart and therefore another strategy may be needed to gain long term success (McGuinness 2007a). Furthermore, this approach requires faculty members to be willing to collaborate in the first place.

As a long term strategy, Smith and Mundt (1997) suggest teaching the faculty so that they may teach the students, stating "high-quality, course-integrated, curriculum-wide information literacy will not come from guarding the territory of library instruction but from empowering the faculty". This approach would increase not only the faculty's awareness of IL and the need for teaching it but also the faculty's IL level, which Thompson (2002 p.224) states is often lower than expected. Thus, this research also aims *to discover faculty perceptions of their own IL skills, knowledge of whether they can attend IL classes in their university and if time restrictions influence their decision to avail of IL classes.*

1.2 Objectives

This dissertation aims to contribute to the overall knowledge and study of IL in Irish higher education using a quantitative questionnaire of faculty members in Universities in the Dublin area exploring their awareness and perceptions of IL. The objectives of this research are:

- To discover how aware faculty members in Universities in the Dublin area are of the term "Information Literacy" and how important they believe this skill to be both for themselves and their students.
- To explore how faculty members in Universities in the Dublin area perceive current IL education and their involvement in the area.
- To discover how faculty members in Universities in the Dublin area think IL should be taught and who should teach it.
- To explore the influence of problems in achieving collaboration with faculty to integrate IL into Universities in the Dublin Area.
- To discover faculty perceptions of their own IL skills, knowledge of whether they can attend IL classes in their university and if time restrictions influence their decision to avail of IL classes.

1.3 Approach to the Research

This dissertation takes a three step approach to the research. The literature was first consulted and areas which require research found. Research objectives were then formulated. A thorough review of the literature was undertaken, and presented in relation to the research objectives of the dissertation.

Following the secondary research, primary research was conducted. The methodology for the research was chosen based on the research objectives and influenced by other studies in the literature reviewed. A questionnaire to be distributed to faculty members of Universities in the Dublin area was designed and created using Surveymonkey.com. Email cover letters along with a link to the survey were then sent out to faculty members based on email lists created from the institutions' websites. The results of this research were then analysed.

The final step in the research process was the discussion of the results. The analysed results were compared to the literature and discussed in relation to the research objectives posed above. From this discussion, key points were extracted. The research concludes with some recommendations for IL professionals in Ireland, and for further research which could be conducted.

1.4 Organisation of the Dissertation

This research is presented in six chapters. Chapter 1 introduces the research. In this chapter the definition of Information Literacy used, background and context of the study are explained. Research objectives are laid out and the structure of the research is presented. The limitations and contribution of the study are also discussed.

Chapter 2 reviews the literature in the field. A detailed review of journal articles, books, and other relevant literature is presented. The literature is related back to the research objectives and indications are made of where this research will extend knowledge in the field.

Chapter 3 discusses the methodology of the research. This chapter outlines the use of a questionnaire based survey strategy, why this methodology was chosen and its appropriateness to the study. The creation, testing and distribution of the questionnaire are discussed in detail.

In Chapter 4, the quantitative results of the questionnaire are analysed using SPSS. This software allows for frequencies and cross tabulations to be performed on the data. Comments and open ended questions are analysed qualitatively by grouping answers into themes and presenting common results. The findings of the primary research are displayed and described clearly in chapter 4.

Chapter 5 presents a discussion of the findings of chapter 4. The results of the questionnaire are discussed here in relation to the research objectives and comparisons are drawn to findings of the literature review.

Chapter 6 concludes the research by drawing together key strands of the primary and secondary research to present areas of interest found. This chapter relays how the objectives of the research have been met and what results have been found. From this conclusions are drawn and recommendations made.

1.5 Limitations of Research

In pursuing this research, several limitations were found. These include:

- Time and depth restrictions. The research was restricted by the time scale and size of the project. It was therefore required to restrict the sample population of the primary research to a manageable size. Furthermore, the response rate to the questionnaire may well have improved if respondents had more time to answer.

- The scattered nature and quantity of relevant literature. A lot has been written about IL, especially in the context of higher education. Unfortunately, little of this literature relates to Ireland directly. Further, no comprehensive studies of IL in Ireland have been published, thus the review of the Irish literature was limited and studies from other countries were included. However, the large number of studies in the area combined with the time scale of the project meant that only the most relevant literature could be included in the research.

- Sample availability. The survey aimed to produce a non biased sample of the faculty population of Ireland. Unfortunately, it was not as easy to obtain email lists as expected and thus only those faculty members at institutions whose email lists were readily available were questioned. The limitations of this are discussed in the methodology chapter.

1.6 Major Contribution of the Study

As little literature has been produced accurately describing the overall status of IL in Ireland, this paper will make a valuable contribution to the field. As the majority of work in the area has been undertaken by McGuinness (2006a, 2006b and 2009) this dissertation serves to compliment and extend upon her research by providing another researcher's discussion of the subject using a broader quantitative study of faculty perceptions and examining differences within results found. The study is therefore of interest to those working to promote IL in third level institutions in Ireland.

The study will also contribute to the literature on librarian faculty relations, in particular in an Irish context. It is therefore of interest to both faculty and librarians who are working together on IL programmes. It may also be of particular interest to librarians who are hoping to work with faculty, providing them with insight into the faculty's perceptions and ideas which can be incorporated into their approach.

2 Literature Review

2.1 Introduction

This chapter reviews the literature available on IL in higher education. The particular focus of the literature review is the relationship librarians have with faculty, the problems in creating this relationship and faculty member's perceptions of IL. The chapter starts with a view of IL at an international level before focusing on Ireland and faculty in particular.

2.2 Awareness and Importance of IL

Since its conception in 1974, the use and importance of the term "Information Literacy" has steadily gained credence amongst the library community (Rader 2002 p.242). There are thousands of articles written on IL in academia alone, and in recent years specialised IL journals such as the Journal of Information Literacy and Communications in Information Literacy have been established. On a global level, UNESCO has recognised and supported IL for 10 years now. Both the Prague Declaration (2003) and the Alexandria Proclamation (2005) have emphasised the value and need for IL (Webber 2003). Although internationally recognised, the concept of IL has gained more support in some countries than in others. It is generally acknowledged that IL is most advanced in America and Australia (Ambrose and Gillespie 2003 p.6).

In Ireland, the concept of IL has not been as fully embraced as it has in America and Australia. There is little recognition of IL in politics and there are no national standards (Webber and McGuinness 2007 p.121-122). In the Irish Working Group on Information Literacy report, O'Brien and Russell (2009 p.101) state IL activity in Ireland has not been well documented in general. McGuinness (2009 p.265) notes that apart from the study she herself conducted, no overall study of IL activity and teaching in Ireland is available. The most common types of publications on Irish IL are case studies where librarians discuss their personal programmes and successes. Since these are generally only written for the best programmes, they commonly portray best case scenarios and may not represent the general state of IL in Ireland (Ibid. p.262). Furthermore, as Fallon (2010 p.36) notes, Irish librarians often do not write about their projects at all. This further contributes to the lack of literature identified by O'Brien and Russell (2009 p.101).

In spite of this, awareness of IL and its importance is growing in Ireland (Fallon and Antonesa 2007 p.32). Antonesa (2007 p.10) states that IL is increasingly being viewed as a requirement for active participation in a democracy, pointing to the increase in references to teaching and instruction in job advertisements for librarians as well as the literature to support her claim. Webber and McGuinness (2007 p.122) also discuss this increase in interest, calling it an "explosion." The formation of the Working Group on Information Literacy by the Library Association of Ireland and the Advisory Committee on Information Literacy by the Consortium of National and University Libraries (CONUL), as well as the fact that LILAC, the Chartered Institute of Library and Information Professionals' (CILIP) Information Literacy conference was held in Ireland in 2010 show that the value of IL has been acknowledged by Irish librarians.

However, for IL to be successfully implemented into third level education it is also necessary for faculty members to understand the importance of IL. In Ireland, in particular, the librarian community feels that there is a lack of awareness of IL and its value amongst faculty (Russell 2008 p.4, CONUL 2004 p.7, McGuinness 2007a, and Kelly 2010 slide 23). Other studies conducted support this, stating that the concept of IL is often misunderstood (Julien and Given 2005, Stubbings and Franklin 2006 p.2). Gonzales (2001 p.200) suggest a large number of faculty members are unaware that library instruction classes are available. However, more recent literature shows that faculty believe strongly in the importance of IL instruction (Bury 2011 p.51, Weetman DaCosta 2010 p.207).

Webber and Johnston (2005) in their study of faculty conceptions of IL in Britain found that only one of their interviewees could not talk about IL without explanation and, McGuinness (2006a) does not mention that any of her respondents were unaware of the term. Despite this no research has yet examined the awareness and importance placed on IL amongst academic staff in Ireland. This research therefore aims *to determine whether faculty members in Universities in the Dublin area are aware of the term "Information Literacy" and how important they believe this skill to be both for themselves and their students*.

2.3 IL and Higher Education

The importance of IL in higher education is clear with the majority of publications in the field focusing on the higher education sector (Rader 2002 p.243). As IL is an essential contributor to lifelong learning, a key objective of higher education, its instruction should be a priority of higher education institutions (ALA 2002 p.4). In Ireland, McGuinness (2009) has produced the only comprehensive study of IL instruction in Irish Higher Education. In this study 70% of librarians questioned had either some or heavy involvement in information skills training. Furthermore, most third level institutions provide IL instruction (Breen and Fallon 2005 p.182).

2.4 Faculty Members' Perceptions of Current IL Teaching

Apart from what is stated in case studies, little is written about how faculty members interact with IL education for their students in Irish higher education. In their research in Britain, Boon, Johnston and Webber (2005) found that the majority of respondents saw IL education as somebody else's job and that in English and Marketing the teaching of IL was seen as implicit. McGuinness (2006a p.580) also found this to be the case in Ireland, stating

"a common thread running through these observations is faculty's belief that information literacy develops gradually and intuitively, through participation in a number of different scenarios."

The key scenario in which faculty believed students' to develop IL skills was through researching, writing and presenting academic coursework and assignments, in particular the dissertation (McGuinness 2006a p.577). Other scenarios mentioned include feedback on assignments, recommendations of important sources and library tours and orientation sessions (Ibid. p.577). This shows little formal training in IL is given to students and they are often expected to "pick it up as they go along" (Ibid. p.578). There are also a number of beliefs which faculty hold about students in relation to IL. These were explored in the Irish study conducted by McGuinness (2006a and 2006b).

As the common perception of faculty in Ireland is that IL is already present in undergraduate curricula through assignments and discussion, failure to become information literate is seen as laziness or unwillingness of the student (McGuinness 2006a p.578). The belief that students should discover IL on their own has also been recognised by Leckie and Fullerton (1999 p.194) and Gonzales (2001 p.196).

Another belief faculty have about students is that students should already know how to research or have already picked it up (Manuel, Beck and Molloy 2005 p.141). Thomson (2002 p.233) and Boon, Johnston and Webber (2007 p.217) also find this to be the case, particularly after students' first year in University.

The last belief faculty hold about students prevalent in the literature is that the student's don't require the library and therefore don't need to be taught by librarians (Thompson 2002 p.233). In her research McGuinness (2006b slide 19) found that some faculty reported that library use was not essential for the undergraduate degree, although this was mainly in the Civil Engineering department.

McGuinness' work (2006a and 2006b) is the only research which discusses how faculty members see current IL in Ireland. As it is focused on two disciplines and was conducted in a qualitative manner, more research into this area could be done to develop her findings. Furthermore, while McGuinness (2006a and 2006b) did discuss faculty members' views of how IL is taught throughout curricula, she did not discuss whether respondents devoted any of their lecture time to IL, if they had been approached regarding the addition of IL to curricula or how this affects their opinions and teaching. This research therefore also aims *to explore how faculty members in Universities in the Dublin area perceive current IL education and their involvement in the area*.

2.5 Integration of IL into the Curriculum

"Information literacy is necessarily demonstrated in a context and within a domain of content." (Catts 2004 p.2)

In order to teach in context, it is suggested by most that IL is integrated into the curricula of higher education institutions (Bainton 2001 p.10, Corrall 2010 p.7, Stubbings and Franklin 2006 p.1, Breen and Fallon 2005 p.182). The integration and embedding of IL into the curricula of third level institutions has also been deemed best practice in Ireland (CONUL IL policy 2005 p.1). Ambrose and Gillespie (2003 p.5) make the case for integration stating:

"The most effective way of delivering information skills is for all stakeholders in the process to work collaboratively, and for information skills to be integrated into the curriculum. A collaborative and integrated approach to curriculum design is needed, and delivery of courses must be based on close co-operation between academics, librarians and staff-development colleagues."

Despite the support given to integration by the literature, the majority of IL instruction in Ireland is not integrated. McGuinness (2009 p.273) found that the main methods used were assistance at the reference desk, library orientation tours, once-off lectures and subject specific lectures provided on request. Breen and Fallon (2005 p.182) agree with this, stating that despite the efforts made by third level institutions, collaboration between library and faculty staff is the exception rather than the rule. This would seem to indicate that while librarians are promoting integration through both their research and practice, the preference amongst faculty is still for non integrated methods of instruction. However no research has been conducted with faculty members in Ireland to support this and one aim of this research is *to discover how faculty members in Universities in the Dublin area think IL should be taught and who should teach it.*

2.6 Collaboration between Librarians and Faculty

The collaboration between librarians and faculty in an effort to secure IL into higher education is a recurring theme in the literature (Corrall 2010 p.7). This collaboration is seen as necessary if librarians are to achieve integrated and embedded IL programmes (Stubbings and Franklin 2006, Leckie and Fullerton 1999, Smith and Mundt 1997, Rockman 2002). Julien and Given (2005 p.30) argue that not only should faculty take part in IL instruction, they should take a primary role in it. Smith and Mundt (1997) support this maintaining

"Information literacy will be integrated throughout the curriculum only if faculty recognize its importance, make it a goal as they develop their syllabi, and know how to teach information literacy themselves."

The need for effective collaboration has also been accepted in Ireland (Ambrose and Gillespie 2003 p.5, CONUL 2004 p.7). Many case studies are available which describe successful collaboration between librarians and faculty in Ireland and their benefits (Fallon and Antonesa 2007, McGuinness 2007b, Dodd 2010, Hegarty et al 2004a, Hegarty et al 2004b, Hurley, Hegarty and Bolger 2006, Geraghty 2006, Burke and Walsh 2006, Conrick 2006, Ambrose 2006).

2.7 Problems in Collaboration

Despite the many documentations of successful projects, much of the literature relays difficulties which hinder the building of these collaborations (Julien and Given 2005 p.27, Gunasekara 2008 p.82). Leckie and Fullerton (1999) discuss the fact that although both librarians and faculty are aiming for information literate graduates, they often cannot agree on the method of achieving this. Faculty and academic departments are generally supportive of librarians and the idea of IL in theory but often do not act on this (Stubbings and Franklin 2006 p.2, McGuinness 2007a p.26). Therefore sustained collaboration is difficult to achieve. The literature suggests several problems which influence collaboration.

2.7.1 Lack of Time

The most common reason given from problems in collaboration is a lack of time (Manuel, Beck and Molloy 2005 p.153, Thompson 2002 p.233, Hardestry 1995 p.358). Leckie and Fullerton (1999 p.194) and Stubbings and Franklin (2006 p.2) state that it is hard for lecturers to fit all that needs to be taught into the curriculum without including IL. Andretta (2006) supports this stating that lecturers fear that IL will take "another chunk out of their timetable." This problem is also seen in Ireland. Ambrose and Gillespie (2003 p.7) discuss time constraints as an issue in integrating IL. McGuinness (2006b slide 21) states that faculty often have overfull teaching schedules and a heavy workload. Thus, they may not have the time to collaborate.

2.7.2 Faculty Lack Awareness of Librarian's Work and Teaching Role

Much of the literature discussing librarian-faculty collaboration complains about the perceptions faculty have of librarians. It is often commented that faculty lack awareness and understanding of the work done by librarians (Julien and Given 2005 p.26, Dunne and Byrne 2008 p.8). Christiansen, Stombler and Thaxton (2004 p.119) assert that faculty members see librarians as a resource rather than experts. Manuel, Beck and Molloy (2005 p.140) also report librarians being perceived mostly as support staff. Hollander, Herbert and DePalma (2004) state "Many professors underestimate librarians and view them as subordinates, sometimes as research assistants or babysitters for classes during out-of-town conferences." McGuinness (2006b slide 11) found that in Ireland academics do value librarian's work but they still do not consider librarians their equals. Hardesty (1995 p.357) states that it is unsurprising that academics do not support librarians in teaching if they do not perceive librarians as equals. This lack of support for the teaching role of librarians is also found in Ireland (CONUL 2004 p.7). McGuinness (2006b slide 19) states that Irish academics limit the teaching role of librarians to library orientation. However this is not surprising considering the difference in required level of education for each of these careers and primary focus of each profession.

2.7.3 Difference in Culture

Some literature attributes some of the difficulties in achieving collaborating to the difference between the librarian and faculty cultures (Hardesty 1995, Christiansen, Stombler and Thaxton 2004). In the librarian culture great emphasis is placed on meeting the needs of users, collaboration and sharing resource. The faculty culture by contrast, is based on individual contribution (Christiansen, Stombler and Thaxton 2004 p.119). It is therefore said that academics do not favour collaborative methods (Ibid.). However, the number of co-authored papers and research groups in academia disputes this. Christiansen, Stombler and Thaxton (2004) discuss the difference in culture in detail.

2.7.4 Faculty Reluctance to Share their Classroom

Faculty see their classes as solely their domain (Christiansen, Stombler and Thaxton 2004 p118). In this domain, they can teach whatever they choose ((Leckie and Fullerton 1999 p.194) and IL instructors are seen to intrude (Badke 2008 p.9). One reason for this reluctance to share the classroom given by Leckie and Fullerton (1999 p.194) is that lecturers have worked hard to be allowed to teach what they want and it is difficult for them to share this. Unsurprisingly, faculty often therefore prefer to do their own IL instruction (Gonzales 2001 p.198). This is also the case in Ireland, where academics prefer to control the teaching methods and assessments themselves (McGuinness 2006b slide 11).

2.7.5 Other Problems in Collaboration

Other literature mentioned more problems in collaboration. Manuel, Beck and Molloy (2005) found lecturers believed librarians were less informed in their particular field than they themselves were, McGuinness (2006b slide 22) notes that it is normal for new teaching processes to take time to be accepted into academic departments and Thompson (2002 p.234) report faculty's lack of IL training during their own education as a contributor to the resistance to collaboration.

In her study of faculty perception, McGuinness (2006a and 2006b) found several of the above problems in her interviews. This research aims *to explore the influence of problems in achieving collaboration with faculty to integrate IL into Universities in the Dublin Area*. The study proposes to discover how influential faculty perceive the problems outlined above to be in their dealings with librarians and IL.

2.8 Faculty IL Levels

When discussing IL in Limerick University, Geraghty (2006 slide 21) states that faculty would like to help students but feel there is much they themselves need to learn. Thompson (2002 p.234) supports this stating that many faculty members rely on traditional sources which they learned how to use to teach their students. Librarians cannot expect faculty to collaborate in teaching students IL if they are not information literate. As Smith and Mundt (1997) state "we will develop information literate students primarily by developing information literate faculty who understand how to develop information literacy among their students." It is therefore important that librarians teach the faculty IL. In Ireland, this has lead to a call for librarians to "work toward the inclusion of IL modules on the roster of training courses offered to academics by institutional teaching and learning units" by McGuinness (2007a p.33). The only mention in the literature of any faculty training available in Ireland is by Geraghty (2006). She states that faculty tend not to attend training offered and often state lack of time as a reason for not updating their skills (Geraghty 2006 slide 21). This dissertation, therefore aims *to discover faculty perceptions of their own IL skills, knowledge of whether they can attend IL classes in their university and if time restrictions influence their decision to avail of IL classes.*

2.9 Conclusion

This chapter presented a review of the literature relating to the research questions. Although much has been written in this area, this review focused on the Irish perspective and the beliefs and perceptions of faculty members. Particular attention was paid to the research objectives and explaining where this dissertation extends knowledge in the area of faculty and librarian collaboration in Ireland. The following chapter relays the methodology used to conduct the primary research.

3 Research Methodology

3.1 Introduction

The research methodology is used to help the researcher decide what primary research will be done, how this research is planned and why these methods were chosen, and includes research philosophy, approach and strategy adopted. This chapter, therefore, considers each of these factors in relation to the research question to ensure that the method of primary research chosen for this work sufficiently and accurately answers the research questions posed and suits the style of the researcher. After discussing the broader methodology, the research design is presented in detail. This explains how the research was conducted, who was included and how the data found will be analysed. Finally, limitations of the data and ethical considerations are also included to provide a complete view of the research process.

3.2 Research Philosophy

The research philosophy adopted for any particular piece of research is dependent on the researcher's personal thoughts about knowledge development (Saunders et al 2007 p.108). According to Williamson (2002 p.25), there are two different, mutually exclusive research philosophies which are commonly employed; positivist and interpretive. However, Saunders et al (2007) suggest several more philosophies including realism and idealism and Cresswell (2002) includes postpositivism, pragmatism and social constructivism. Thus, there are many ways of viewing research philosophies and each was explored before a suitable philosophy was chosen.

For this research, the philosophy employed is positivism or more accurately postpostitivism. Positivism is scientific in nature, based on measuring what can be observed and linking cause and effect (Williamson 2002 p.27). Postpositivism challenges positivist views, arguing that there may not be an absolute truth and that behaviour and attitude studies like this one cannot be fully positivist (Creswell 2002 p.7). Thus, postpositivism allows for qualitative as well as quantitative techniques to be used (Williamson 2002 p.28) and was therefore chosen for this research. However, the basic concepts of positivism are still prevalent in postpositivism (Pickard 2007 p.9). Postpositivists believe that causes probably determine effects, still create hypotheses to be tested and value numeric measurement (Creswell 2002 p.7). Another important factor of the postpositivist philosophy is the detachment of the researcher from the research, allowing for observation of facts and objective views (Ibid. p.8). This research philosophy was thus also adopted as it would reduce the influence of the researcher's personal views of the subject.

3.3 Research approach

A deductive approach to research, where hypotheses are created first and the primary research used to test these hypotheses, was also adopted. This approach is often used in conjunction with the postpositivist research philosophy (Williamson 2002 p.26). An important feature of this approach is that it emphasises the independence of the researcher from the observations being made, helping to ensure the reliability of the research (Saunders et al 2007 p118). This approach also focuses on generalisation, drawing conclusions for the whole population from the sample used (Lawal 2009 p.72). Therefore, the sample used for the research must be of sufficient size and constitution to allow for results to be generalised to the whole population under consideration.

3.4 Research Strategy

This research adopted a survey strategy. This strategy is commonly associated with the deductive approach (Williamson 2002 p.26). A survey strategy allows the researcher to design a survey which tests the hypotheses (Pickard 2007 p.98) and was chosen as it allows for the collection of data from a large population in a highly economical way (Powell and Connaway 2004 p.83). Given the limitations on time and the desired scope of the research, a survey was considered the most effective strategy for attaining relevant results which can be used to test the hypotheses developed. Other strategies such as experiments, action research and archival research were considered inappropriate as they did not suit the research questions asked and a case study while relevant would not have given the scope desired to the research.

3.5 Research Hypotheses

After conducting the secondary research, a number of research hypotheses about faculty members' in Universities in the Dublin area were devised. These will be tested using the primary research. The hypotheses are presented under the research objectives to which they pertain.

To discover how aware faculty members in Universities in the Dublin area are of the term "Information Literacy" and how important they believe this skill to be both for themselves and their students.

H1) Faculty members lack awareness of the term "Information Literacy".

H2) Faculty members who are aware of the term have come across it through contact with the library or library literature.

H3) Faculty members perceive IL to be important.

To explore how faculty members in Universities in the Dublin area perceive current IL education and their involvement in the area.

H4) Faculty members perceive themselves to teach some IL.

H5) Faculty members perceive students to attain some IL from their teaching

To discover how faculty members in Universities in the Dublin area think IL should be taught and who should teach it.

H6) Faculty members prefer library orientation classes to integrated IL.

H7) Faculty members believe IL should be taught in third level education.

H8) Faculty members believe librarians should teach IL.

To explore the influence of problems in achieving collaboration with faculty to integrate IL into Universities in the Dublin Area.

H9) The most influential problem in achieving collaboration with faculty to integrate IL is time restrictions.

To discover faculty perceptions of their own IL skills, knowledge of whether they can attend IL classes in their university and if time restrictions influence their decision to avail of IL classes

H10) Faculty members consider themselves to be information literate.

H11) Faculty members are unaware that they can attend IL classes.

H12) Faculty members are under time constraints which make attending IL classes difficult.

3.6 Research Choice

As with this research, the survey strategy is most commonly linked to quantitative research methods such as questionnaires. The use of quantitative methods allow for the collection of numerical data or statistics (Dawson 2006 p.24). Thus it was predominantly employed here as the majority of the research hypotheses can be tested with statistics. Bury (2011) used a survey strategy and questionnaire in her research which aimed to discover faculty attitudes, perception and experiences of IL in a university in Canada. Furthermore this research focuses on faculty members' perceptions and questionnaires are suggested as a method for gathering such information by Creswell (2002 p.20). Several other studies have used questionnaires to evaluate perceptions including Al-Daihani (2009) on librarians' perceptions of Library 2.0, Grimes (2004) on students' attitudes and perceptions of dishonesty in academics and business and Fagan (2002) on student perceptions of academic librarians.

Much of the previous research in the field has been conducted using qualitative methods such as interviews, focus groups and case studies which may suggest that this research area lends itself better to such methods. Bury (2011) for example, suggests a more qualitative approach after conducting her quantitative research in the area. Despite this, a qualitative approach was not considered suitable for this research for several reasons. Firstly, the researcher wanted to expand and supplement the qualitative research already conducted by providing data of a statistical nature. For example, this research will discover how many respondents are aware of the term IL and how many of these have been approached regarding IL. Secondly, the nature of qualitative research means that more consultation with respondents is required prior to the research being conducted; interviews for example must be organised and respondents must be prepared to be involved. It was considered that this may reduce the validity of the results as those respondents available to be interviewed on such topics are often already interested in the subject. Furthermore, a high likelihood exists that if a lecturer is given prior knowledge that he/she will be required to discuss a topic they will research the topic beforehand. This likelihood was reduced through the use of a questionnaire which is commonly answered immediately on receipt. Finally, the use of a questionnaire allowed for the gathering of data from lecturers in a multitude of faculties and disciplines in a limited timeframe. This data can be further analysed to produce comparisons between each field and their perceptions. Due to the large number of fields of study which are taught in universities, a large number of interviews or focus groups would have been required for this to be possible using qualitative methods and the limited timeframe for the research restricted this possibility.

Despite the choice to conduct quantitative research, the qualitative nature of the subject was not disregarded. When designing the questionnaire, a number of free text fields where further comments could be entered and open ended questions which require qualitative analysis were included. This allowed respondents to expand and contribute on a broader level while still retaining the quantitative nature of the study and attaining relevant results to answer the research questions posed.

3.7 Research Design

3.7.1 Time Horizon

There are two options of time horizons which can be applied to all research; cross sectional and longitudinal studies (Saunders et al 2007 p.148.). Longitudinal studies are studies which are conducted over a time period and require lengthy study. Cross sectional studies provide a snapshot of the current situation. For this research, due to the nature of the research objectives and the limitations on time a cross-sectional time horizon was chosen.

3.7.2 Primary Data Collection

As previously mentioned, primary data was collected through the use of an online questionnaire (Appendix A). The questionnaire was designed and administered using surveymonkey (www.surveymonkey.com). After consideration of several online survey providers, Surveymonkey Gold was used as this provided unlimited numbers of questions and respondents and integrated well with the analysis software used. Using an online survey provider allowed for the dissemination through emails containing a link to the webpage on which the questionnaire was hosted. The use of emails was considered the most appropriate method of reaching a large number of respondents as the majority of them would use email as their preferred method of communication. A cover letter (Appendix B) was derived and emailed to the sample population stating the nature and purpose of the study as well as contact details and the email link to the questionnaire. Care was taken to include little information on the subject area of IL in this cover letter as it was felt this would negatively influence the result of the research. Respondents were given 10 working days to complete the questionnaire.

A pilot of the questionnaire was conducted with 10 academics from institutions which were not included in the main research. This allowed for refinement of questions, decrease in ambiguity and helped ensure that respondents did not react negatively to sensitive questions asked.

The questionnaire was designed in four sections dealing with:

a) The demographic variables,

b) The respondents' awareness of the term "Information Literacy" and its definition,

c) Their perceptions of current IL levels and teaching habits and

d) Their views on how IL should be taught.

The original version of the questionnaire separated these sections visibly. However, through pilot testing, it was found that many of the questions asked blurred these sections and rigid separation was abandoned for the final version, although the underlying structure remained.

The questionnaire contained 34 questions. Skip logic, which allows the researcher to allocate which questions are presented to the respondents based on their answers to previous questions, was used to eliminate the need for respondents to reply to inapplicable questions (Lawal 2009 p.101). For example, if respondents answered "no" to the question "Are you aware of the term Information Literacy?" they would not be presented with questions about how they came across the term and whether it was explained or not.

Each question was carefully screened in order to retain relevance and maintain effectiveness of the questionnaire. One question for example, asked respondents to provide true or false answers to statements which were derived from the common problems in collaboration identified in the literature. A preference was given to closed ended questions and those using a Likert scale to aid in analysis using SPSS. However, after pilot testing a number of issues were discovered and additional comment fields and open-ended questions were added to allow respondents to expand on their answers. These will be analysed using manual data coding and text analysis techniques suggested by Cresswell (2002 p.191) and presented similarly to those in Bury's (2011) research. They will be used to expand on results found through analysis of the quantitative data using the SPSS programme.

Furthermore, the use of an open-ended question asking respondents what subjects they teach allowed the researcher to allocate them to subject areas in a single faculty structure. As all four universities in the study use a different faculty and school structure, asking respondents in which school, department or faculty they taught would have caused complications and inconsistency. For example, TCD considers Geography a science while UCD places it in the Human Sciences. Therefore, the subjects taught were asked for and the UCD schools (UCD 2011) were used as a template for grouping. UCD's school structure was chosen as it is the most comprehensive, containing subjects such as veterinary medicine and agricultural science which are not taught in the other universities.

3.7.3 Population and Sample

The population for a research study is the entire set of cases to which the research relates (Williamson 2002 p.90). In this case the population is all lecturers and professors within universities in the Dublin area. Consideration was given to sampling due to the size of this population and the time restrictions. However, when sampling, a sampling frame or complete list of cases from which the sample is taken must be created (Saunders et al 2007 p. 208). Therefore, the whole population would require investigation to select a sample. This combined with the ease of dissemination of the questionnaire suggested that it would be easier to include the whole population than attempt sampling. Furthermore, as the questionnaire was sent out without prior notice of the study and due to the specialised nature of the subject, a low response rate was expected and by including the whole population it was hoped that a larger number of responses would be gathered.

In order to obtain a full list of email addresses for the total population or census, the websites of each of the four universities participating in the study was consulted and a database of the contact details of all lecturers and professors within the universities created. Efforts were made to ensure this database was current. However, some staff members did not provide contact details and some of the websites consulted had not been updated regularly. Therefore it cannot be guaranteed that the full population was included in the research and the sample must be considered incomplete, a type of non-probability or convenience sample (Powell and Connaway 2004 p.96). However, due to the size of the sample population it is unlikely that this will affect the validity of the results as bigger sample sizes produce findings which are more likely to be accurate for the whole population under consideration (Kumar 2010 p.196).

A total of 2670 email addresses were collected and included in the research. However, out of these 119 failed delivery messages were received indicating incorrect email addresses and 129 automated responses were received indicating the owner was out of the office and unavailable for the duration of the study. As such the sample taken for the research can be considered to be 2422.

3.8 Validity

This research, in its original conception, wanted to explore the perceptions and awareness of academic staff in general. However, this size and variation of this population is enormous and due to the time and size of this research project, would have required a complicated stratified sampling procedure. The choice was therefore made to reduce the scope of the project to focus on a subset of this population, lecturers and professors in universities in the Dublin area, and to survey the entire population of that subset. This has an important impact on the validity of the research and its results. While being valid results for the population sampled, the conclusions drawn from this research can only be applied to this sample and must not be misrepresented as applicable to all academic staff in all institutions.

The impact of non-probability sampling and the low response rate must also be considered when judging validity. Non-probability sampling, resulting from an incomplete census, means that not everybody had a chance to complete the questionnaire reducing assurance that the sample is truly representative of the population (Williamson 2002 p.233). The low response rate could increase the effect of response bias. This is the effect that the answers of non-respondents would have on the results (Cresswell 2002 p160). One method of reducing this is to expand sample size (Powell and Connaway 2004 p.112). Increasing the sample size increases the likelihood that respondents with all relevant viewpoints will be included in the study. The large sample used in this research will help reduce response bias.

The large number of responses (232) and use of questionnaires, where respondents are more likely to be frank and honest (Powell and Connaway 2004 p.125), will also increase the validity of this research. However, it should be noted that all samples contain some errors which influence validity (Cooper and Schindler 2008 p.385). Furthermore, the results of this research will be useful regardless of these concerns with validity as it will produce a snapshot of faculty members' views of IL, providing insight in a largely unexplored population.

3.9 Ethics

Behaving ethically when conducting research is of utmost importance (Lawal 2009 p.57) and a number of ethical issues were considered when conducting this research.

3.9.1 Confidentiality and Anonymity

To protect anonymity the questionnaire did not ask for many of the respondents' personal details such as their name and address. In cases where these were provided by the respondent, they were removed from the data before analysis. Despite this, due to the size and nature of the population sampled, combining certain variables could lead someone to deduce respondents' details. Thus, a confidentiality statement was included in the cover letter stating that no effort would be made to trace responses back to individuals and care must be taken when analysing the data to protect respondents.

3.9.2 Privacy

It was important to consider the respondents' privacy when distributing the questionnaire. As the email sent to respondents was sent out without prior notification, it was important that it clearly indicated that participation was voluntary. Although all the email addresses gathered were found in the public domain, the sending of email without prior introduction could be seen as somewhat invasive. Therefore the decision was made not to send a follow-up email despite the possibility of a higher response rate. This also reinforced the voluntary nature of the research, as a second email may have pressured participants to respond.

3.9.3 Data Protection/Security

To comply with data protection regulations, the data collected was only used for this research and kept only for the duration of the research. Precautions were taken to ensure that only those involved in this research had access to the data. The use of an external survey provider does provide some security concern as no definite assurance can be made by the research that the data was not accessed or misused (Lawal 2009 p.110). However, SurveyMonkey does employ a strict security policy (SurveyMonkey 2011) which reduced this concern.

3.9.4 Debriefing

All participants should have the opportunity to view the results of the research (Lawal 2009 p.62). As such, respondents were informed in the cover letter that the data provided would be disseminated in the form of a thesis and where it would be available. In addition to this, an email address was provided to respondents to which they could send requests regarding debriefing. Furthermore, if interest in the results was shown in the final comment field of the questionnaire a short report was provided as suggested by Dawson (2006 p.153).

3.10 Conclusion

This chapter has presented the methodology adopted for this research, explaining the reasoning behind these choices and providing theory and examples to support them. The postpositive, quantitative approach was taken as this suited both the research questions and the researcher. The use of a questionnaire was proposed and its creation and dissemination clearly documented. The limitations of the research, other issues which affect validity and ethics were also considered. The results obtained, using this research method, are presented in Chapter 4.

4 Results

4.1 Introduction

In this chapter, the results of the primary research are analysed and displayed. The chapter first discusses response and completion rates. After this the responses to each question are displayed in the order they appeared in the questionnaire. The chapter finishes with the analysis of comments provided by respondents.

4.2 Response Rate

The response rate for this questionnaire was 9.87%. This means that of the total sample population (2422) only 239 people responded. While this could be considered low, it is a common result when questioning faculty members about IL (Bury 2011 p.48). Bury (2011) and Weetman DaCosta (2010) reported response rates of 15.2% and 21% respectively in their research into IL and these included 2 reminder emails after a time laps of 1 month. Furthermore, Hamilton (2009 p.3) suggests that large surveys sent out to many respondents have significantly lower response rates. Thus, while this response rate is slightly lower than that of other research in the area, this is to be expected as the survey was sent to a large audience without personalisation or follow-up emails. A further 7 responses were eliminated as they stated they were no longer lecturing or teaching.

4.3 Completion Rate

Of the respondents, 70 did not complete the full questionnaire, giving a completion rate of 69.8%. As the drop-out rate for the survey was sizeable all respondents who partially completed the questionnaire were included in the analysis. This allowed the researcher to gain the most from the information provided. Furthermore, an analysis of where respondents stopped throughout the questionnaire was done. This is presented in figure 1.

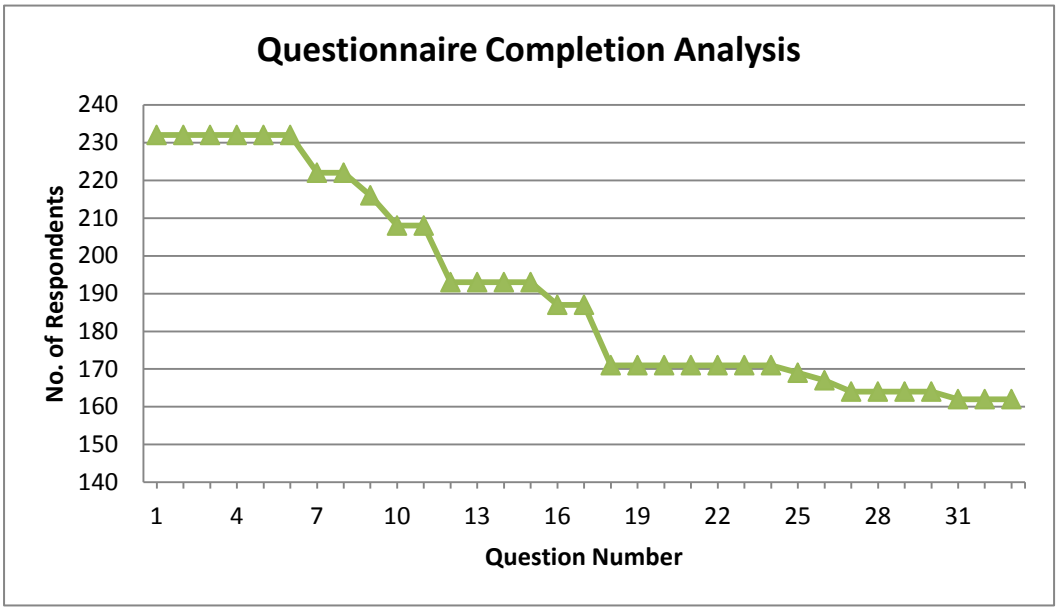

Figure 1 Analysis of Questionnaire Completion Rate

4.4 Age

The first section of the questionnaire dealt with demographics. Respondents were asked which of five age groups they belonged to. The majority of respondents were aged between 35 and 64. Only 12.1% or 28 respondents were under 35 years old and 3.9% or 9 respondents were over 65. A detailed breakdown of respondents' age is presented in figure 2.

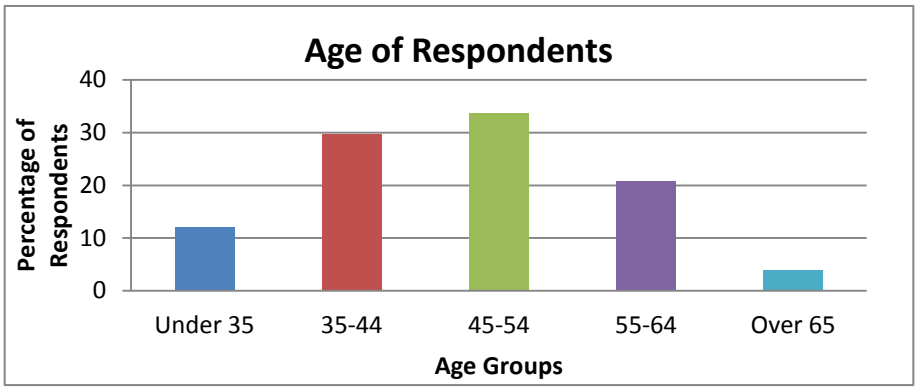

Figure 2 Age of Respondents

4.5 Gender

Respondents were also asked their gender. 56% of respondents were male, 40.1% were female and 3.9% of respondents chose not to answer. As 60.7% of email addresses gathered for this research belonged to males and 39.3% belonged to females, this result shows that relative gender balance was achieved. This can be seen in figure 3.

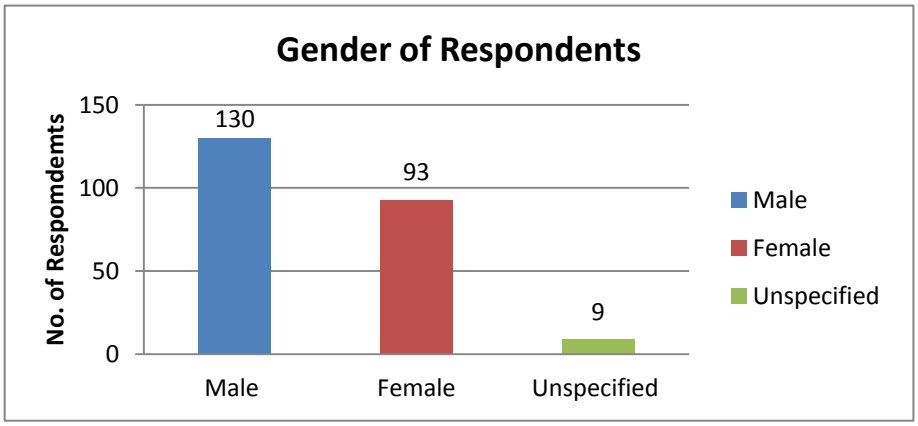

Figure 3 Gender of Respondents

4.6 Teaching Experience

The next question asked respondents for how many years they had been teaching. This was done to determine if the length of lecturers' careers has an effect on their knowledge and perceptions of IL. The majority of respondents had been teaching for over 10 years with 81 respondents (34.9%) stating they had been teaching for over 10 years and 75 respondents (32.3%) stating they had been teaching for over 20 years. Only 2 respondents (0.9%) had been teaching for less than 1 year. This can be seen in figure 4.

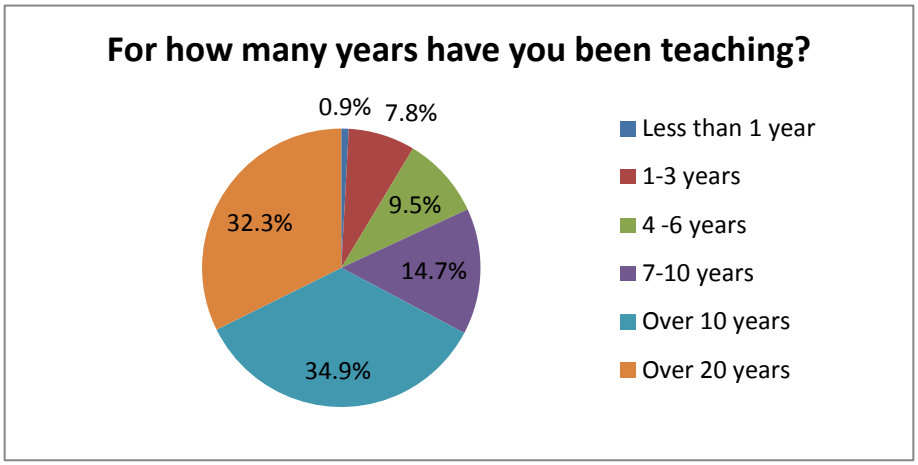

Figure 4 Respondents' Teaching Experience

4.7 Place of Work

In order to attain whether lecturers' perceptions and experiences of IL differ depending on where they teach, respondents were asked in which of the four universities in the Dublin area they work. Figure 5 shows that approximately twice as many lecturers from TCD and UCD responded as from DCU and NUIM. As both UCD and TCD are bigger universities with more potential respondents (974 email addresses from UCD and 940 from TCD were collected in comparison to 402 from DCU and 354 from NUIM), it can be said that the sample is a good representation of the total population being researched.

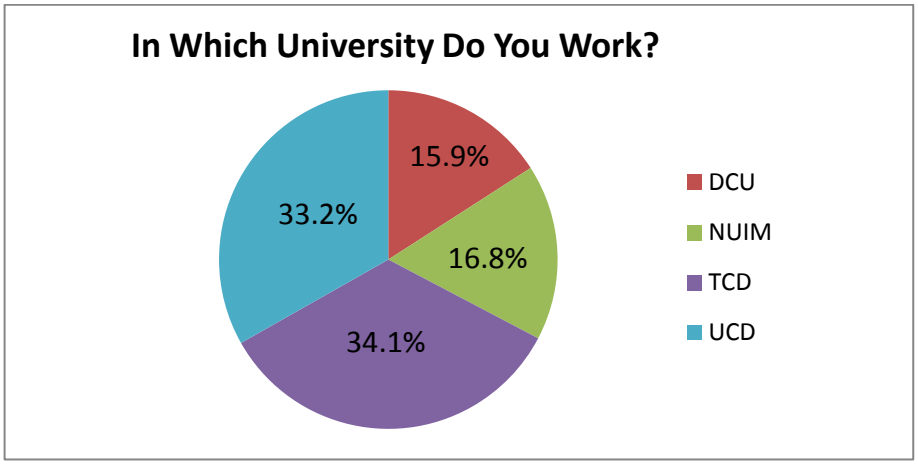

Figure 5 Respondents' Place of Work

4.8 Subject

In order to discover whether lecturers in different faculties have different views and opinions on IL, it was necessary to establish in which subject area each respondent was teaching. However, as all four universities examined have a different structure to their faculties, schools and departments it would have been difficult to ask respondents in which faculty or school they worked directly. Therefore, respondents were asked which subjects they taught and the responses to this question were then grouped based on the UCD schools. The UCD schools (UCD 2011) were chosen as a template for grouping as they were the most comprehensive and covered subjects which were not taught in other universities. Subjects were divided into seven categories; arts, science, human sciences, health sciences, engineering and architecture, business and law and agriculture, food science and veterinary medicine. A full list of which subjects were included in each category can be seen in Appendix C. Figure 6 shows how many respondents teach in each subject grouping.

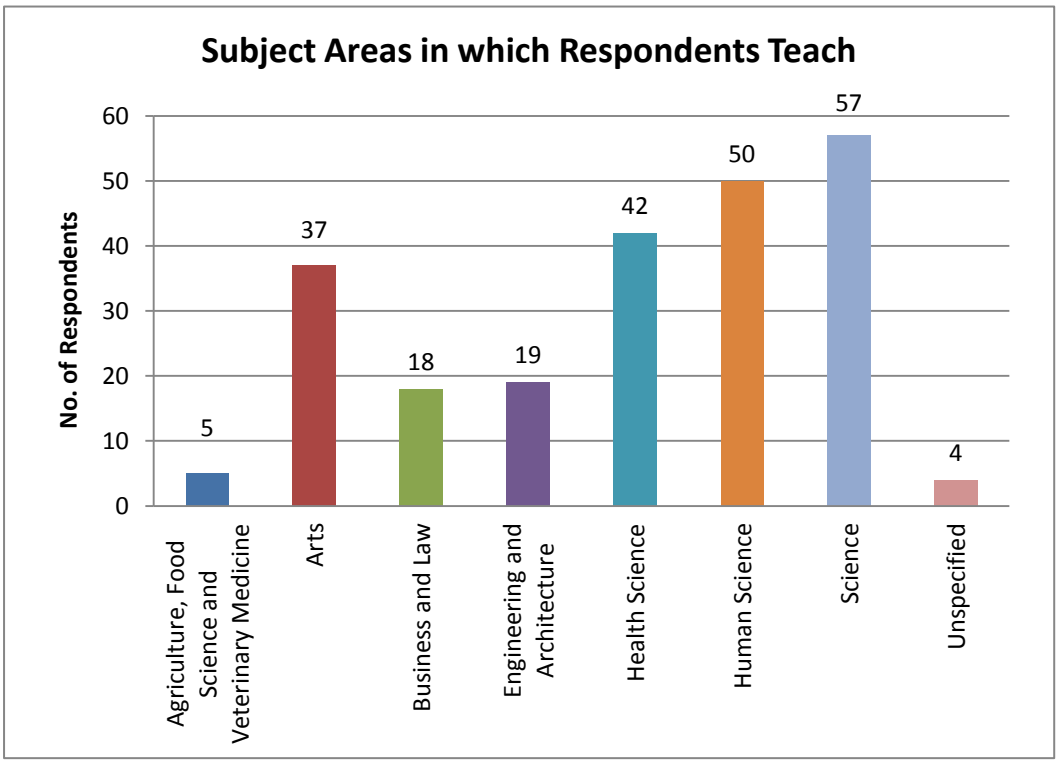

Figure 6 Subject Areas in which Respondents Teach

4.9 Awareness of the term

One of the key aims of this research was to determine whether lecturers know the term "Information Literacy." In order to assess this, respondents were asked the question "Are you aware of the term "Information Literacy"?" Figure 7 shows that a large number (140) of the respondents were aware of the term.

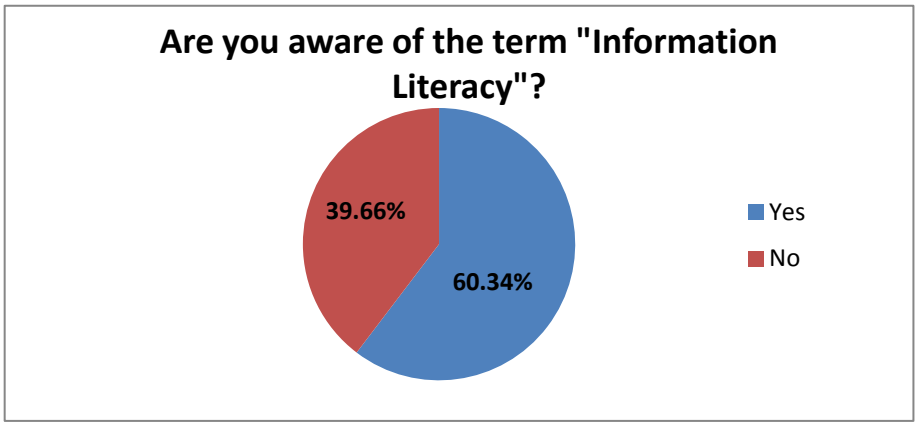

Figure 7 Awareness of the term "Information Literacy"

This was further explored by dividing the responses by university and it was found that TCD was the only university where less than half the respondents were aware of the term "Information Literacy". This can be seen in figure 8.

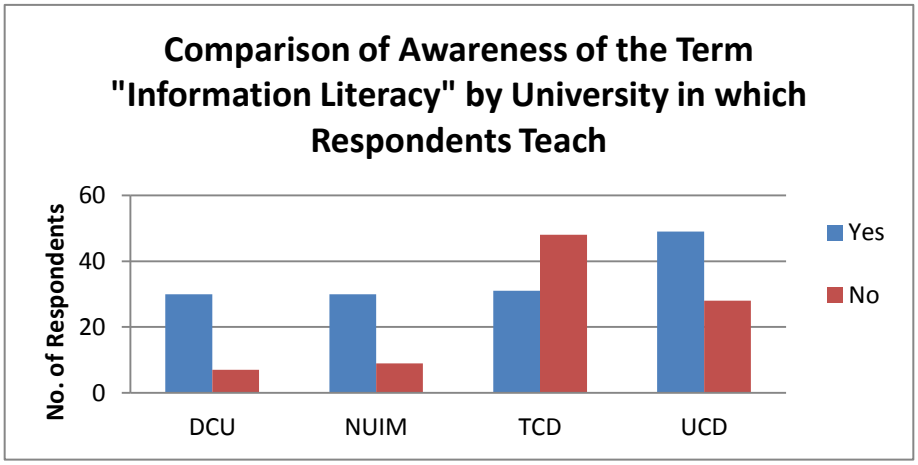

Figure 8 Comparison of Awareness of the term by University in which respondents teach

In order to ascertain if awareness of the term varied depending on subject area in which respondents taught, the responses to this question were also cross tabulated by subject area. As the number of respondents in each subject area was different, the percentages of respondents in each subject area were compared rather than the number of respondents. As figure 9 shows, the subject areas in which lecturers are least likely to be aware of the term are the Sciences and Engineering and Architecture. It should be noted though, that even in these areas the percentage of respondents who are aware of the term is over 40%. The graph also shows that only a low percentage of lecturers in the agriculture, food science and veterinary medicine fields were aware of the term. However, due to the small number of respondents in this group, this finding is less reliable. The percentage of lecturers who were aware of the term was highest in the Arts and Human Sciences. The responses from this question were also correlated with age and answers from the years of teaching question to discover whether these variables had an impact on awareness of the term. However, no correlation was found.

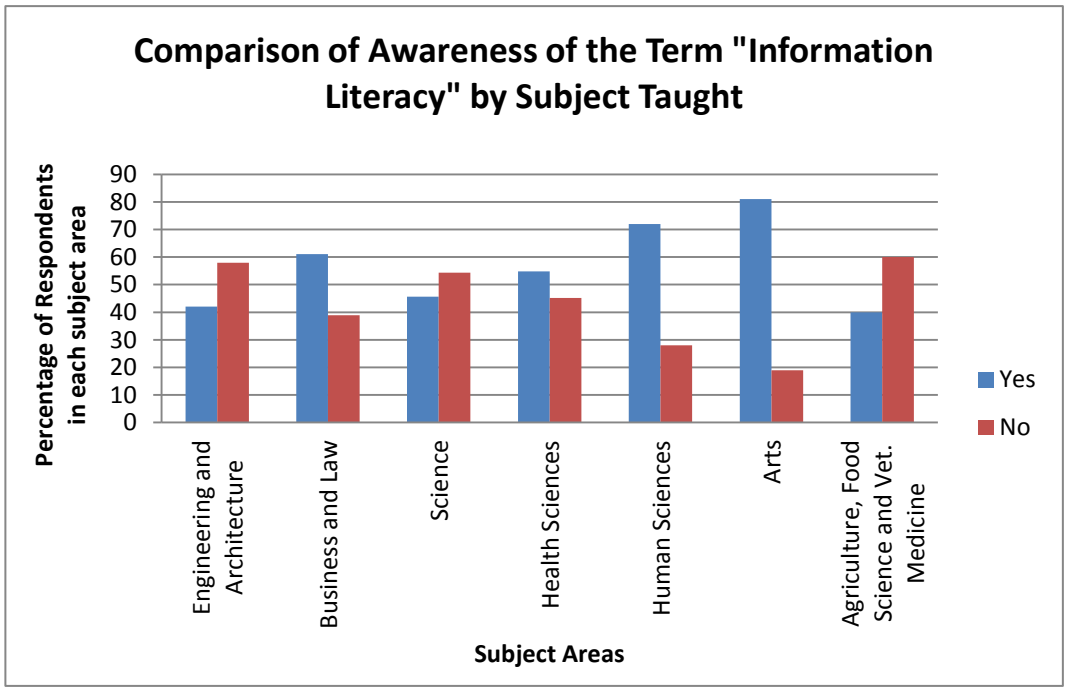

Figure 9 Comparison of Awareness by subject taught

4.10 Context of Awareness

Those respondents who were aware of the term "Information Literacy" were then asked in what context they came across the term. This question was open-ended and 108 of the 140 respondents asked provided an answer.

The majority of answers related to teaching and research. However, respondents had come across the term in a number of other contexts such as in the media (13 respondents) or general discussion (13 respondents). Some respondents (3) even considered the term to be general knowledge. As one respondent wrote "It exists as part of the swirl of discourses in which we all exist."

Several responses (37) stated that respondents had come across the term in relation to their teaching. Many respondents (14) provided simple short answers such as "teaching and research" or "as a teacher and researcher". Others stated (14) "in my role as an educator", "in relation to my work with students" and "student education." Amongst those who had come across the term in relation to teaching, coming across the term during programme and course development was common (7 responses). Furthermore, a number of respondents (7) mentioned coming across the term during training, courses or professional development.

Research related answers were also very common. A large number of respondents (26) had come across the term in their research. 10 respondents mentioned coming across it when reading, and 5 specified articles on teaching and learning. Despite the prevalence of the term "Information Literacy" in library discourse and literature only 11 respondents mentioned the library.

4.11 Explanation of the term

The respondents who were aware of the term "Information Literacy" were then asked if the term was explained to them. 13 respondents chose not to answer the question. Figure 10 shows that nearly two thirds of respondents who chose to answer did not have the term explained to them. However this does not take into account the fact that many of the respondents had come across the term while reading and they may not have considered reading a definition as having the term explained.

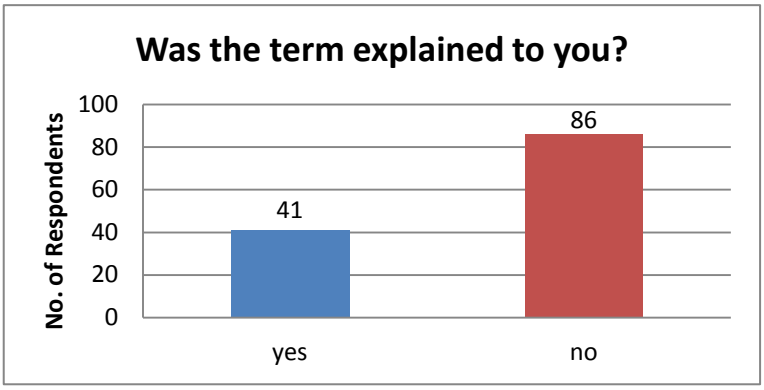

Figure 10 Explanation of the term

4.12 Definition of the Term

Question 9 asked those respondents who stated that the term had been explained to them how the term had been explained. This was answered by 30 respondents. Of these respondents, 23 provided a definition that was similar to the ALA definition[1]. Phrases used included "ability to access, manage and use information", "being able to access, evaluate and apply relevant professional information" and "recognition, discover and organization of information," However, several (5) of these responses put more emphasis on technology. For example, one response stated "especially using newer technologies such as the web."

[1] "To be information literate an individual must recognise when information is needed and have the ability to locate, evaluate and use effectively the information needed." (ALA 1989)

Other responses stated that the term had been explained through the use of examples, in context of other literacies such as media literacy and digital literacy and as a teaching goal. One response stated that the term IL was "self-explanatory in context."

4.13 Comparison of Previous Understanding of the Term to a Provided Definition

At this point in the questionnaire, respondents were presented with the ALA definition of Information Literacy[2]. They were then asked to compare their understanding of the term to this definition. 198 respondents answered this question. As figure 11 shows, the majority of respondents found the definition "similar" or "very similar" to their understanding of the term.

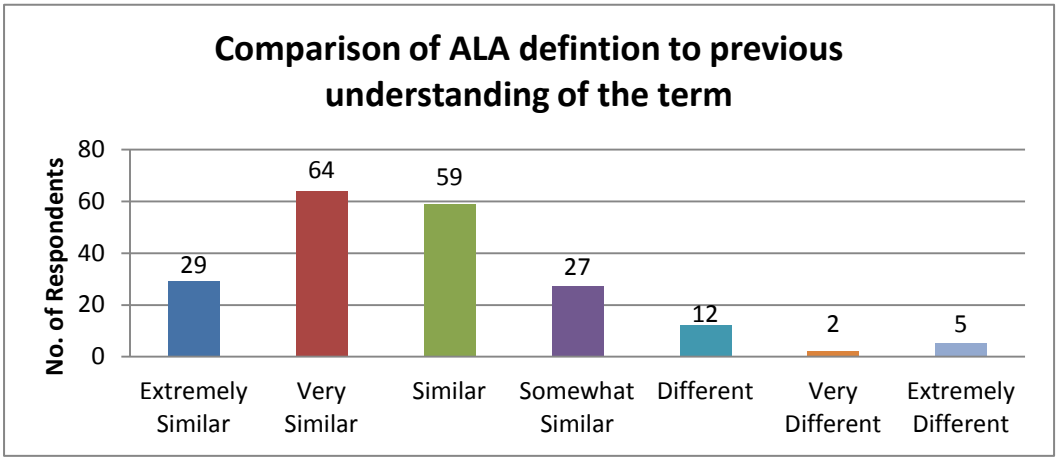

Figure 11 Comparison of previous understanding to ALA definition

[2] To be information literate an individual must recognise when information is needed and have the ability to locate, evaluate and use effectively the information needed." (ALA 1989)

To further analyse this result, the answers to this question were split into those who were aware of the term "Information Literacy" and those who were not and compared. Figure 12 shows that those who are aware of the term were slightly more likely to find the definition provided similar to their previous understanding, but those who were not previously aware of the term also had an understanding of the term similar to the definition provided. Thus, it can be said that lecturers do not require previous knowledge of the term to comprehend its meaning.

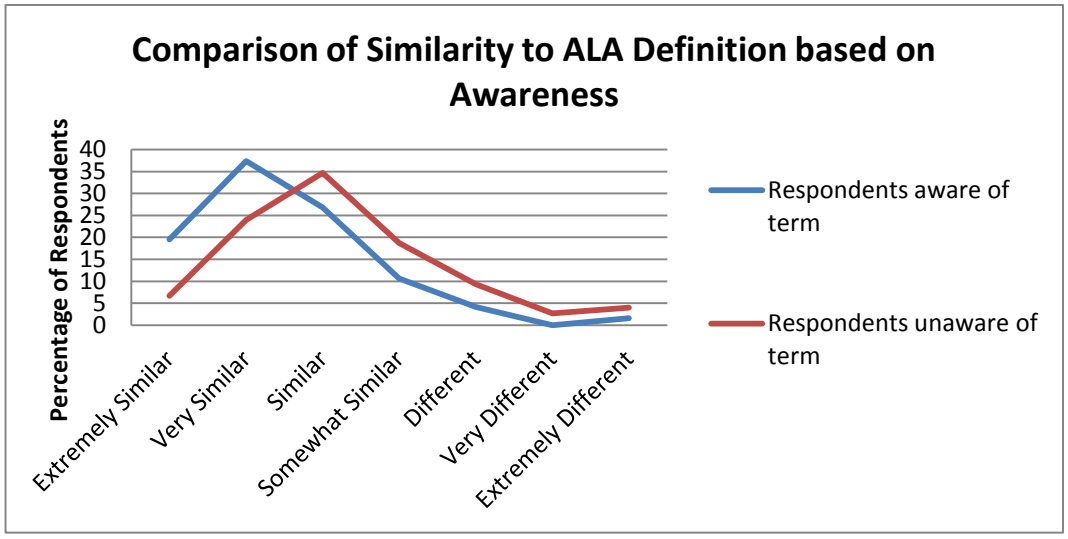

Figure 12 Comparison of similarity to ALA definition based on Awareness

This is supported by the comparison of those who had the term explained and those who did not shown in figure 13. From this it can be seen that while explanation of the term does increase understanding, the majority of lecturers do not require the term to be explained in order to comprehend it. This was also suggested in some respondents' answers to the previous question which was open-ended.

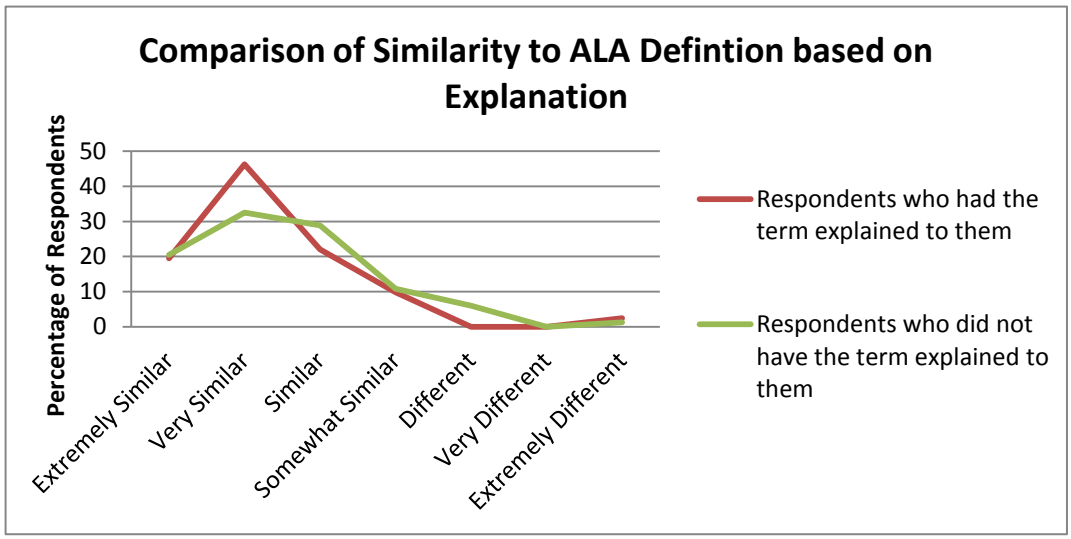

Figure 13 Comparison of similarity to ALA definition based on Explanation

4.14 Personal IL Level

The next question addressed respondents' perceptions of their personal level of IL. This question was answered by 193 respondents. Respondents were asked how information literate they considered themselves. As expected, in general respondents considered themselves to be at least at the average level of IL (figure 14). However, while the majority did consider themselves very or extremely information literate, 23.6% of respondents gave lower answers. This indicates that approximately a quarter of respondents admit that their level of IL could be significantly improved. These results are independent of age groups, subject areas and gender.

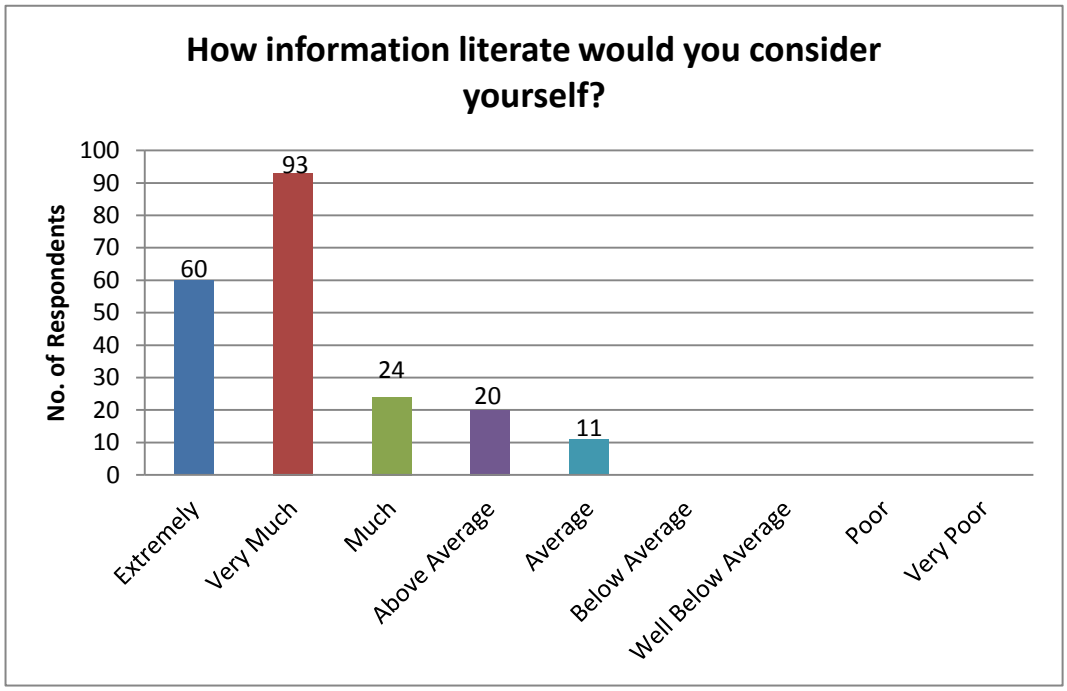

Figure 14 Consideration of Personal IL Level

4.15 Reflection on Individual IL

Question 12 asked respondents if they reflected on their own IL skills. This was primarily done to elicit a considered response to question 13. The question was answered by 186 respondents. Respondents were given a number of exclusive options and results are shown in figure 15. However, early respondents chose “other” and stated “sometimes”, “frequently” or “occasionally.” To avoid an overuse of the “other” category by one unified response, the option “frequently” was added into the question after 20 responses were received. Attention to comments also showed that many respondents conceived this question to consist of a Likert scale. The quantitative evaluation of this graph is therefore uncertain. However, what can be seen is that the majority of respondents attest to reflection on their own IL.

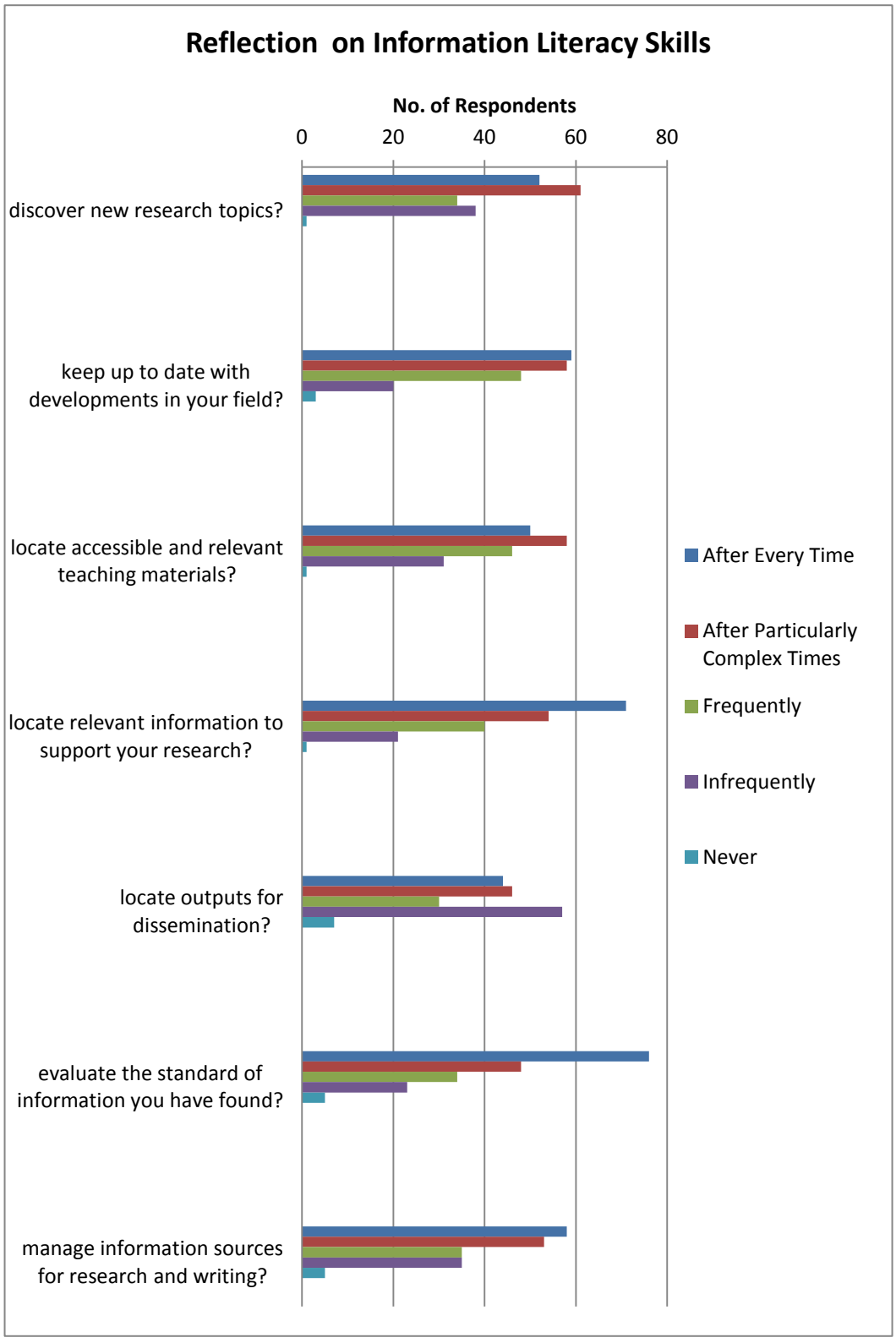

Figure 15 Reflection on Personal IL Skills

4.16 Confidence in Personal IL Skills

To further explore respondents' perceptions of their own IL, the next question asked how confident they felt in their abilities to perform certain tasks. 83.2% (193) of respondents answered this question. The results for this question are shown in figure 16. Overall, respondents were very confident in their abilities. However, confidence levels did vary between tasks. Lecturers were most confident in their abilities to discover new research topics and keep up to date in their field and least confident in their ability to manage information resources and locate outputs for dissemination of their work.

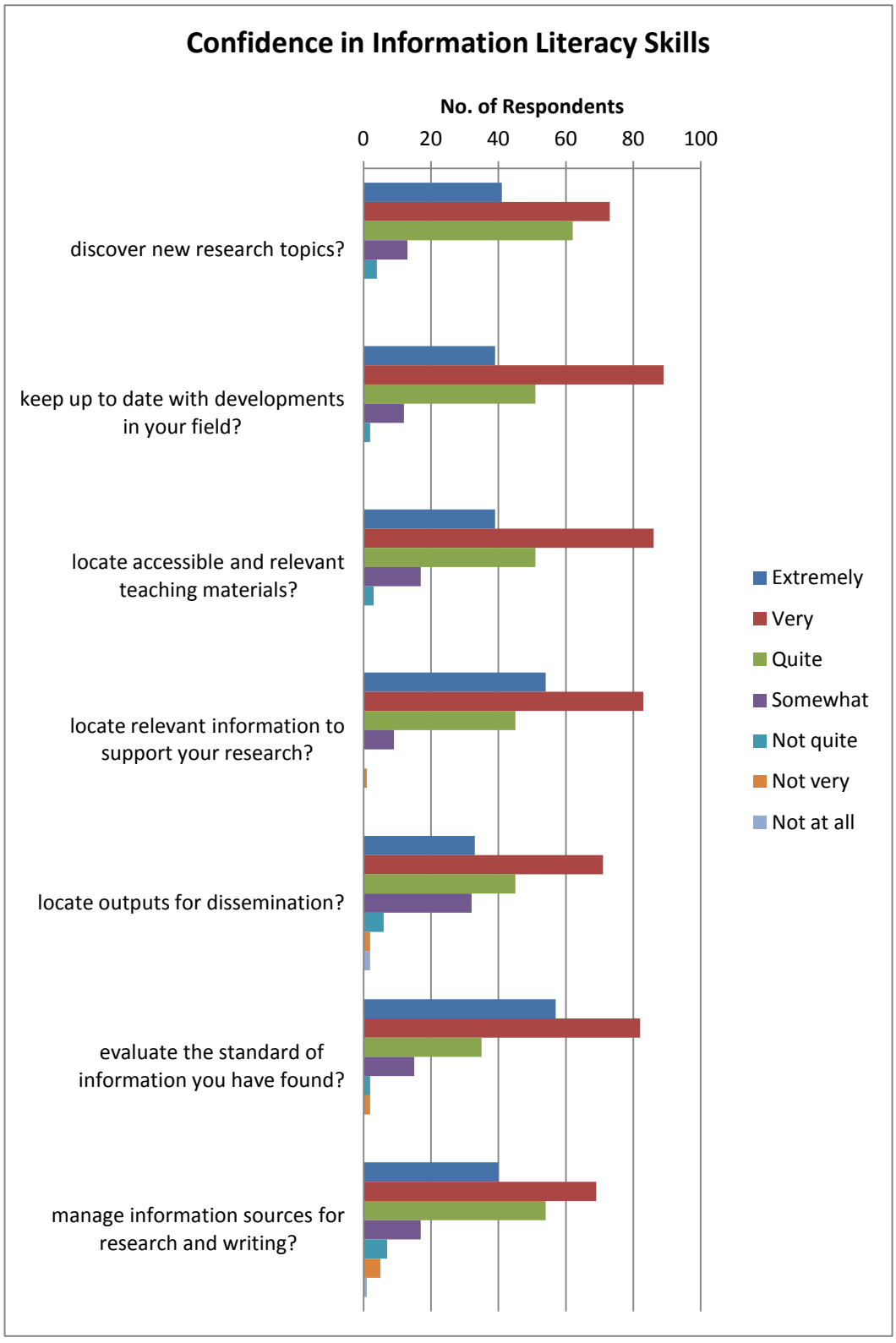

Figure 16. Confidence in Personal IL Skills

4.17 Seeking Advice on IL

Having answered how confident they were in their abilities, respondents were then asked if they had ever sought any advice with these tasks. The percentage of respondents still participating stayed at 83.2% or 193 respondents for this question. Only 69 respondents (35.76%) had not sought advice. It is noteworthy that no correlations were found between those who sought advice and age, gender, years spent teaching or subject area.

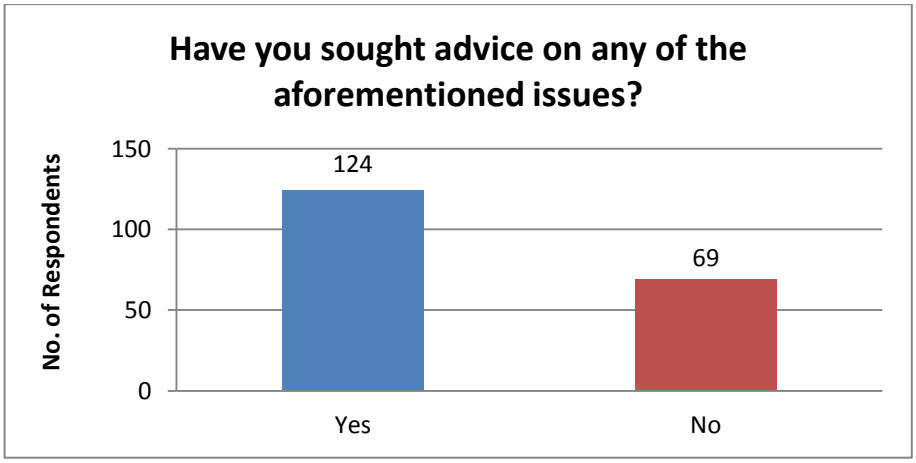

Figure 17 Respondents IL Advice seeking behaviour

4.18 Sources of Advice

Respondents who had sought advice on IL were then asked from whom they had sought advice. During pilot testing it was established that the term "colleague" was understood as academic colleagues within their own or related fields. Nearly all respondents (113) who had sought advice had done so from colleagues within their university. 76 respondents had sought advice from colleagues elsewhere; only 2 of these respondents had not also sought advice from colleagues within their own university. 77 respondents reported seeking advice from librarians. Again, the majority of these respondents (68) had also sought advice from colleagues within their own university. Of the 33 respondents who reported seeking advice from friends, all had sought advice from colleagues within their own university. These respondents had also sought advice from colleagues elsewhere or from librarians or from both. 21 respondents stated they had sought advice from all four groups.

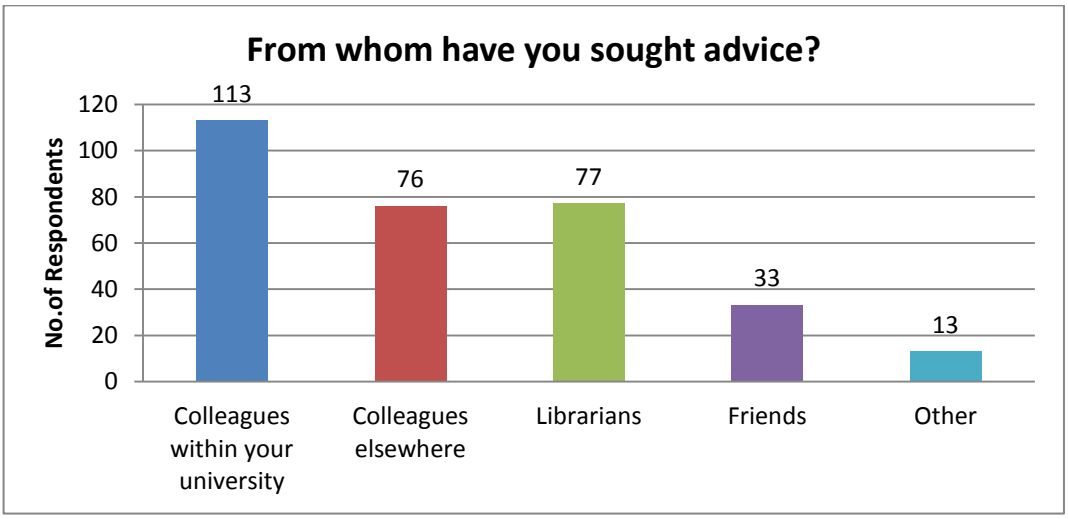

Figure 18 Common Sources of IL Advice

13 respondents reported seeking advice from another place. Figure 19 shows from which other places respondents had also sought advice. Again, all respondents who had sought advice from another place had also sought advice from colleagues within their university.

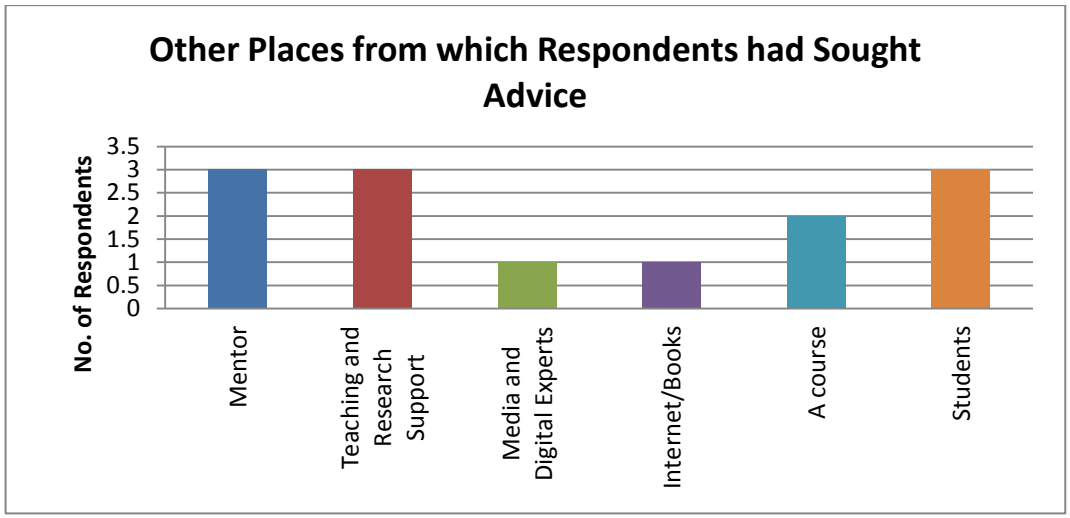

Figure 19 Other Sources of IL Advice

4.19 Benefits of Improved IL

Question 16 asked respondents what challenges in their research and teaching improved IL could help with. This was an open-ended question which 120 chose to respond to. Respondents commonly identified that improved IL would help filter, sort, evaluate and prioritise an overload of information available.

Several (28 respondents) referred to the time spent on these tasks and becoming more efficient. 21 answers showed considerable annoyance with the proliferation of unreliable information and 18 respondents indicated that improved IL would increase their own ability to critically evaluate information and their ability to teach students to do likewise. As one respondent put it:

"The surfeit of information that is now readily available challenges students to be able to discriminate between the significant, and correct and the trivial and possibly inaccurate. "

Parallel to the findings from question 13, respondents identified that managing resources (13 respondents) and disseminating their own research results (6 respondents) would be improved through better IL. Despite considering themselves very good at keeping up to date in their field (question 13), 17 respondents mentioned that improved IL would help them in this regard.

In relation to teaching, 6 respondents indicated that improved IL would help students to be more independent in their learning and cope with a Problem Based learning approach. They also stated that improved IL would help them to find more teaching resources (8 responses), understand teaching methods (1 response) and fine-tune assignments (2 responses).

In this section, 3 respondents also voiced their opinion that access to information like monographs, journals and periodicals should be a civil right available to the general public and 1 respondent went as far as introducing the term "civil literacy."

4.20 Importance of Being Information Literate

Next, respondents were presented with four groups and asked how important they considered being information literate to be for each group. 187 respondents (81.47%) answered this question. As figure 20 shows, all respondents considered being information literate to be important for all groups. Respondents considered their own IL to be most important with 129 respondents choosing "extremely" and 52 choosing "very important". Only 8 respondents chose the "quite" or "somewhat" options. This was closely followed by other faculty members where 127 respondents chose "extremely", 51 chose "very" and 11 chose "quite" or "somewhat important". While being information literate was still considered important for students (again only 11 respondents chose "quite" or "somewhat"), fewer respondents (107) considered it to be extremely important. The IL of the general population was not considered as important with only 61 respondents choosing "extremely" and 67 choosing "very". 46 respondents considered the IL of the general population to be "quite" important and 13 rated it as "somewhat" important. 1 respondent even considered it "not very important." The results of this question were then compared by age, sex and gender. However, no correlation between these variables was found.

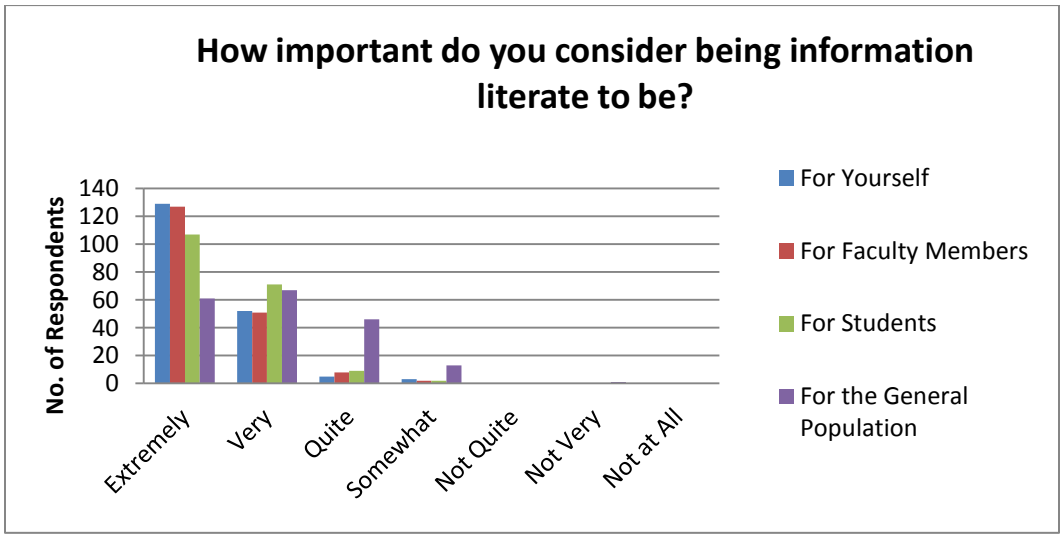

Figure 20 Consideration of the Importance of IL

4.21 Student IL Levels

Question 18 of the questionnaire asked respondents about the IL of their students. Respondents were provided with a number of tasks which relate to students' IL skills and asked to rate the abilities of their first, final and postgraduate students. The response rate for this question was lowest of all questions asked to all respondents and only 160 respondents (68.97%) answered. In addition, many of those who did respond to this question did not complete the question. However, this could be because not all lecturers teach all student groups. The difficulty in answering this question was also commented on in open-ended responses throughout the questionnaire. Many respondents felt it was difficult to be so general about their students. Comments included:

> "Students are individuals and come from very different levels of information literacy…As such, you can't categories them just by year level"
>
> "Questions on student competencies are difficult to respond to given the vast spread of students being taught. Some are extremely information literate while others are not"
>
> "Some students at all levels have apparently innate knowledge, some learn after one mention, some seem incapable of learning without formalised training. Each year group contains a mixture."

These comments were taken into account and it should be noted that the answers to this question are very general. In order to achieve a detailed view of how lecturers perceive their students' IL further research into this topic could be conducted. Despite this some conclusions can be drawn from the responses to this question.

Figure 21 shows respondents perceptions of 1st year students' IL skills. Of the three student groups, this group received the least responses. Respondents acknowledged these students' ability to use technology, perceiving them to be best at using internet resources. However, 1st year students were considered to be "poor" at most of the tasks by the majority of respondents considered. Thus, while being able to use internet resources, students' abilities to use them to correctly support their arguments and draw new conclusions are questionable.

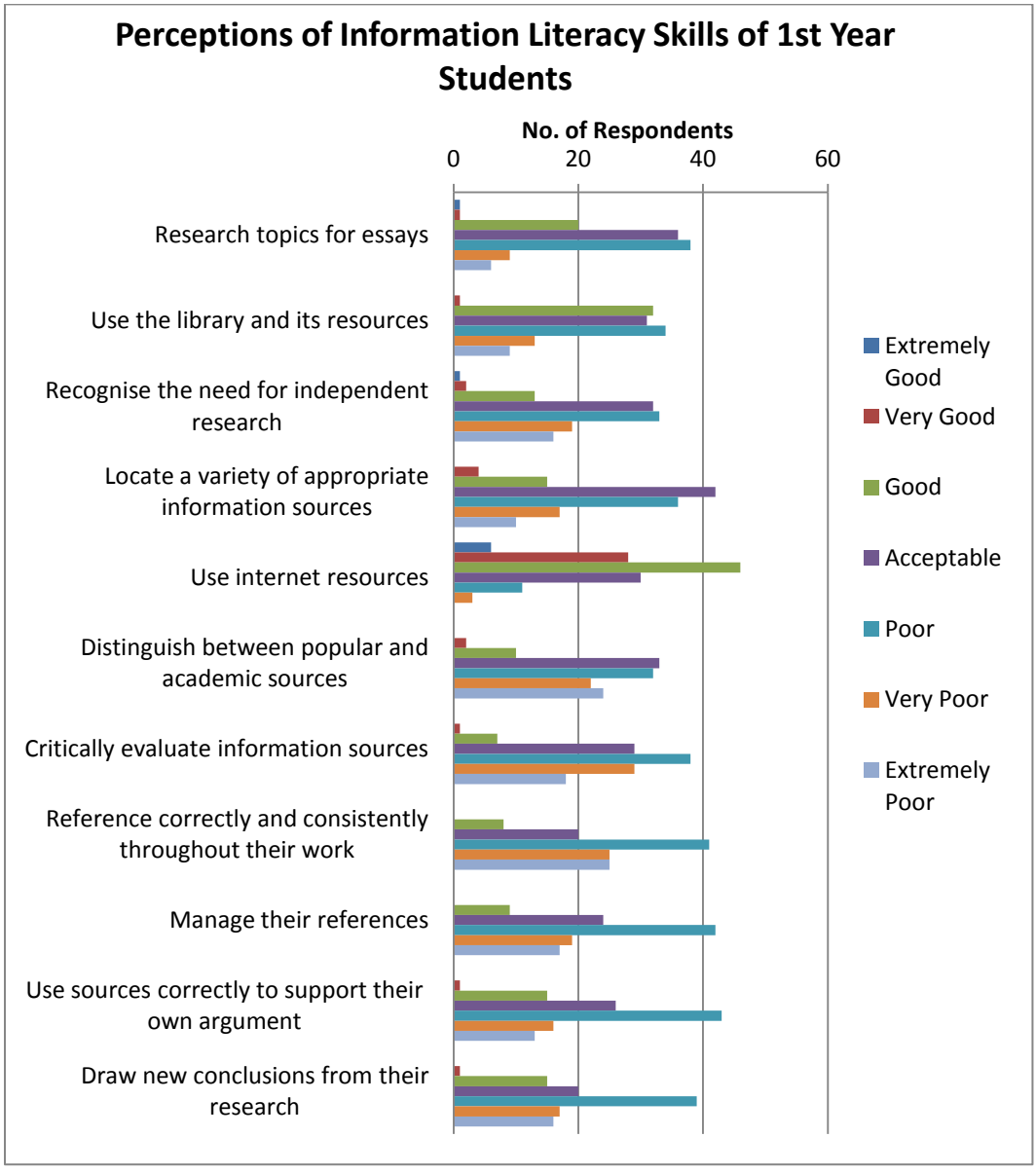

Figure 21 Perceptions of IL Skills of 1st Year Students

Respondents were also asked about their perceptions of final year students' IL (figure 22). 142 respondents answered all or part of this question. Respondents perceived these students' IL skills to be significantly better than the skills of 1st year students. The majority of respondents perceived final year students to be good at most of the skills presented. Again, students' abilities to use technology was acknowledged with students' use of internet resources perceived as best while their ability to draw new conclusions from their research and reference correctly and consistently were considered worst.

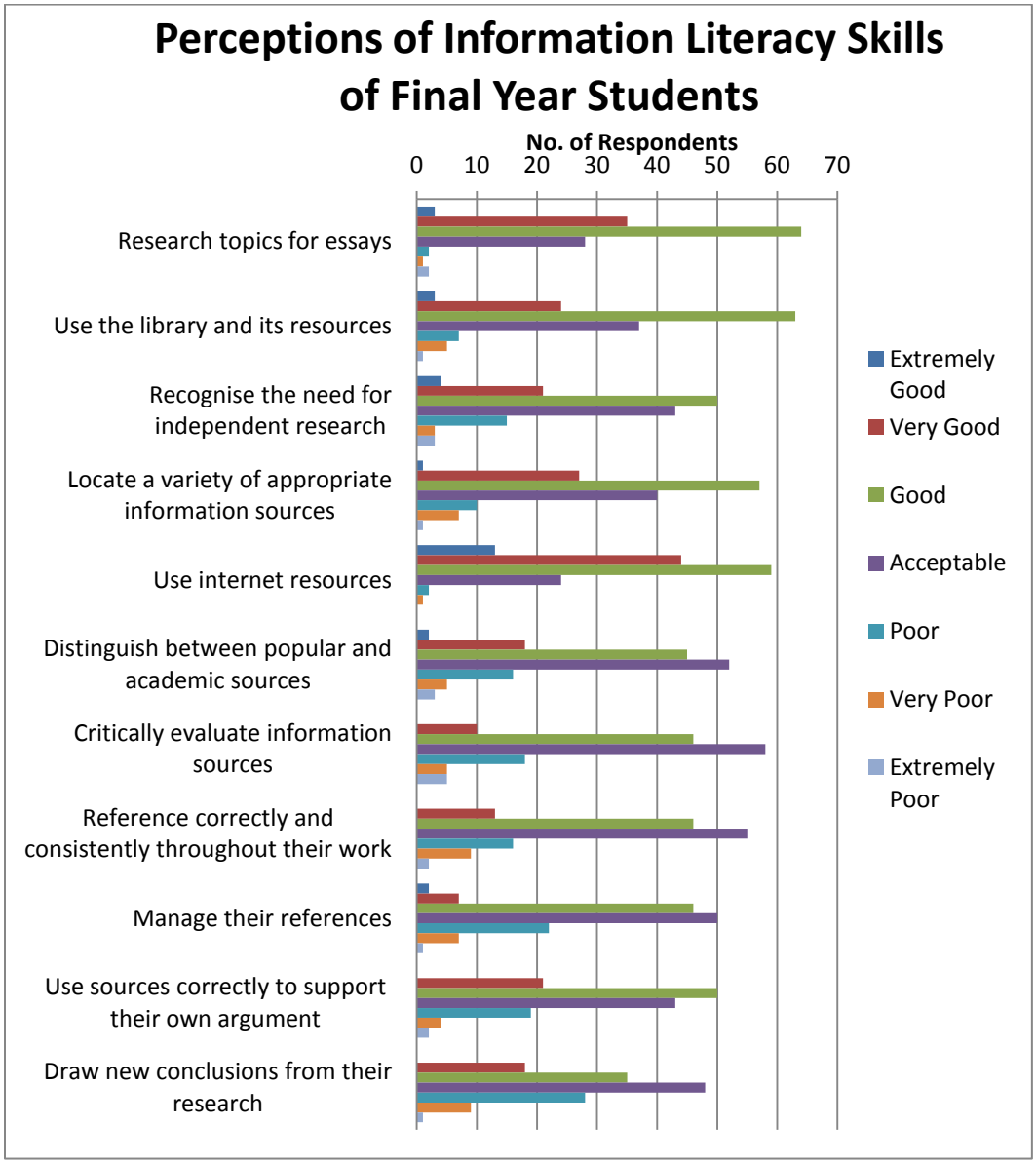

Figure 22 Perceptions of IL Skills of Final Year Students

Figure 23 shows the respondents' perceptions of the IL skills of post graduate students. 159 respondents answered all or part of the question. Again, the majority of respondents perceived post graduate students to be good at the majority of skills. However, the number of "excellent" and "very good" responses was significantly higher for this group. As with the other student groups, use of internet resources was considered students' best skill and their ability to reference correctly and consistently throughout their work was perceived as their worst skill.

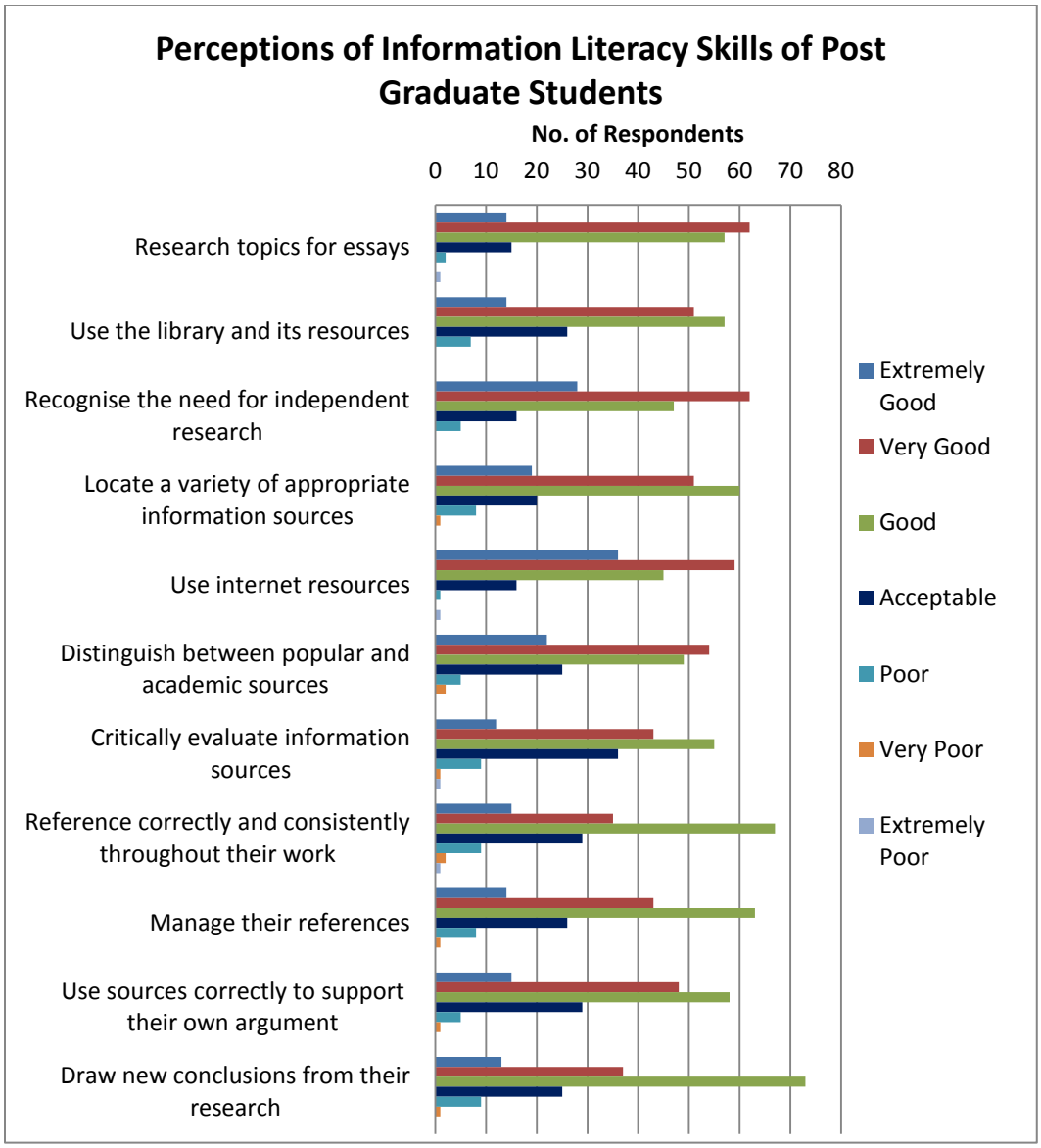

Figure 23 Perceptions of IL Skills of Post Graduate Students

4.22 IL in Teaching

Next, the questionnaire inquired about IL in respondents' teaching. Question 19 asked respondents if they ever dedicated certain parts of their lectures to IL. 73.7% (171) respondents answered this question. 103 respondents stated they did dedicate certain parts of lectures to IL.

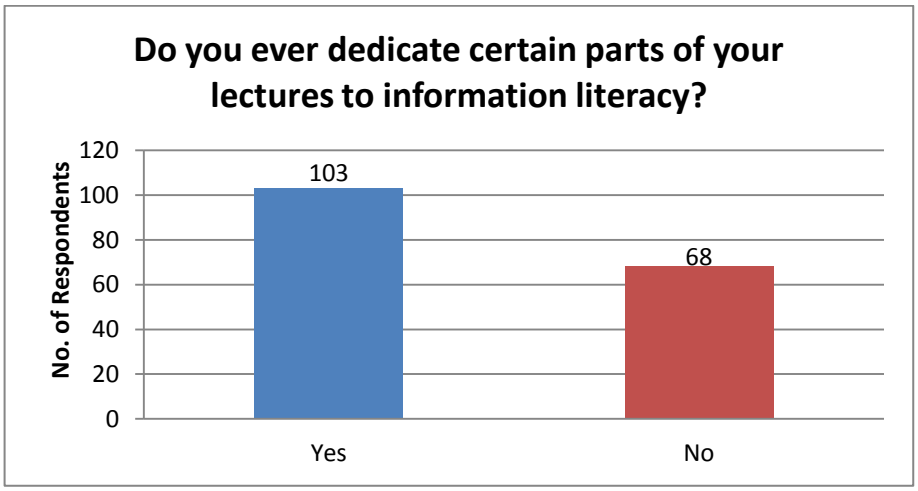

Figure 24 Inclusion of IL in lectures

In order to ascertain whether lecturers in all subject areas dedicated parts of lectures to IL the results of this answer were compared by subject area. Percentages were used to provide an accurate comparison. Figure 25 shows that in most subject areas the majority of respondents stated they did dedicate parts of lectures to IL. The only subject area where this was not the case was in the sciences where 62.5% of respondents did not dedicate parts of lectures to IL. Exactly half of respondents in the agriculture, food science and veterinary medicine group dedicated parts of lectures to IL. However, due to the limited size of this group, this result may not be truly representative.

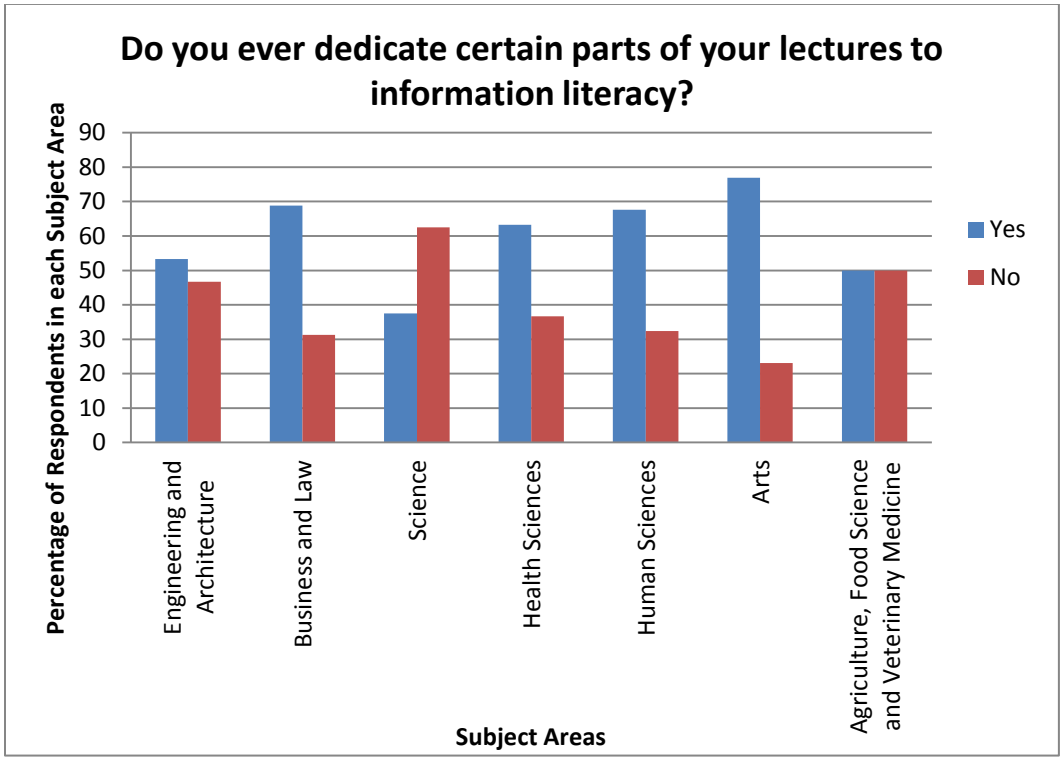

Figure 25 Comparison of inclusion of IL in lectures based on subject area

4.23 Lecture Time Dedicated to IL

Those respondents who stated they did dedicate certain parts of their lectures to IL were then asked how much of a total course they would dedicate to it. Of the 103 respondents who were asked this question 102 chose to answer. As can be seen in figure 26, the majority of respondents dedicated less than 10% of a total course to IL. 46 respondents (45.1%) dedicated 0-5% and 34 respondents (31.4%) dedicated 6-10% of a total course to IL. Only 16 respondents (15.7%) dedicated between 11-25% of a course to IL and 3 (2.9%) dedicated 26% or more of a total course to IL. Respondents were also given a chance to expand on their answer to this question. Analysis of these responses showed that respondents who dedicate time to IL tend to explain their own information sources and discuss IL in relation to assignments they have set. Furthermore, many respondents stated that other modules were devoted to the subject. These can be subject specific e.g. bioinformatics or more generic like in research methods modules.

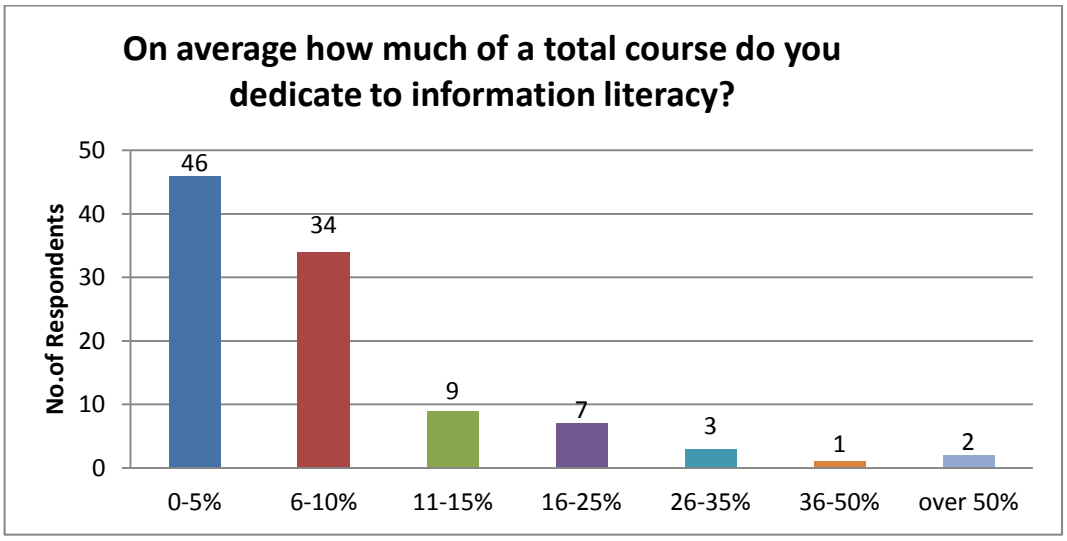

Figure 26 Course time dedicated to IL

4.24 Identification of IL Component in Teaching

Respondents who did dedicate part of their lectures to IL were also asked whether they identified that part as IL to their students. 100 of the 103 respondents who were asked this question responded. 44% of respondents stated that they never identify the component as IL and only 4% always identified the component as IL. 16% of respondents frequently identified, 20% occasionally identified and 16% rarely identified the part of their course which was dedicated to IL as such.

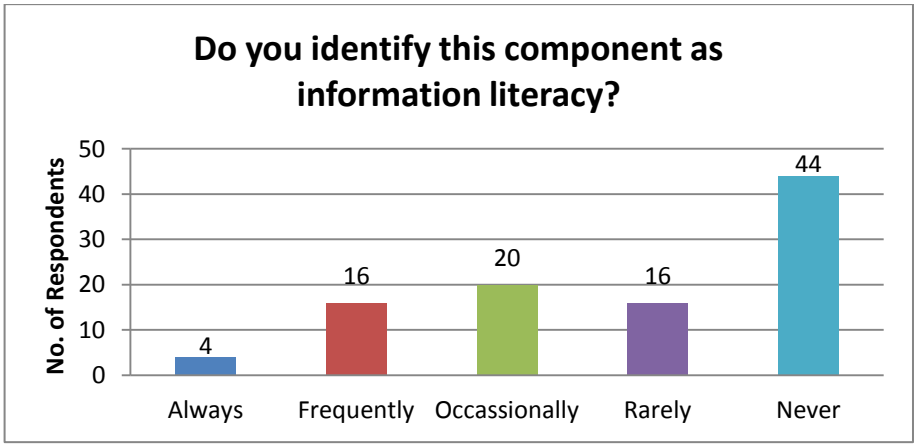

Figure 27 Identification of IL component

4.25 Perceived Level of IL attained by Students.

Question 22 asked all respondents how much IL they estimated their students obtained from their teaching. 167 respondents (72%) answered this question. Figure 28 shows that the majority of respondents perceived that students obtained some IL from their regular teaching.

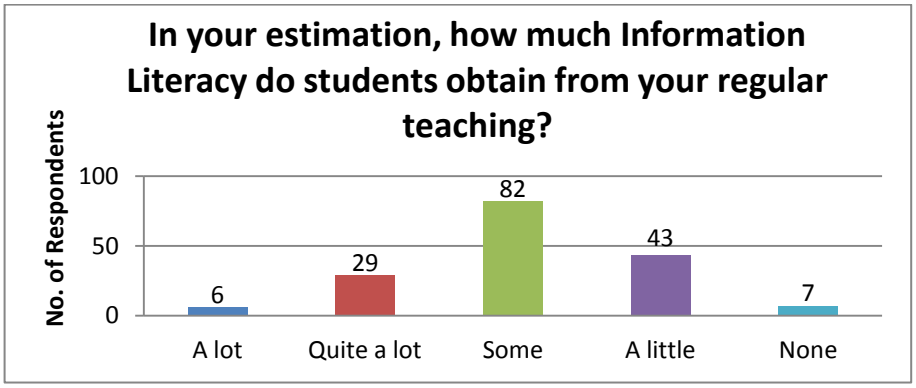

Figure 28 Perceived level of IL gained by students through regular teaching

This question was also used to ascertain if lecturers who dedicate part of their lecture time to IL (see question 20) believe that students gain more IL from their teaching than those who do not dedicate lecture time to the subject. Figure 29 shows that while respondents who dedicate time to IL do perceive that students get more IL from their teaching than those who do not, the difference between the two groups is not substantial.

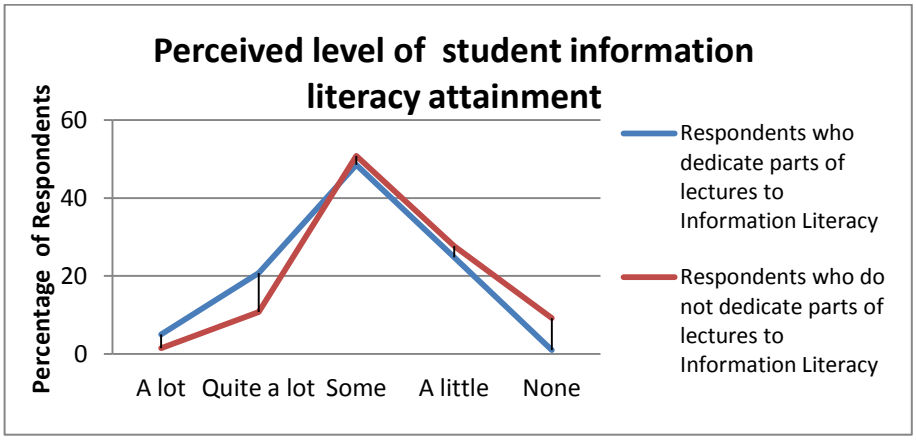

Figure 29 Relationship of dedicating time to IL to perceived level of student IL attainment

4.26 External Requests for IL Teaching Component

The next questions asked respondents if anyone had approached them with regards to adding IL to any curriculum in which they partake. 171 respondents (73.7%) answered this question. As can be seen in figure 30, only 18.71% (32 respondents) had been approached with regards to adding IL to any curriculum.

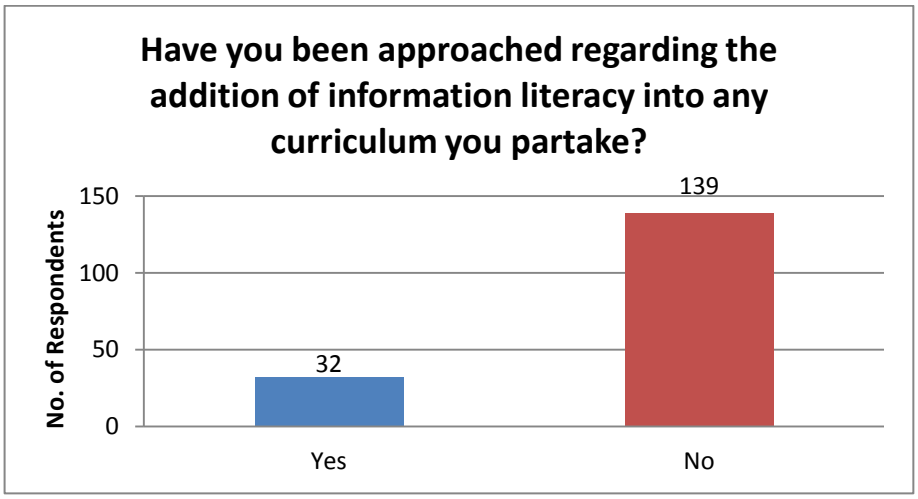

Figure 30 External requests for IL inclusion

Results from this question were correlated with results from the question on whether respondents dedicate parts of their lectures to IL (q.20) and it was found that of the 32 respondents who had been approached only 5 (15.6%) did not dedicate time to IL. In comparison, 45.7% of respondents who had not been approached did not dedicate time to IL (figure 31). This could be seen as evidence that increasing awareness of IL increases the incorporation of IL during regular teaching. However, the significant size difference of these two groups must be considered.

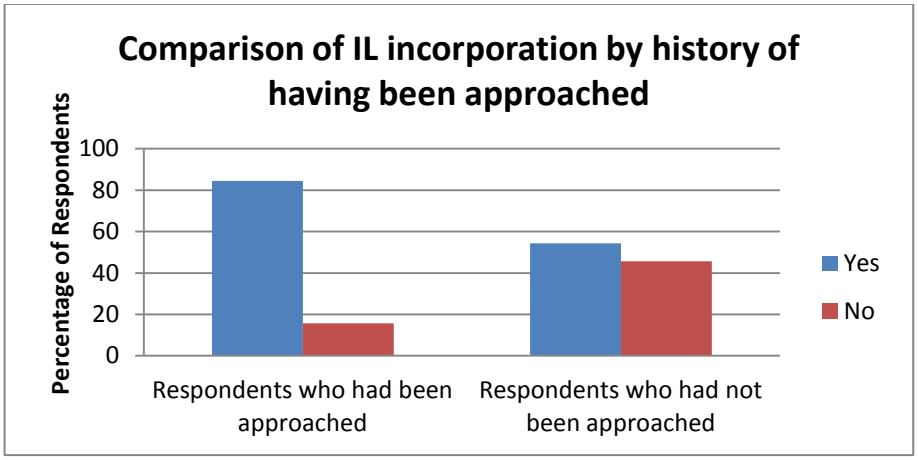

Figure 31 Relationship between external IL requests and dedication of lecture time to IL

4.27 Sources for External Requests

Respondents who had been approached regarding the addition of IL to a curriculum were then asked who had approached them. This question was open-ended and only 26 respondents answered. 12 of these respondents had been approached by library staff. 6 respondents stated they had been approached by colleagues. A surprising number of respondents (4) reported being approached by students. Other respondents reported being approached by management or professional bodies. This can be seen in figure 32.

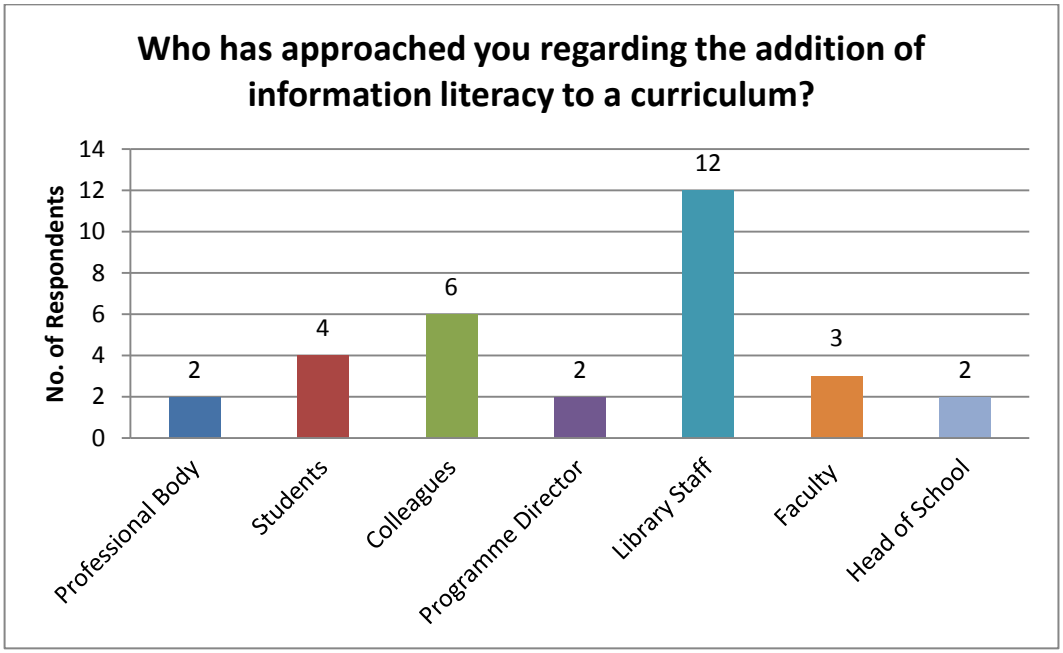

Figure 32 Sources of External IL Requests

4.28 Support Requests to Library Staff

Next, respondents were asked if they had approached a librarian regarding the addition of IL to any curriculum in which you partake. 169 respondents (72.84%) chose to answer this question. Figure 33 shows that 39.64% (67 respondents) had approached a librarian in regards to adding IL to a curriculum

7 respondents who answered no also expanded their answer in the comment field for this question. 5 of these stated that while they personally had not approached a librarian, either somebody else in the department or the department as a whole engaged with the library on this topic. 1 respondent stated that while the library did support lecturers by providing tours and emails about new information this was not integrated into the curriculum and 1 respondent simply stated "Librarians do their thing and I do mine."

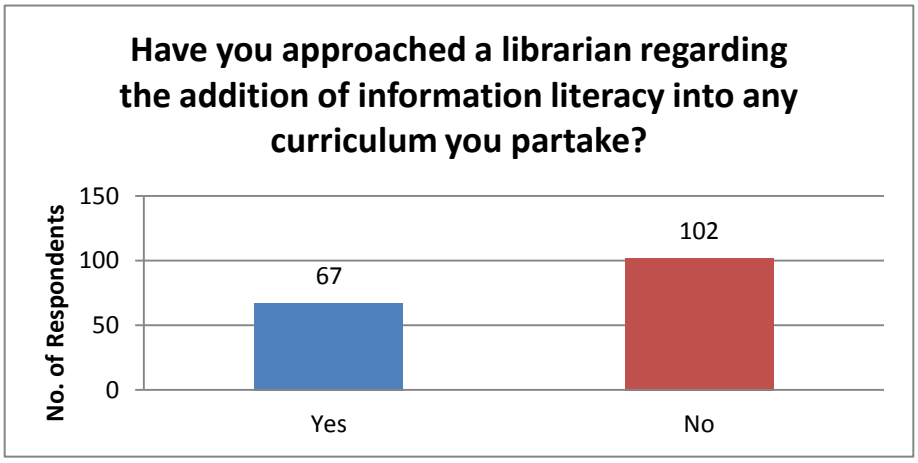

Figure 33 Support Requests to Library Staff

Nearly one third of respondents who answered yes also expanded on their answer. Of these 27 responses, only 5 did not mention the use of sessions to teach students. The majority of respondents (11) stated that they used librarians for inductions and library tour sessions. However, 5 respondents reported that IL had been specifically integrated into a particular course and 2 reported teaching alongside a librarian. 2 respondents reported that librarians meet with students to help them with their final year project. The 5 respondents who did not mention using library sessions approached the library regarding resources, reading lists and linking to the library catalogue.

4.29 Addition of IL to Curricula

Respondents were also asked if they would be interested in adding IL to any curriculum in which they partake. This question was answered by 167 (71.98%) respondents. However, 2 respondents who did not answer the question left comments stating it was not applicable because IL was already a part of the curriculum.

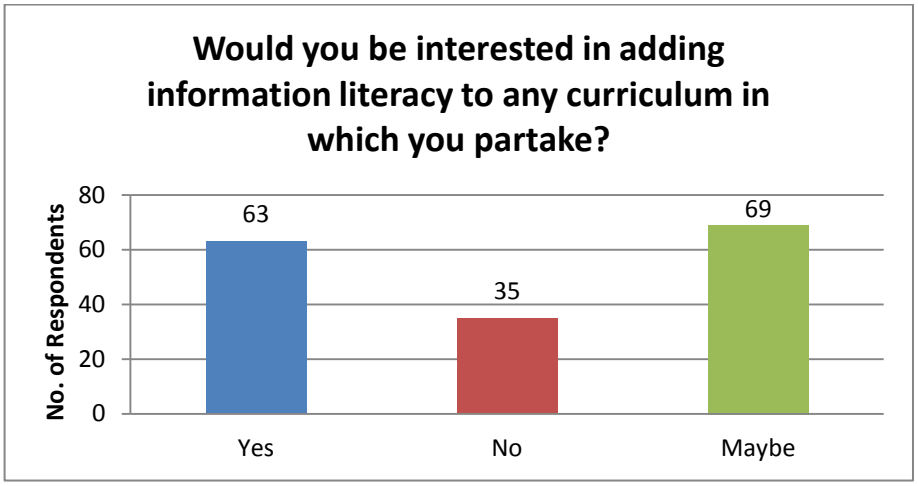

Figure 34 Interest in Addition of IL to curricula

Figure 34 shows that only 35 respondents (21%) stated that they would not be interested in adding IL to any curriculum in which they partake. However, only 63 (37.7%) respondents stated they would definitely be interested in adding IL to a curriculum. Of the 3 options provided, the most commonly chosen option was "maybe" (41.3%).

One way of understanding this indecisiveness is to look at the answers provided in the comment box. 36 respondents provided additional information in this way. 12 of these had answered no to the question, 15 had answered yes and 7 had answered maybe. 6 respondents stated that they would not be interested in adding IL to any curriculum because it was already there and 7 respondents stated they would be interested and it was already there. The formulation of the question however does not allow for any conclusion on whether these respondents would like to expand, reduce or keep the existing IL teaching component. The most common remark made was that there was limited time in the curriculum and finding the time to add IL would be difficult.

4.30 General Statements on IL

Question 27 of the questionnaire presented the respondents with a number of statements. Respondents were asked whether these statements were true or false. They could also choose a third option if they were unsure of the answer. This question was answered by 164 (70.68%) of respondents and 3 of those respondents only partially answered. Responses can be seen in figure 35. Each statement relates to a problem area in collaboration between academic staff and librarians as identified in the literature review.

When it comes to the availability of IL classes at Institutions, only 2 respondents stated "false" they were not available. 97 respondents stated "true" and 65 were unsure. Only 1 respondent did not think librarians teach IL at the university. 101 respondents stated "true" and 62 respondents were unsure. While the majority (85) knew faculty members were welcome at IL classes, the number of respondents who were unsure of this rose to 77. 2 respondents did not think faculty were welcome at IL classes.

When asked if attending IL classes was unfeasible due to lack of time, the majority (73) of respondents stated "false". However, 40 respondents did state "true" and 49 were unsure. The statement relating to lack of time to add IL to courses received similar results with 87 respondents stating "false", 44 stating "true" and 30 who were unsure. This is surprising considering the comments on time in the previous question. This was further explored in the next question.

The statements on librarian involvement produced interesting results. 119 respondents stated they would be open to librarian involvement in their teaching. Only 30 respondents stated "false" and 14 were unsure. Despite this openness towards involvement, the next statement shows that the majority of respondents (100) do not ask librarians to come into their classes frequently. Only 43 respondents stated "true" and 19 were unsure. This shows that while open to involvement from a librarian, respondents generally don't seek this involvement.

The last 3 statements of this question related to students. These generally received a high number of “false” responses. 109 respondents did not believe students should learn IL on their own with 23 respondents stating they should and 30 who were unsure. 118 respondents stated “false” to the students are already information literate statement with 18 stating “true” and 26 respondents who were unsure.

The statement “Students are not required to be information literate” received the clearest result. Only 6 respondents believed this to be true and 10 were unsure. An overwhelming 146 respondents stated that students are required to be information literate. This shows that respondents understand the importance of IL for students.

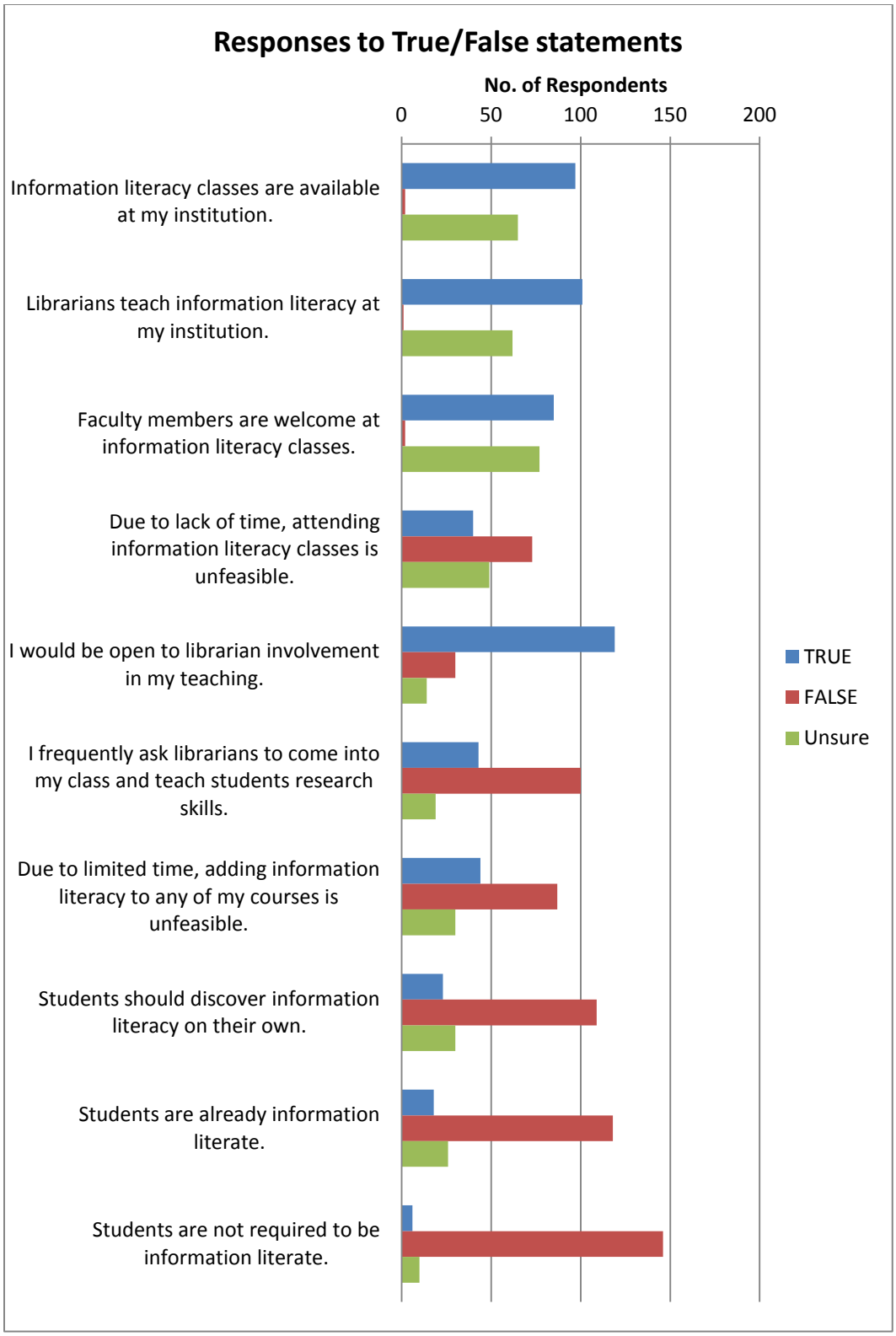

Figure 35 Responses to Statements about IL

4.31 Involving Librarians in IL Education

Next, respondents were asked how much a number of factors would influence them when considering collaboration with a librarian to teach IL. This question was answered by 162 respondents (69.83%) and 11 respondents chose to answer only parts of the question.

Responses to this question are presented in figure 36. From this, it can be seen that the factor which most influences respondents is students' IL needs. This is followed by time restrictions and librarians' teaching abilities. Not knowing any librarians is the least influential in respondents' consideration to collaborate with a librarian to teach IL.

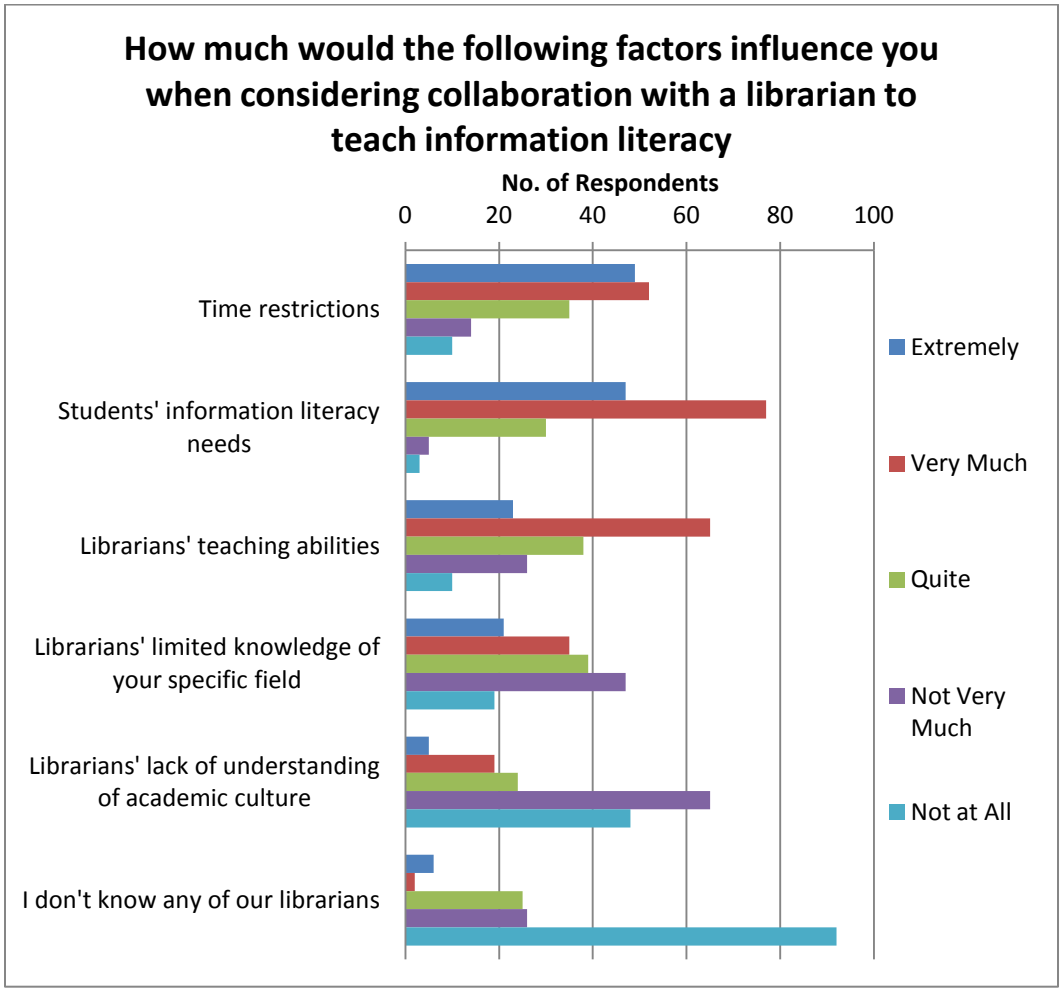

Figure 36 Influence of factors on Collaboration with Librarians to teach IL

As figure 36 shows, respondents consider students' IL needs to be highly influential in their decision to collaborate with librarians to provide IL classes. The majority of respondents (47.53% or 77 respondents) stated that students' IL needs would influence them very much, while 29.01% (47 respondents) stated this would be an extremely influential factor and 18.52% (30 respondents) found this factor to be quite influential. Only 3.09% (5 respondents) stated it would not be a very influential factor and 1.85% (3 respondents) stated it would not influence them at all. This can be seen in figure 37.

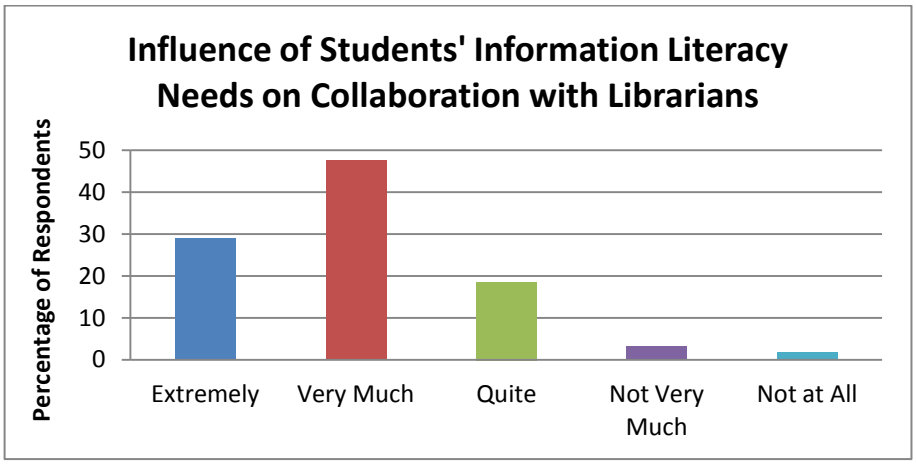

Figure 37. Influence of Students' IL Needs

Time restrictions were also considered influential in respondents' decisions on whether they would collaborate with a librarian to teach IL. This factor received the highest number of "extremely" responses with 49 respondents (30.63%) stating time restrictions would be extremely influential in their considerations to collaborate with librarians to teach IL. However fewer respondents stated time restrictions would influence them very much than stated students' IL needs would. 32.5% of respondents (52) stated time restrictions would influence them very much when considering collaboration with a librarian to teach IL and 21.87% (35 respondents) stated time restrictions would be quite influential. Only 8.75% of respondents (14) stated that time restrictions would not be very influential in their consideration and 6.25% (10 respondents) stated it would not influence them at all.

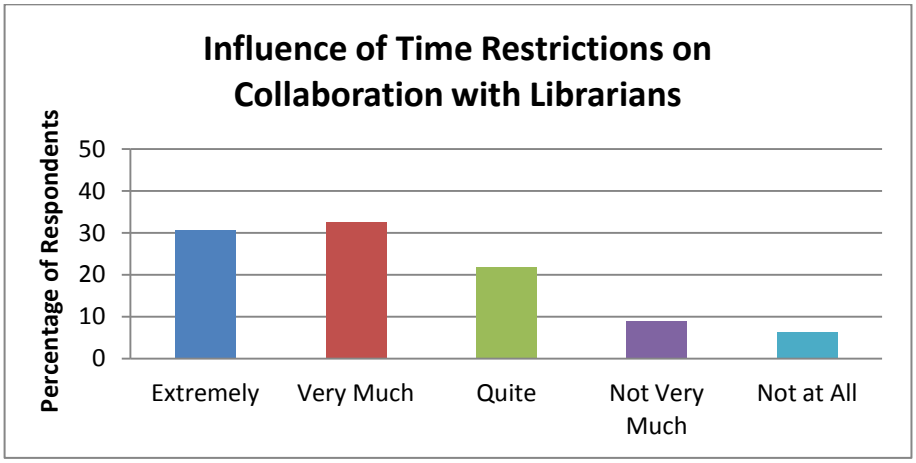

Figure 38. Influence of Time Restrictions

As another influential factor in collaboration between academics and librarians identified in the literature is the perception that librarians have limited teaching abilities, respondents were also asked about this. However, this factor is not as influential as the previous two, with only 14.2% (23 respondents) stating it would influence them extremely and 40.12% (65 respondents) stating it would influence them very much. Figure 39 shows that 23.46% (38 respondents) considered librarians' teaching abilities quite influential while 16.05% (26 respondents) stated that this would not influence them very much and 6.17% (10 respondents) stated it would not influence them at all.

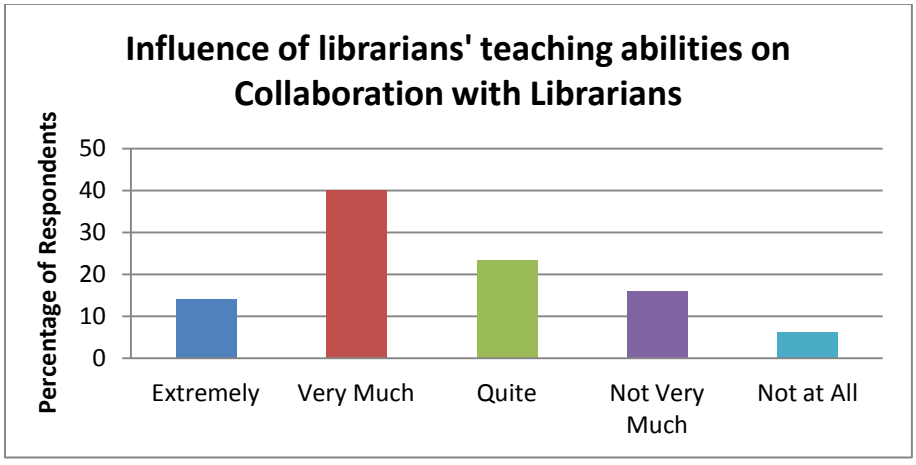

Figure 39. Influence of Librarians' Teaching Abilities

Respondents were also asked how much librarians' knowledge of their specific field of study would influence them when considering collaboration with librarians to teach IL. As figure 40 shows, while "not very much" was the most popular single answer (chosen by 47 respondents or 29.19%), 59% of respondents rated the influence of librarians' limited knowledge of their specific field as quite influential or higher. Therefore, this factor can also be seen as influential in collaboration between lecturers and librarians to teach IL. More detailed analysis of results is shown in figure 40. The results to this answer were also compared by subject area to see if this influenced respondents' perceptions. However, no correlation was found.

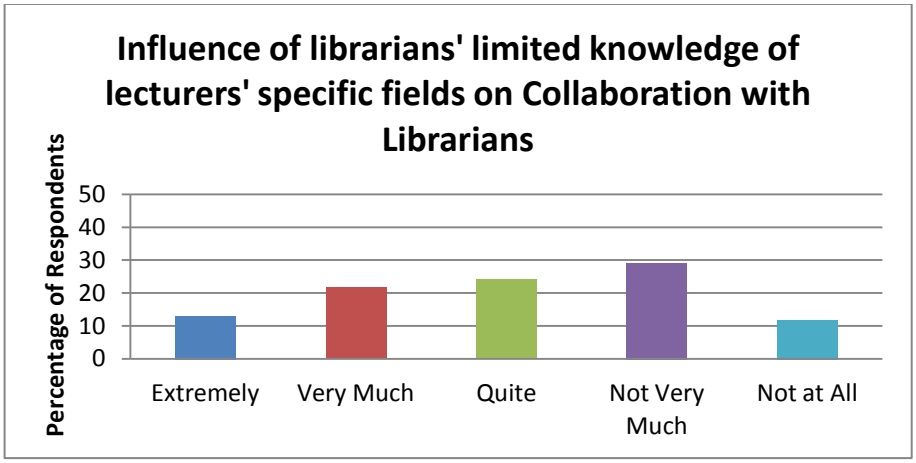

Figure 40 Influence of Librarians' Limited Knowledge of Lecturers' Specific Fields

Respondents were also asked about librarians' lack of understanding of academic culture. Figure 41 shows that this factor is significantly less influential than those previously mentioned with the majority of respondents stating it would not influence them very much (40.39%) or at all (29.81%). However, the remaining 29.82% still considered this factor influential.

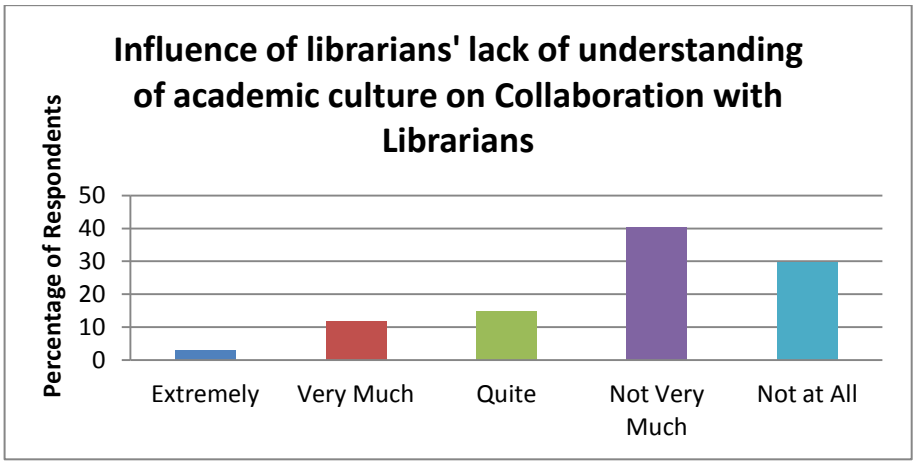

Figure 41 Influence of Librarians' Lack of Understand of Academic Culture

The final factor influencing collaboration which was explored by the questionnaire was respondents' acquaintance with librarians. Respondents were asked how influential not knowing any librarians would be in considering collaboration with librarians in teaching IL. This factor received the least responses and 11 respondents who answered this question did not give a response for this factor. This factor is by far the least influential on whether lecturers would consider collaboration with librarians to teach IL. 60.93% (92 respondents) stated it would not influence them at all and 17.22% (26 respondents) stated it would not influence them very much. Further details are provided in figure 42.

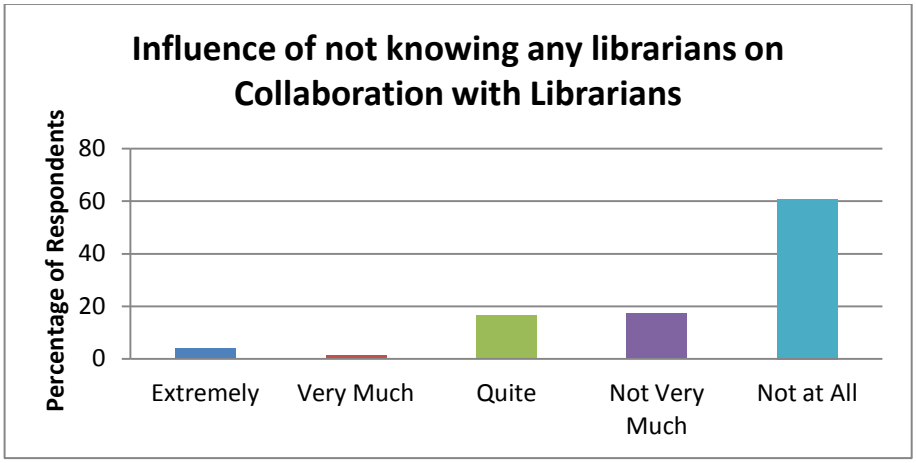

Figure 42 Influence of Not Knowing Any Librarians

4.32 Relevance to University Education

The final section of the questionnaire examined how lecturers think IL should be taught. Respondents were therefore first asked whether they thought IL should be taught in college. At this point of the questionnaire, 70.69% of respondents (164) were still participating. As figure 43 shows only 6 respondents did not think IL should be taught in university. 35 respondents were unsure if it should be taught in university and the majority (123) thought IL should be taught in university.

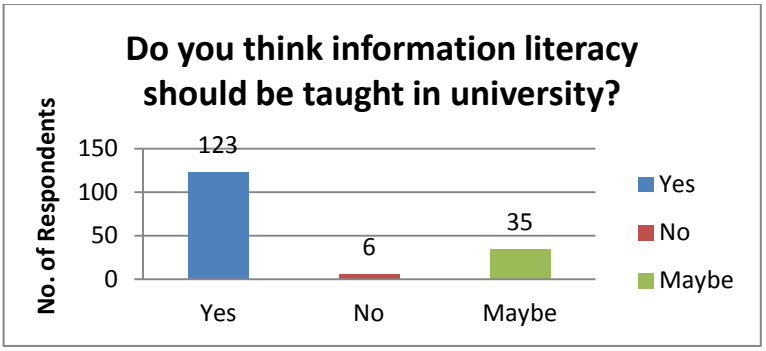

Figure 43 IL Education in University

4.33 Mandatory IL Classes

The 158 Respondents who answered either yes or maybe to the previous question were then asked whether they thought IL classes should be mandatory. 72 respondents (45.57%) thought IL classes should be mandatory while 32 respondents (20.25%) thought they should not be. A significant number of respondents (54 respondents or 34.18%) were unsure and stated maybe.

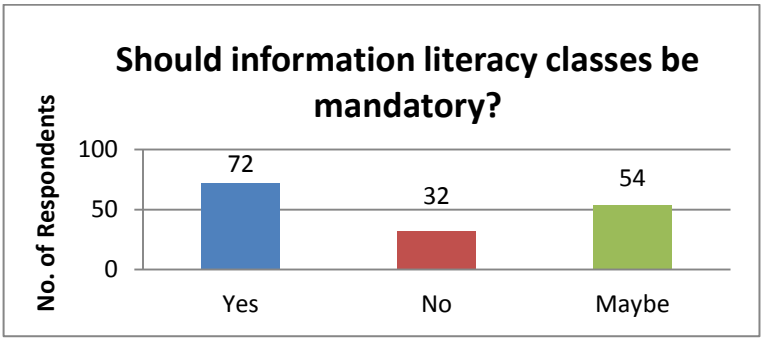

Figure 44 Perceptions of Mandatory IL classes

These results were analysed by subject area to see if respondents in some subject areas were more likely to think IL classes should be mandatory than in others. As figure 45 shows, respondents who teach in the health sciences are most likely to think IL classes should be mandatory; only 3.7% of respondents in this subject area think IL classes should not be mandatory while 77.8% think they should. The majority of respondents who teach business and law, arts and human sciences also think IL classes should be mandatory. However, the `percentage of these respondents who think IL classes should not be mandatory is higher. Science is the only subject area in which the percentage of respondents who think IL classes should be mandatory (30.8%) is lower than the percentage of those who think they should not (25.6%). In both science and engineering and architecture the majority of respondents were unsure with 43.6% of scientist and 40% of engineering and architecture lecturers responding maybe. Due to the limited sample of agriculture, food science and veterinary medicine respondents, the result shown below for this subject area may not be an accurate representation of thoughts in the field.

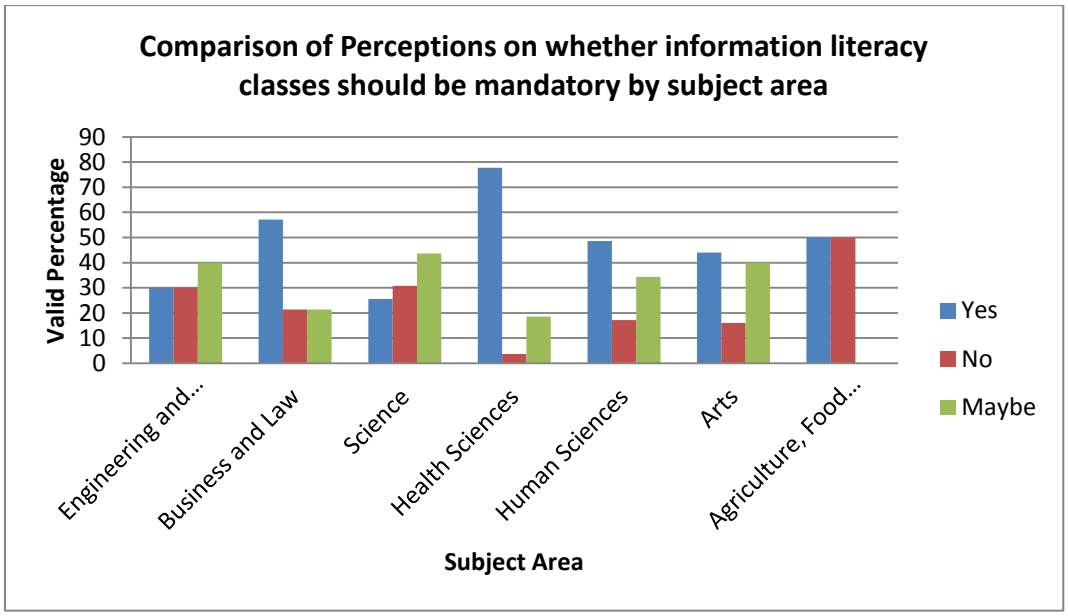

Figure 45 Comparison of Perceptions of Mandatory IL Classes based on Subject Area

4.34 Teaching Method

In this question, respondents were given a number of options for how IL should be taught and asked to rate them in order of their preference. This question had the lowest number of responses with only 135 (58.19%) respondents answering. Figure 46 shows a line graph of the results for each of the options. From this graph it can be seen that the most popular option was from IL to be taught as library orientation classes at the start of college and the least preferred option was for it to be taught as a separate module.

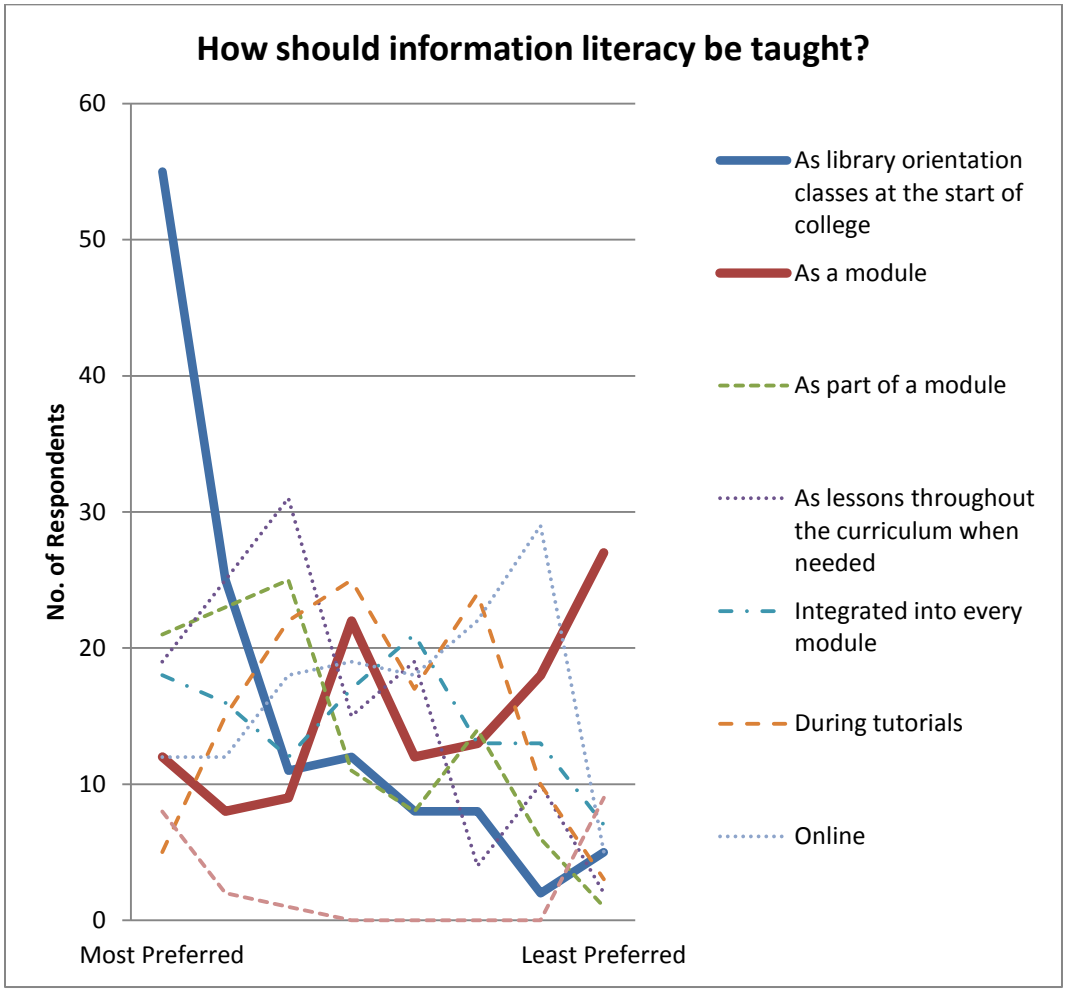

Figure 46. Comparison of Preferred Teaching Methods for IL

In order to gain a clearer view of how popular each option was, the responses for each option were weighted. Responses at the least preferred end were assigned 1 point while those at the most preferred end were assigned the maximum of 8 points. The weighted responses for each option were then added and divided by the number of respondents to get an average result for each option. These averages were then compared to each other to provide a single list from most preferred to least. This list is presented in figure 47.

Preference	Method of Delivery
1st	As library orientation classes at the start of college
2nd	As part of a module
3rd	As lessons throughout the curriculum when needed
4th	Integrated into every module
5th	During tutorials
6th	Online
7th	As a module

Figure 47 Preferred Teaching Methods for IL

In creating the list above, other was not included as only 20 people selected this option. Of those who selected other, 8 stated it was their most preferred method of teaching IL, 2 placed it in second and 1 stated it was his/her third favourite option. 5 respondents who selected other as their preferred method of teaching stated that IL is part of college culture and should be taught centrally. Another 2 respondents suggest that it should be taught through a combination of the above options. 1 respondent stated it should be taught at the start of 1st and 3rd year depending on need, 1 respondent indicated it should be taught by librarians throughout the academic year in consultation with academics and 1 suggested it should be taught as specific classes by academics in specialised topics librarians do not know enough about. Furthermore, 1 respondent stated

> "We need to look at how students can better LEARN IL, rather than how we teach it, cos students just don't seem to get it."

4.35 Marking IL Component

Question 32 asked respondents whether students should be graded on their IL. This question was answered by 162 (69.8%) of respondents. Figure 48 shows that there was little difference between the number of respondents who answered yes and those who answered no.

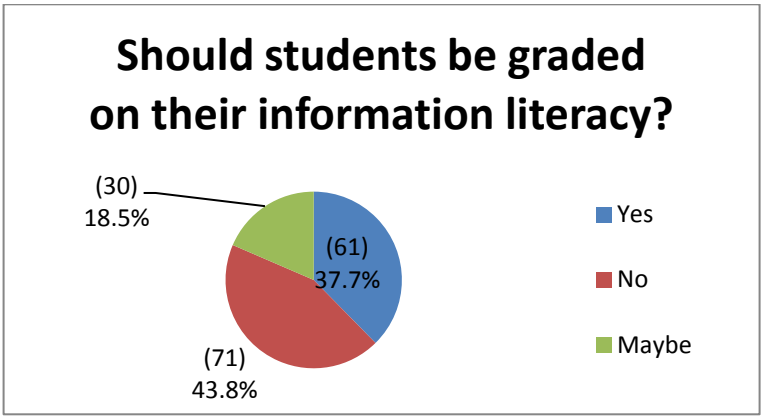

Figure 48 Grading of IL component

Furthermore, analysis of the comments left for this question shows that respondents, had the same view of IL grading regardless of their answer. Many respondents who gave a yes answer qualified the answer by stating that students were already graded on their IL through their assignments. Comments included:

> "They essentially are graded on their IL already as independent learning is part of many of our modules",
>
> "My students are routinely graded on this as part of their ability to write good essays and exams"
>
> "This naturally forms part of the grade for any written work."

Many of the respondents who answered no gave similar answers, stating that IL should not be graded separately as it is integrated into other assessments. Comments included:

> "It's an integral part of the writing process and should be graded in an integrated way."
>
> "Not directly, but their grades reflect their information literacy."
>
> "I think that they will be graded on this indirectly (via their written assignments) so there is no need to grade them on this specifically."

When comments left by those who responded "maybe" are analysed, the same opinion can again be seen with comments like "They are indirectly already" and "A separate mark: no. But it of course influences the quality of their research projects." This shows that despite the differences shown in figure 48, lecturers generally believe that students should be graded on their IL to some degree. However, IL should not be graded separately; it should be an integrated part of all assignments and often already is as students are graded depending on their use of information. Another sentiment that came through the comments was that lecturers do not wish librarians to grade students on their IL. As one respondent wrote:

> "I would be very much opposed, however, to librarians grading them, as skills and the application of skills are not identical, and I don't believe that university grades should be awarded for skills, and that anyone but academics should grade on the application of skills."

4.36 Teachers of IL

The final question asked respondents who they thought should teach IL to students. This question was again answered by 162 respondents (69.8%). As can be seen in figure 49, 74.06% of those who answered think IL should be taught by a collaboration of both librarians and lecturers. Only 21 respondents thought teaching IL should be done by librarians alone, and 11 respondents thought IL should be taught by lecturers. 7 respondents believe either can teach the subject. Of the 3 respondents who answered other to this question, one believed IL should be taught by students' mentors, one stated "everybody and nobody. Learning how to think is the WHOLE University's job" and one was unsure but would not be keen on teaching it himself.

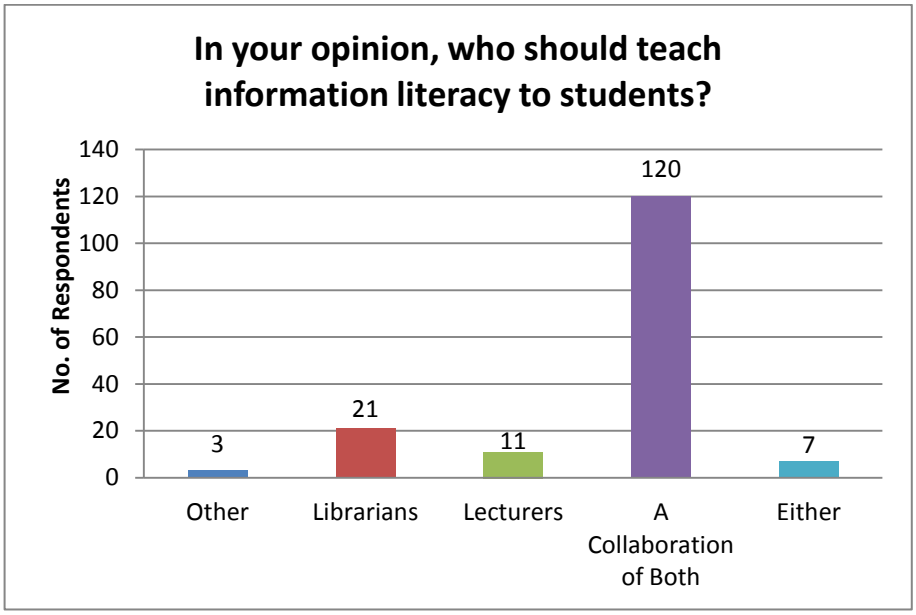

Figure 49 Perceptions of Who Should Teach IL

4.37 Analysis of Comments

The final part of the questionnaire thanked respondents for their participation and allowed them to add any additional remarks they may have into a comment box. This was done by 30 respondents. However, a number of general comments were left in other open-ended questions and comment areas throughout the questionnaire. These were also incorporated into the analysis of comments provided below.

4.37.1 Lack of specificity

The questionnaire received a significant number (14) of constructive criticisms. These generally related to the broad nature of the questions and the difficulty in being precise. This was especially the case regarding student IL levels (see q.18). As one respondent stated "many of these questions really are just too sweeping to admit of precise answers". It was hoped that by adding a number of comment fields, this would be overcome. However, it is clear that this was not considered sufficient by respondents and many respondents did not expand their answers in these comment areas. Despite the scope of quantitative research such as this, the use of qualitative research techniques would allow for more detail.

4.37.2 Respect for Librarianship

One theme that emerged in the final comments was the respect respondents have for librarians and their profession. 4 respondents used the final comment box to praise their university's librarians and their ability to help. These comments show a clear understanding of the value of librarians and library resources.

However, 2 further comments discuss the teaching skills of librarians. 1 respondent suggested that IL classes are very rushed, still very teacher-centred and many students do not grasp the essentials by the end, while the other stated

"Keeping abreast of new ways of sourcing information is critical, but critical thinking is even more important, and in my experience, most librarians do not teach this very well."

4.37.3 Dislike of Term "Information Literacy"

Another theme which occurred throughout the questionnaire was a dislike for the term "Information Literacy" and its broad nature. It was considered a buzzword or jargon term by 3 respondents and 1 respondent stated

"I don't think it's at all a useful term – far too broad. As you've defined it, it comprises core research skills like evaluating and accessing information, as well as more mechanical, technical problems like finding relevant research".

4.37.4 Access to Resources

Access to resources and economic investment in libraries was also commented on throughout the questionnaire. 3 respondents mentioned concerns relating to the restrictions and cut backs on library resources. As one respondent wrote

"Without investment in University Libraries, information literacy is doomed. People will use Wikipedia and misinformation will be difficult to unravel from valuable research."

4.37.5 Lack of IL in Second Level Education

Another issue which arose in the comments is the belief that IL should be addressed at an earlier level such as in secondary school. 3 respondents mentioned that current second level education consists heavily of rote learning and that this does not give students the grounding in IL required.

4.37.6 Other Comments

A number of other issues were mentioned by individual respondents. These include more concern over students' literacy levels than their IL, a belief that librarians are considering IL because they need more work now that budgets have been restricted and an experience of significantly different IL requirements within and outside the Dublin area. These could be the focus of further research in the area.

4.38 Conclusion

This chapter has presented the findings of the primary research. SPSS was used to analyse quantitative response and graphs were produced to support the analysis provided. Qualitative responses were analysed for commonalities, grouped into themes and discussed. The results were presented in the order of the questionnaire. The following chapter will discuss the findings of the primary research in relation to the literature reviewed in chapter 2.

5 Discussion

5.1 Introduction

In this chapter, the results found from the primary research are discussed in relation to the literature reviewed in chapter 2 of the dissertation. This discussion is presented under the research objectives set out in chapter 1. The hypotheses presented in chapter 3 are highlighted throughout the discussion. However as the primary research returned several other interesting results the chapter was not restricted to discussing these hypotheses.

5.2 Awareness and Importance of IL

5.2.1 Awareness of IL

Despite the perceptions of librarians that a faculty lack of awareness presents in the library literature, this research found that the majority of faculty members in Universities in the Dublin Area were aware of the term "Information Literacy". This contradicts hypothesis H1: *Faculty members lack awareness of the term "Information Literacy.* However, 40% of respondents were not aware of the term which indicates that more can be done to increase awareness of the term and its importance amongst the academic community. Furthermore, respondents who were aware of the term may have been more likely to complete the questionnaire, influencing the responses and further indicating that more promotion is required.

Awareness levels varied depending on the University and subject taught. Respondents in TCD showed significantly less awareness of the term than those in other universities and awareness levels were lowest in the science and engineering and architecture subjects. This could indicate that more emphasis is put on IL in certain Universities and subject areas. However, respondents reported coming across the term in a large variety of situations with limited mention of the library and library literature. Therefore the difference in awareness levels seems to have little to do with the efforts of librarians throughout the Universities in this study.

The variety of contexts in which respondents of the study reported coming across the term "Information Literacy" indicates that use of the term has spread. Despite the fact that the majority of literature on the subject is presented in library related reports and articles, other contexts were more commonly identified by respondents including the media, education and general discussion. This refutes hypothesis H2: *Faculty members who are aware of the term have come across it through contact with the library or library literature.*

The prevalence of respondents who came across the term in relation to teaching and teaching literature indicates that education related literature also uses the term and that its importance is beginning to be recognised in this field. It could also indicate that McGuinness' (2007a p.33) suggestion to include IL modules on training courses for academics is beginning to be realised; a number of respondents indicated that they had come across the term during professional development courses. Another context in which respondents commonly mentioned coming across the term "Information Literacy" was in their research.

Interestingly, faculty members in Universities in the Dublin area had a good understanding of the term regardless of their level of awareness. This contradicts the reports by Julien and Given (2005) and Stubbings and Franklin (2006) who found the term to be misunderstood. Respondents regarded the definition provided to them in the questionnaire as very similar to their understanding of the term. This could mean that defining the term is often unnecessary when dealing with faculty members. The comment that the term is "self-explanatory in context" supports this finding. However, some respondents linked the term to computers and technology supporting Stubbings and Franklin's (2006 p.2) conclusion that IL is often confused with IT competencies. Furthermore, the higher likelihood of those who were aware of IL and its importance to answer the questionnaire could influence these findings. Thus, despite the term commonly being understood by faculty members in Universities in the Dublin area, providing an explanation when promoting the subject can still be considered beneficial. However, the amount of time spent on discussing definitions should be reduced.

As Gonzales (2001 p.200) found that large number of faculty members stated that they were unaware that IL classes were available, respondents were presented with the statements "Information Literacy classes are available at my institution" and "Librarians teach Information Literacy at my institution" and asked if these were true or false. No respondents indicated that these statements were false. However, over 60 respondents indicated that they were unsure if this was the case. This shows that while most respondents were aware IL classes were available more can be done to promote IL and increase respondents' awareness of classes.

5.2.2 Importance of IL

The findings of this research support the recent literature in relation to faculty members' perceptions of the importance of IL. When asked how important they felt IL was the majority of respondents indicated that it was very important. This supports hypothesis H3: *Faculty members perceive IL to be important.* This finding is supported by the result that the majority of respondents think IL should be taught in third level education. However, as Bury (2011 p.51) and Weetman DaCosta (2010 p.207) state, recognising the importance of IL skills does not always equate to actually including IL education into their teaching. It should also be noted that while respondents considered IL to be extremely important for academia, the importance for the general population was not seen as quite as important. This indicates that the connection between developing information literate students in order to increase the IL levels of the general public was not considered by faculty members in Universities in the Dublin area.

Furthermore, despite the importance of IL being recognised by respondents, there is still some concern over the use of the term "Information Literacy". A few respondents considered the term to be a buzzword and respondents generally did not identify IL related parts of their lectures as such to their students, indicating a reluctance to use the term rather than a dislike for the subject matter.

5.3 Perceptions of Current IL Education

In terms of current IL education, the results of this research found similar results to McGuinness (2006a) and Boon, Johnston and Webber (2005). Many respondents indicated that they dedicate time to IL confirming hypothesis H4: *Faculty members perceive themselves to teach some IL.* However, it is rare that more than 10% of a course is dedicated to such skills. Analysis of comments further indicated that the time dedicated to IL was usually used to discuss information sources used and assignments set. This confirms what McGuinness (2006a) stated about IL education and how it is generally considered to be taught through recommendations, assignments, feedback and general library instruction. Furthermore, a number of respondents indicated that IL should be an inherent part of the college experience, developed throughout students' time at college and the responsibility of the whole college. McGuinness'(2006a) research also support this finding.

The literature also discusses three beliefs which faculty members hold about students.

1) Students should discover IL on their own as these skills are required to complete undergraduate curricula (McGuinness 2006a).

2) Students should already know how to research (Manuel, Beck and Molloy 2005 p.141), and

3) Library and IL skills are not necessarily required to achieve an undergraduate degree (McGuinness 2006b slide 19).

Respondents were therefore provided with three statements regarding these three beliefs and asked if they were true or false. The results from these statements contradict the findings in the literature as respondents indicated that:

1) Students should not be required to discover IL on their own.

2) They are not already information literate, and

3) They are required to be information literate.

One reason for this discrepancy could be that this research, unlike that of McGuinness (2006a and 2006b) and Manuel, Beck and Molloy (2005), uses the term IL rather than discussing library skills. However, as discussed earlier, analysis of comments shows similar results to McGuinness' (2006a) qualitative work. Thus, when asked directly, faculty members in universities in the Dublin area do not believe that IL should be left to the students to discover on their own in an informal manner. However, when discussing IL in relation to their teaching, they believe it to be an informal process acquired throughout students' time in college. Therefore, a contradiction exists where faculty members believe students should not be left to discover IL on their own but do not explicitly teach their students it either. It is this contradiction that integrating IL into modules and curricula attempts to rectify by making the implicit teaching and learning of IL explicit to both lecturing staff and students through inclusion of IL objectives in module guides and allocation of lecture time to IL in the planning stage of courses.

Therefore, best practice for IL teaching is to integrate it into the curriculum and make it subject specific. Case studies such as Hegarty et al (2004a), Hegarty et al (2004b) and McGuinness (2007b) provide some methods of integrating IL into particular modules of courses and it can be said that if IL is integrated into a module of a course it has been covered for the whole course. A number of comments made by respondents stated IL was covered in other modules and parts of courses. However, little was stated about how IL was taught in these other modules. If these modules are taught in conjunction with a librarian or are subject specific, as is the case with Bioinformatics for example, the need for other lecturers in these courses to integrate IL into their teaching is reduced. It should be noted, however, that the dedication of lecture time by many respondents indicates that value is placed on IL and some responsibility for the subject is accepted by faculty members in Universities in the Dublin area.

Despite dedicating only a little time to IL, it was generally perceived that students attained some IL from faculty members' teaching. This confirms hypothesis H5: *Faculty members perceive students to attain some IL from their teaching*. Interestingly, this was the case regardless of whether time was specifically dedicated to IL or not. Analysis of faculty members' perceptions of student IL skills supports this with a perceived increase in student IL levels from poor in 1st year to good in their final year. Therefore, while IL is still being taught through informal methods these are generally seen as providing an adequate level of IL by faculty members in Universities in the Dublin area. This is further supported by the methods in which respondents believed IL should be taught discussed below.

As the majority of case studies in Ireland indicate that approaching academics regarding the inclusion of IL has been beneficial in the implementation of integrated IL courses, respondents were asked if they had been approached regarding this. Fewer than 20% of respondents had been approached regarding the addition of IL. However, those who had been approached were significantly more likely to dedicate lecture time to the subject. This shows the importance of approaching faculty members regarding IL education and provides evidence supporting the efforts of many librarians in their attempts to integrate IL into third level education. The fact that some respondents had been approached by students provides evidence that some students are aware of their lack of IL skills.

5.4 Perceptions of How IL should be taught

Integration of IL is considered best practice throughout the literature but McGuinness' (2009 p.273) research shows that this is not commonly done in Ireland. The primary research aimed to discover how faculty members in Universities in the Dublin area thought IL should be taught. Respondents' preferred method of teaching IL was through library orientation classes at the start of first year of college confirming hypothesis H6: *Faculty members prefer library orientation classes to integrated IL*. This was followed by integration into a module and as classes throughout the curriculum as needed. Thus, while integration into a module is considered best by librarians, the faculty members questioned do not always agree. When discussing approaching a librarian in relation to IL teaching, the majority of comments indicated respondents had done so for once off lessons.

One argument made by respondents in relation to the addition of IL to curricula is that students are individuals. This means that the IL level of each student group is different and not all groups will require the same amount of IL education. Therefore, the integration of IL into courses may not be the best approach as it assumes that all student IL skills are of a similar level and that all students require IL education. This is supported further by the finding that the most influential factor on the collaboration with librarians to include IL teaching was students' IL needs. Another finding which supports this is that while the majority of respondents indicated that IL should be taught in college, as assumed in H7: *Faculty members believe IL should be taught in third level education,* the number who thought it should be mandatory was significantly smaller.

However, when asked who should teach IL to students, an overwhelming majority of respondents indicated that this should be done by a collaboration of librarians and academic staff. This contradicts hypothesis H8: *Faculty members believe librarians should teach IL.* Respondents also indicated a willingness to at least consider the addition of IL into courses they teach. Integration of IL into a module was respondents' second choice in how IL should be taught and many stated they would be open to librarian involvement in their teaching. This shows that faculty members in Universities in the Dublin area understand the need for collaboration between themselves and librarians in the teaching of IL. Despite this, the majority of respondents had not approached librarians regarding IL.

5.5 Problems with Collaboration

The literature discusses a number of problems which commonly occur when librarians seek collaboration with faculty members in the teaching of IL. This research therefore explored the perceptions of faculty members in universities in the Dublin area of these problems. The most common problems are presented below in the order they were considered most influential by respondents in question 28 of the primary research. Other problems which were not included in this question but are present in the literature are then discussed.

5.5.1 Lack of Time

The most commonly discussed reason for problems in collaboration is lack of time (Manuel, Beck and Molloy 2005 p.153, Thompson 2002 p.233, Hardestry 1995 p.358). Respondents were therefore asked how much time restrictions would influence their decision to collaborate with librarians in teaching IL. This factor was highly influential on respondents' decision, surpassed only by students' IL needs. Furthermore, when asked if they would be interested in adding IL to any curriculum in which they partake, many respondents remarked that time restrictions would make this difficult. This is in line with the findings from both McGuinness (2006b slide 21) and Ambrose and Gillespie (2003 p.7) and supports hypothesis H9: *The most influential problem in achieving collaboration with faculty to integrate IL is time restrictions.* However, despite mentions of time restrictions throughout the questionnaire, when respondents were presented with the statement "Due to limited time, adding Information Literacy to any of my courses is unfeasible" the majority of respondents stated this was false. This shows that while some respondents feel there is a lack of time for IL in the curriculum, many disagree and would be willing to add IL to courses despite the time required to do so.

5.5.2 Librarian's Perceived Limited Teaching Ability

One factor commonly discussed in the literature is faculty members' lack of awareness and understanding of librarians' work especially in relation to teaching. However, in Ireland McGuinness (2006b slide 11) found faculty members do value the work of librarians. This was also seen in the primary research and a number of comments professed respect and admiration for librarians and their job. However, the limited support for librarians' teaching role and abilities stated in the CONUL IL report (2004 p.7) was also found in this primary research. Two comments indicated that the teaching skills of librarians were limited and one respondent went as far as to say that librarians were not very good at teaching critical thinking skills. Given the years of teaching experience of respondents and that no teacher training is required to become a librarian, this criticism may be justified. When asked how much the perceived teaching skills of librarians would influence their decision to collaborate with them in the teaching of IL, respondents indicated that this would be significantly influential, rating it just below time restrictions. Furthermore, like McGuinness (2006b slide 19) found, faculty members in Universities in the Dublin area tend to restrict librarians' teaching to library orientation classes and once off lectures.

5.5.3 Librarians' limited knowledge of Faculty Members' Specific Field of Study

In their research, Manuel, Beck and Molloy (2005) state that lecturers found librarians to be less informed in their particular field and therefore did not consider collaboration with them to be beneficial. This research therefore asked respondents how influential librarians' limited knowledge of specific fields would be in their decision to collaborate with them. While more respondents indicated that this would not influence them as much as the other factors already mentioned, it was still considered influential by 59% of respondents. Interestingly, this was the case regardless of which subject respondents taught. To reduce the influence of this factor, IL classes should be taught by subject specific librarians who are often required to be knowledgeable in the resources of their specific subject.

5.5.4 Difference in Culture

Another factor which the literature maintains is influential on collaboration is the difference in cultures between academics and librarians. However, when asked if librarians' lack of understanding of academic culture would be influential on their decision to collaborate with a librarian to teach IL only 30% of respondents felt it would. Due to the complexity of this factor combined with the limitations of this research the primary research in this area was limited to this question. However, further research should be conducted to examine the belief that academic culture is based on individual contribution portrayed in the literature.

5.5.5 Faculty Reluctance to Share their Classroom

Many researchers (Christiansen, Stombler and Thaxton 2004 p118, Badke 2008 p.9, Leckie and Fullerton 1999 p.194, Thompson 2002 p.232) have discussed faculty reluctance to share their classroom and how this relates to the inclusion of IL in their teaching. This was not added to the collaboration issues which respondents were asked to rate the influence of as it was considered unlikely that the responses produced would be unbiased. Instead, respondents were asked if they would be open to librarian involvement in their teaching and the majority indicated they would be. Being open to involvement does not necessarily indicate a willingness to share their classroom with librarians and few respondents indicated that they had invited a librarian into their classroom. Therefore this research cannot discuss this factor in detail. Further research of a qualitative nature would be required to explore this factor in depth.

5.5.6 Other Problems in Collaboration

The literature review presents two other problems which influence collaboration between faculty members and librarians in teaching IL; how faculty members themselves were taught IL (Thomson 2002 p.234) and the slow adaptation of new teaching practices (McGuinness 2006b slide 22). It was difficult to incorporate these into the primary research and as such, this was not explored in depth in this research.

The primary research does show that IL is thought by faculty members to be an informal process, brought about through the completion of assignments, feedback and discussion of resources used in lectures. It can be safely assumed that this is how they were taught which would make Thomson's (2002) statement also relevant to Ireland. Further, as the most common and preferred methods of IL instruction are still library orientation classes and once off lectures despite respondents' view of the importance of IL and the efforts of librarians to integrate IL into teaching indicates that what McGuinness (2006b) states is also likely to be the case. However, further research is required in this area to ensure these statements are conclusive.

5.6 Faculty Members' Personal IL Levels

Since an important part of developing IL in students is to ensure faculty members have sufficient IL skills, this research explored faculty members' perceptions of their own IL. Although the majority of respondents considered themselves to be "very" or "extremely" information literate supporting hypothesis H10: *Faculty members consider themselves to be information literate*, approximately quarter of them perceived their IL level to be lower. This supports Geraghty (2006 slide 21) who states that faculty members feel there are IL skills they themselves still need to learn. Many faculty members also reported seeking advice on IL issues; however this was most commonly done from other colleagues and fewer respondents indicated seeking help from librarians. The IL skills which respondents considered themselves to be weakest at were managing information resources and locating outputs for dissemination. Despite considering their ability to keep up to date with developments in their field as very good, respondents often indicated that improved IL would benefit them in this regard.

When asked if faculty members' were welcome to attend IL classes a high number of respondents indicated that they were unsure if this was the case. This confirms hypothesis H11: *Faculty members are unaware that they can attend IL classes.* However, only 2 respondents stated they did not believe faculty members were welcome at IL classes. Further, respondents' were asked if lack of time made it unfeasible to attend IL classes as this is suggested by Geraghty (2006 slide 21). This question received a mixed result with several respondents' indicating this is or might be the case. However, the majority of respondents stated that this was not the case, showing a willingness to make time to attend IL classes, questioning hypothesis H12: *Faculty members are under time constraints which make attending IL classes difficult.* Respondents also indicated that one benefit of increasing their own IL is improved teaching. One method of increasing IL in universities could therefore be to increase the number of IL classes provided to faculty members; a method suggested by Smith and Mundt (1997) and McGuinness (2007a p.33). However, these classes would have to be well advertised and focus on those skills which faculty members are motivated to improve.

5.7 Conclusion

This chapter has presented the findings of the primary research and how they relate to the literature. Each research objective was discussed in detail and the findings of this study compared to those found in the literature. From this discussion conclusions can be drawn and recommendations made. These will be presented in the final chapter of this dissertation.

6 Conclusion

6.1 Findings

This dissertation aimed to discover the awareness and perceptions of IL of faculty members in Universities in the Dublin area. Five objectives were set to help achieve this aim. Each objective was explored in the secondary literature and hypotheses to be tested developed. From these, questions were drawn up and the primary research conducted and analysed. The findings for each objective were then discussed in relation to the literature. The following key findings were found:

- 40% of faculty members in Universities in the Dublin area are not aware of the term "Information Literacy" but the majority consider IL to be very important. Most respondents had come across the term in relation to teaching and research.

- Current IL education is mostly done through informal methods and few respondents indicated working with librarians on IL related issues.

- Respondents believe IL should be taught through library orientation classes. However, many would be willing to engage with library staff and provide some IL instruction in their teaching.

- Faculty members in Universities in the Dublin area recognise many of the problems in collaboration discussed in the literature as relevant to their situation, especially time restrictions. Despite this they would be open to librarian involvement and believe that IL should be taught by a collaboration of both lecturers and librarians.

- Approximately 24% of respondents indicated they could improve their personal IL skills and many would be willing to attend IL classes.

This chapter presents conclusions about the current state of IL teaching in Universities in the Dublin area which can be drawn from these findings and provides recommendations for how librarians should proceed to ensure IL is included in education within these universities. The research presented in this thesis is based on a mainly quantitative analysis of the responses of 232 faculty members and supplements previous qualitative studies. The main conclusions remain similar to those found in the literature thereby validating the methodology used in this thesis.

6.2 Conclusions and Recommendations

Although more than half of the respondents were aware of the term and the majority knew of its importance more should be done to increase awareness amongst faculty members in general. Thus, the principal conclusion of this work is that more marketing and promotion of IL is required if the subject is to be accepted throughout these Universities.

As significant numbers of respondents were unsure of the availability of IL classes and few mentioned the library when discussing how they had come across the term, the promotion of IL classes by the libraries associated with these universities has not been as successful as could be desired. Furthermore, despite understanding and agreeing with the definition provided, the greater benefits and what exactly is contained in IL instruction are not fully comprehended by faculty members. It is therefore recommended that those who wish to increase the number of IL classes which are taught and integrated into courses in these universities need to evaluate how they are promoting the subject and consider new, more effective methods of promotion. As this research did not discuss how libraries promote IL to faculty members, little can be said about what methods are currently used or how they could be improved. However what is clear is that current methods are not reaching their potential. Further research could be conducted into how libraries in these universities are promoting IL, how these promotion techniques are being received and what can be done to improve this promotion.

One issue with the current methods of promotion which is seen in this research is the apparent restriction of IL to the academic context. The literature shows the connection of IL to life-long learning and the importance of education to enhance the publics' ability to become contributing members of society. However, when asked how important they felt being information literate was respondents stated it was less important for the general public than for people in academia like lecturers and students. Furthermore, the most commonly used and preferred methods of IL instruction remain library orientation classes and once off lectures focusing on library use for academia. This indicates that faculty members in universities in the Dublin area

limit the importance of IL to academia and do not readily acknowledge its connection and importance in creating information literate citizens. While it is important to indicate that IL will increase students' abilities to do assignments and succeed in academic work, the connection and benefits of IL for the general population must also be included in discussions with faculty members. By including this broader perspective of the importance of IL, librarians can increase faculty members' understanding of why IL education is important and provide a stronger argument for the inclusion of IL into courses.

Another key finding of this research is that faculty members in universities in the Dublin area have mostly come across IL in their research and teaching. Other respondents had come across the term in the general media. This shows an increase in the publication and promotion of the topic outside the library sphere. However, the majority of the IL literature is still written by librarians for librarians and published in library journals. Furthermore, limited literature about IL in Ireland has been published at all. If IL is to be accepted by people other than librarians, librarians in Ireland must increase the number of articles which they publish on the subject and continue to expand the number of locations in which they publish their research. This research shows significant steps in this direction have been made, with a number of respondents indicating that they have come across the term in journals and articles in the field of education. However, further expansion and publication would increase the acceptance of the term and improve IL promotion throughout Ireland.

The most successful method of integrating IL into the curriculum of third level education documented in the literature is for librarians to approach faculty members and locate academic champions. However, less than 20% of respondents indicated they had been approached regarding the inclusion of IL and only a few of these indicated that librarians had been the ones to approach them. Furthermore, this research found that faculty members who had been approached were more likely to include IL in their teaching. Thus, despite this method creating successful integration of IL, it has not been widely adopted in universities in the Dublin area. Further efforts on the part of librarians to approach faculty members and promote IL are therefore recommended to increase the number of IL classes integrated into third level education.

However, what is also clear from this research is that not all faculty members in universities in the Dublin area are open to the inclusion of IL into their courses. One issue which may contribute to this is the terminology used by librarians. This research shows that there is resistance to the use of the term "Information Literacy" and some respondents indicated a strong dislike for the term. Another term which may produce communication issues is "integration." By stating that they wish to integrate IL into modules and curricula librarians are perceived to be isolating IL into a subject in its own right. Since faculty members consider IL to be an implicit part of teaching they disagree with this approach and are more likely to resist collaboration with librarians. One method of increasing collaboration and understanding between the two sides could be for librarians to adapt their terminology when working with faculty members. Using the terms "library and information skills" or "research skills" and talking about making the implicit IL skills being taught explicit rather than integrating IL could provide faculty members with a better understanding of what librarians hope to achieve and increase their enthusiasm to collaborate in achieving this.

Many of the problems in collaborations discussed in the literature were considered influential in faculty members' considerations to work with librarians to teach IL. However, some of these such as time restrictions and librarians' limited knowledge of specific subjects may be justified. If collaboration is to be achieved, librarians must acknowledge the views and restrictions placed on faculty members and become more flexible in devising methods of overcoming these problems. For example, an approach where librarians suggest helping faculty members in the creation of syllabi and assignments rather than teaching their class may increase collaboration. Further research of a qualitative nature could be conducted on several of the problems identified and discussions held with academics to explore how they can be overcome.

The most commonly indicated problem was the limited time available to respondents. However, a significant number of respondents indicated that this would not create a problem in the inclusion of IL and many showed a willingness to consider the addition of IL to their courses. It is these respondents which librarians must seek out as they are most likely to become academic champions and include IL in their teaching. Working with academic champions will create more successful cases of integration which can be published. These case studies can then be used as a promotional tool in discussions with management and national bodies to promote the importance of IL and support the value of a top-down approach to IL.

One problem with approaching faculty members' on a case by case basis is that not all students will receive IL education. Thus, while this provides a good starting point for the teaching of IL, a more comprehensive top-down approach must also be the focus of librarians. This research showed that awareness of IL was dependent on subject area and university in which respondents teach. The creation of a national standard and framework for IL would ensure that all students receive the required IL instruction regardless of which subject they study or university they attend. This would also help reduce the large variation in individual students' IL skills remarked upon by faculty

members in the survey; a national framework would include standards to be reached in primary and secondary education creating a more uniform level of IL of students entering third level education. Furthermore, national standards would reduce the confusion relating to the connection between IL and IT skills and promote the benefits of IL for the general public. However, creating and implementing a national standard requires national support and more high level intervention is required at university administration and educational policy level before this is likely to happen. This means that librarians should also become more engaged in the political arena.

Finally, this research found that a significant proportion of faculty members in Universities in the Dublin area perceived that they could benefit from increased IL. The literature suggests that information literate faculty members are required if IL is to be successfully taught in third level education. Libraries should therefore increase the number of IL classes provided to faculty members in these universities. Again, promotion of these classes is essential. Since respondents indicated limit time available these classes must focus on those skills which respondents indicated would benefit and interest them. Furthermore, McGuinness' (20097a) suggestion to provide IL in teacher and faculty member education is vital and continued development of IL in education and professional development courses should be a key focus of IL promoters. This will increase faculty members' perceptions of the value of IL and provide them with skills to teach IL to their students.

In conclusion, despite the advances in IL throughout the world and suggestions for integrated IL in the literature, collaboration between librarians and faculty members in universities in the Dublin area to teach IL is still very uncommon. Faculty members in these universities still lack a comprehensive understanding of the subject and its importance, especially in relation to the general public. They continue to teach IL implicitly. Their preferred methods of instruction remain once off library classes and library orientation at the beginning of college and they perceive students to attain an adequate amount of IL education through this. Despite this, many are open to librarian involvement in their teaching and could be convinced to include IL. Librarians must therefore continue to promote IL directly to these faculty members through IL classes, approaching academic champions and providing professional development courses. However, the manner in which librarians approach faculty should be evaluated and approaches which incorporate faculty members' needs and views considered. A national standard and framework must also be a key focus. As this could be adopted throughout the entire education system, it would provide the necessary leverage to ensure all students receive the IL required to actively participate in society.

7 Personal Reflection

7.1 Introduction

Throughout this degree programme and the dissertation process in particular a number of interesting and substantial changes in my learning have occurred. This part of the dissertation, therefore, focuses on these learning situation, how I as a research dealt with them and what I have learned from the process. In addition to this, I discuss the effect this learning will have on my future in the library and information field and life in general.

7.2 Increased discussion with others

Previous to this degree, I always considered myself a very independent learner and researcher. I rarely discussed my work with other people and my participation in study groups was limited to what was required for project work. However, over the course of this programme I felt it was more necessary to discuss topics amongst my peers. A number of informal meetings about assignments (in particularly the network resources and information architecture assignments) were arranged by the class and unlike previously I was always interested and willing to participate in these. This has really opened my eyes to the benefits of discussion of academic work with other people. One thing that really struck me from this experience was how different people focus on different parts of the same topic. Isolating oneself in terms of research is very limiting and being open to discussion and colleagues' opinions on topics expanded my personal view. In particular, I noticed that when left alone with a large piece of research such as the dissertation it is easy to get absorbed into the details of the research and lose sight of the bigger picture. Discussions with my colleagues helped me step back from my personal involvement in the subject and see the conclusions of my work more clearly. Repeatedly other people have commented on how interesting areas of the research are that I myself would have overlooked. This expanded my horizons to

include these topics and present a better, well rounded view of the topic researched than if I had continued to research in isolation. This has really influenced my opinion of group work and collaborative projects. It is highly likely that in future, I will always seek assistance and opinions from peers, colleagues and friends in regards to any work I do.

7.3 Importance of Piloting Questionnaires

Related to the previous learning outcome is what I discovered through the creation of the questionnaire for my dissertation. When designing my questionnaire, I originally took my questions from the literature review using the same terminology and understanding of terms presented in the majority of the literature. Through piloting and discussing the questionnaire with my supervisor, it quickly became clear that it was not that easy to create a coherent and valuable questionnaire. I created several draft versions of the questionnaire. However only the second last version of the questionnaire was piloted and even then the pilot population was limited to 10 people mostly from one scientific discipline. Despite changing the questionnaire after this pilot to include some of the suggestions provided, the final questionnaire received a significant amount of criticism when administered. I therefore feel that this pilot was far too limited. If I had increased the size and variety of and accepted more of the criticism provided by the pilot population the findings of this research could have significantly improved. From this I learned the importance of accepting criticism, changing the research method to suit the target population and piloting questionnaires to a large enough sample audience. When conducting similar primary research in future, this must be taken into account and I will allocate more time to piloting and drafting questionnaires.

7.4 Value of Qualitative Research

In the research methodology for this dissertation, I discuss how the postpositivist philosophy adopted for this research suited my thoughts on research and how it should be conducted. I have always approached research in a scientific manner and have felt that if it was not conducted in a strict manner with many research subjects research could not be considered as valid. Thus, this dissertation adopted a very scientific, quantitative approach to the subject despite the prevalence and suggestions of qualitative research being more suitable for the topic. Throughout the dissertation process, however, the importance and relevance of qualitative research became very clear. The majority of interesting results and significant amounts of the discussion focused on the qualitative answers. Furthermore, the findings of this research were remarkably similar to those of qualitative research previously undertaken in the field. Therefore, I must conclude that qualitative research is a valuable as quantitative. In addition to this, several areas which this research touched on could not be explored in detail as they were either personal and sensitive in nature or too complex to be addressed through a closed ended question. Qualitative research therefore is definitely beneficial as it allows the researcher to explore these areas with less limitation. In future I will incorporate this learning into my work, especially when conducting further research into the field of IL where I now also believe qualitative research to be better suited to achieving detailed results than quantitative.

7.5 Importance of Personal Interest in Research Topics

Another thing I have learned from doing this course is the importance of being interested in the research one is doing. The difference being interested in the research topic at hand makes to the quality of the work and enthusiasm brought to the project is significant. Throughout the course there were a number of modules which I truly enjoyed such as Information Organisation, Information Technology and Information

Architecture. For these modules I would actively seek extra reading, spend extra time on the assignments and discuss topics with friends and family in my free time. Consequently, my results for these assignments were always very good. However for my thesis, I chose a topic based on my hopes for a future career and the ease at which the primary research could be configured. Thus, while I was somewhat interested in the topic, I was not as passionate about it as I was for other assignments. This has made a big difference in the effort it took to write this dissertation. Just before starting the dissertation I considered changing my research topic as I knew this would not interest me as much as other topics. However, I decided to continue with what I had chosen based on the amount of literature I had already read and the time scale to complete the project. In retrospect, this was not the best idea. Throughout the dissertation process, I constantly had to make an effort to spend time working on the assignment, disliked talking about the subject and by the time I reached the third month of writing I had lost interest in the results. This was further enhanced by the criticisms of the questionnaire I had received by this time. I overcame this by setting myself a number of hours each day in which to work on the project and ensuring that I progressed a little every day. I also sought out other people who were interested in my research in the hope their interest would motivate and inspire me. However, the quality of the resulting piece of work suffered significantly due to my lack of interest, especially near the end. From this experience, I have learned two things: 1) the value and importance of personal interest in a research project and 2) a method for completing necessary work by dedicating a number of hours a day towards it. When given a choice of research topics in the future I will take more time to consider what I am truly interested in researching. In situations where I will be required to work on research topics which I am inspired by I will seek assistance from those who are interested in the topic and assign a set amount of time daily to address the research.

7.6 Time Management

Throughout the programme, the importance of managing my time correctly was clear. This was especially the case with the second semester where many assignments were due in within a short period of time. Like many students, I did not feel the pressure of these assignments until they were near their due dates. This caused me great stress and many long nights trying to complete the required work in just a few days. One thing I have learned from this is the importance of allocating time to each subject on a daily basis and in writing the dissertation my approach to time management was significantly improved. Rather than procrastinating and waiting until the stress and pressure of the due date made me start work, I allocated a few hours every day to the dissertation. This was particularly helpful as rather than flowing freely as is my normal writing style, the dissertation was difficult to write with some days where I would work at it for three hours and manage only one sentence or paragraph. I believe that if I had waited until I felt the pressure of deadlines, the dissertation would not have been completed in time. I hope to continue with this method of time management in future as it has proved helpful in reducing stress load and ensured work was completed in a timely manner.

Another time management issue which arose during the writing of the dissertation was the reality of how much research one can conduct in the time frame allocated. At the start of the dissertation, I had hoped to include all Universities and Institutes of Technology in my research. However within the first month it became clear that the intended scope of the research did not match the time frame allowed. From this I learned to be more realistic about what can be achieved in a three month project. In future, I will set out time lines for research and ensure that the size of the research project matches the time allocated more realistically.

7.7 The Value of Research

In all the learning outcomes and personal reflection topics chosen for this section, one overarching theme has emerged; I learn by doing and making the mistakes myself. Despite reading articles and books which clearly discuss the value piloting questionnaires, the benefit of qualitative research (particularly in regards to IL), and the need for collaboration in research, I did not fully value the advice these gave until I completed the research process myself. Furthermore, the class was warned about several of the situations described above in the research methods module. When discussing these things in class and reading other people's research they always seemed obvious and I made the assumption that because I was aware of them their effect on my research would be limited. However, this was not the case and as a novice researcher I needed to make these mistakes to understand their importance in the research process. One thing I hope to take away from this experience is to place greater importance on what is written in research even when it comes across as common sense. However, I must also understand that a core part of my personality relates to the fact that I won't believe it until I've seen it with my own eyes and therefore I must be prepared for similar situations to arise in future.

7.8 Conclusion

In this section I have reflected on my personal experience throughout the course. Particular focus was put on the dissertation as this work was the largest and last to be completed. I discussed the key learning outcomes which I feel have been most relevant and important to me in my future career. Throughout the course I have learned a significant amount about library and information management. However, the topics picked here had particular personal relevance and created a change in my outlook and attitude towards future endeavours in my new career path.

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Appendix A Information Literacy Questionnaire of Universities in the Dublin Area

1. Age

- ○ Under 35
- ○ 35-44
- ○ 45-54
- ○ 55-64
- ○ Over 65

2. Sex

- ○ Male
- ○ Female

3. For how many years have you been teaching?

- ○ Less than 1
- ○ 1-3
- ○ 4-6
- ○ 7-10
- ○ Over 10
- ○ Over 20

4. In which University do you work?

- ☐ DCU
- ☐ NUIM
- ☐ TCD
- ☐ UCD

5. Which subjects do you teach?

6. Are you aware of the term "Information Literacy"?

○ Yes ○ No

7. In what context have you come across the term "Information Literacy"?

8. Was the term explained to you?

◉ Yes ○ No

9. How was the term explained?

For the remainder of the questionnaire the following definition of Information Literacy will be used. **"To be information literate an individual must recognise when information is needed and have the ability to locate, evaluate and use effectively the information needed." (ALA 1989)**

10. How does this definition compare to your previous understanding of the term?

- ○ Extremely similar
- ◉ Very similar
- ○ Similar
- ○ Somewhat similar
- ○ Different
- ○ Very different
- ○ Extremely different

11. Using the above definition, how information literate would you consider yourself?

- ○ Extremely
- ◉ Very Much
- ○ Much
- ○ Above Average
- ○ Average
- ○ Below Average
- ○ Well Below Average
- ○ Poor
- ○ Very Poor

12. Do you ever reflect on how you

	After every time	After particularly complex times	Infrequently	Never	Other (please specify below)
discover new research topics?	○	○	◉	○	○
keep up to date with developments in your field?	○	○	○	○	○
locate accessible and relevant teaching materials?	○	○	○	○	○
locate relevant information to support your research?	○	○	○	○	○
locate outputs for dissemination?	○	○	○	○	○
evaluate the standard of information you have found?	○	○	○	○	○
manage information sources for research and writing?	○	○	○	○	○

Specification of other:

13. How confident are you in your ability to

	Extremely	Very	Quite	Somewhat	Not quite	Not very	Not at all
discover new research topics?	○	○	○	○	○	○	○
keep up to date with developments in your field?	○	○	○	○	○	○	○
locate accessible and relevant teaching materials?	◉	○	○	○	○	○	○
locate relevant information to support your research?	○	○	○	○	○	○	○
locate outputs for dissemination?	○	○	○	○	○	○	○
evaluate the standard of information you have found?	○	○	○	○	○	○	○
manage information sources for research and writing?	○	○	○	○	○	○	○

14. Have you ever sought advice on any of the aforementioned issues?

- (•) Yes
- ( ) No

15. From who have you sought advice?

- [x] Colleagues within your university
- [ ] Colleagues elsewhere
- [ ] Librarians
- [ ] Friends
- [ ] Other (please specify)

16. What challenges in your research and teaching do you think improved information literacy could help with?

17. How important do you consider being information literate to be?

	Extremely	Very	Quite	Somewhat	Not Quite	Not Very	Not at all
For yourself	○	○	○	○	○	○	○
For faculty members	○	○	○	○	○	○	○
For students	○	○	○	○	○	○	○
For the general population	○	○	○	○	○	○	○

18. Please rate your students' abilities using the scale provided in the drop-down menu

	1st Year Students	Final Year Students	Post Graduate Students
Research topics for essays			
Use the library and its resources			
Recognise the need for independent research			
Locate a variety of appropriate information sources			
Use internet resources			
Distinguish between popular and academic sources			
Critically evaluate information sources			
Reference correctly and consistently throughout their work			
Manage their references			
Use sources correctly to support their own argument			
Draw new conclusions from their research			

19. Do you ever dedicate certain parts of your lectures to information literacy?

- (•) Yes
- ( ) No

20. On average how much of a total course do you dedicate to information literacy?

- ( ) 0-5%
- ( ) 6-10%
- ( ) 11-15%
- ( ) 16-25%
- ( ) 26-35%
- ( ) 36-50%
- ( ) Over 50%

Please feel free to expand on your answer

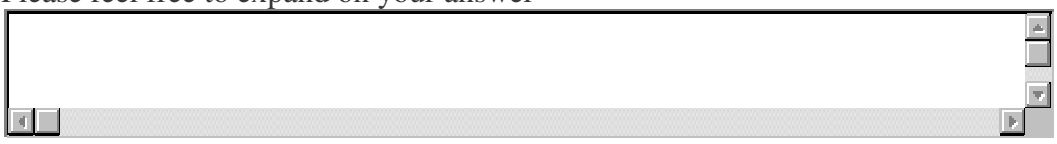
21. Do you ever identify this component as information literacy?

- Always
- Frequently
- Occasionally
- Rarely
- Never

22. In your estimation, how much information literacy do students obtain from your regular teaching?

- A lot
- Quite a lot
- Some
- A little
- None
- n/a

Please feel free to expand on your answer



23. Have you been approached regarding the addition of information literacy into any curriculum you partake?

○ Yes ○ No

24. Who has approached you regarding the addition of information literacy to a curriculum?

25. Have you approached a librarian regarding the addition of information literacy to any curriculum in which you partake?

○ Yes ○ No

Please feel free to expand on your answer

26. Would you be interested in adding information literacy to any curriculum in which you partake?

○ Yes ○ No ○ Maybe

Please feel free to expand on your answer

27. Please indicate true or false for the following statements.

	True	False	Not Sure
Information literacy classes are available at my institution.	○	○	○
Librarians teach information literacy at my institution.	○	○	○
Faculty are welcome at information literacy classes.	○	○	○
Due to lack of time, attending information literacy classes is unfeasible.	○	○	○
I would be open to librarian involvement in my teaching.	○	○	○
I frequently ask librarians to come into my class and teach students research skills.	○	○	○
Due to limited time, adding information literacy to any of my courses is unfeasible.	○	○	○
Students should discover information literacy on their own.	○	○	○
Students are already information literate.	○	○	○
Students are not required to be information literate.	○	○	○

28. How much would the following factors influence you when considering collaboration with a librarian to teach information literacy?

	Extremely	Very Much	Quite	Not Very Much	Not at All
Time restrictions	○	○	○	○	○
Students' information literacy needs	○	○	○	○	○
Librarians' teaching abilities	○	○	○	○	○
Librarians' limited knowledge of your specific field	○	○	○	○	○
Librarians' lack of understanding of academic culture	○	○	○	○	○
I don't know any of our librarians	○	○	○	○	○

29. Do you think information literacy should be taught in college?

○ Yes ○ No ○ Maybe

30. Should information literacy classes be mandatory?

○ Yes ○ No ○ Maybe

31. How should Information Literacy be taught?

(Please rank each in order of preference where 1 is your most and 8 is your least favoured option)

	1	2	3	4	5	6	7	8
As library orientation classes at the start of college	○	○	○	○	○	○	○	○
As a module	○	○	○	○	○	○	○	○
As part of a module	○	○	○	○	○	○	○	○
As lessons throughout the curriculum when needed	○	○	○	○	○	○	○	○
Integrated into every module	○	○	○	○	○	○	○	○
During tutorials	○	○	○	○	○	○	○	○
Online	○	○	○	○	○	○	○	◉
Other (please specify)	○	○	○	○	○	○	○	○

Specification of other

32. Should students be graded on their level of information literacy?

○ Yes ○ No ○ Maybe

Please feel free to expand on your answer

33. In your opinion, who should teach information literacy to students?

○ Librarians

○ Lecturers

○ A Collaboration of Both

○ Either

○ Other (please specify)

34. Thank you for your time and patience. Any further comments are greatly appreciated.

Appendix B Cover Email

Re: Information literacy survey of universities in the Dublin area

Dear faculty member,

I am a post-graduate student of Library and Information Management (Course code MSCIL1F) at Dublin Business School and would be very grateful if you could spare a few minutes to complete a questionnaire on information literacy for my MSc. Thesis.

The main aim of the survey is to establish the awareness and perceptions of academics of the content of this subject. No prior knowledge of the subject is required to complete the questionnaire.

Please click on the link below to access the survey or copy this URL into the browser window.

https://www.surveymonkey.com/s/IL_survey

The survey should take about 15 minutes to complete and can be submitted electronically. Should you need to pause while filling in the survey, then close the browser window and your answers up to that point will automatically be saved.

I would like to assure you that the results of this survey are confidential and it will not be possible to link completed questionnaires to individuals.

Please complete the questionnaire by 25/08/11.

I look forward to receiving your questionnaire shortly. If you have any questions please feel free to contact me at any stage.

With king regards and many thanks,

Christina Blau

Student No. 1605573

Appendix C List of Subjects included in each Subject Area

Agriculture, Food Science and Veterinary Medicine

- Agriculture
- Animal Behaviour
- Animal Science
- Veterinary Medicine

Arts and Celtic Studies`

- Languages – Russian, Spanish
- Italian Studies
- Linguistics
- German
- Modern Languages
- Media
- History
- Art History
- Music
- English Literature
- French
- Drama
- Literature
- English
- Film
- Celtic and Welsh
- Translation
- Cinema
- Culture

- Classics
- Film Studies
- Old English
- Medieval Latin
- Archaeology

Business and Law

- Law
- Supply Chain Management
- Operations Management
- Organisational Theory
- Organisational Behaviour
- Innovation (Management)
- Entrepreneurship
- Management
- Business
- Accounting
- Business Studies
- Management Studies
- Management Science
- Taxation
- Finance

Engineering and Architecture

- Electronic Engineering
- Mechanical Engineering
- Bioengineering
- Civil Engineering
- Environmental Engineering
- Software Engineering

- Architecture
- Water Resources Engineering
- Electronics

Health Sciences

- Nursing
- Anatomy
- Public Health `
- Dental
- Physiotherapy
- Medicine
- Radiography
- Surgery
- Neuroscience
- Embryology
- Immunology
- Pharmacy
- Dentistry
- Diagnostic Imaging
- Radiotherapy
- Psychiatric Nursing
- Midwifery
- Physiology
- Mammography
- Dental Radiology
- Children's Nursing
- Wound Care
- Pathology

Human Sciences

- Politics
- Philosophy
- Communications
- Education
- Adult Education
- Peace Studies
- Social Science
- Sociology
- Social policy
- Economics
- Biological Psychology
- Cognitive Psychology
- Geography
- International Relations
- Psychology
- Social Work Topics
- Anthropology
- Information Organization
- Physiology
- Child Development
- Health Policy
- Health Promotion
- Guidance Counseling
- Psychopharmacology
- Child and Adolescent Psychology

Science

- Experimental Physics `
- Physics
- Mathematical Physics
- Microbiology
- Genetics
- Maths/ Mathematics
- Biology
- Chemistry
- Cell Culture Biotechnology
- Pharmaceutical Chemistry
- Applied Mathematics
- Geology
- Computer Science
- Microbiology
- Environmental Science
- Theoretical Physics
- Biochemistry
- Statistics
- Science
- Organic Chemistry
- Computing