



What Faculty Think—Exploring the Barriers to Information Literacy Development in Undergraduate Education

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This paper reports findings from a recent Irish-based study into faculty–librarian collaboration for information literacy (IL) development. Qualitative analysis of comments made by Sociology and Civil Engineering academics shows how entrenched beliefs and perceptions may adversely affect the potential for collaboration, and prevent the inclusion of information literacy in undergraduate curricula.

INTRODUCTION: THE “FACULTY PROBLEM”

In recent years, the restructuring of undergraduate curricula to ensure an integrated approach to information literacy development (ILD) for students has emerged as a critical objective for post-secondary institutions, and features increasingly in college and university mission statements and teaching charters for the 21st century. The notion of targeted collaboration between librarians and key university constituents in pursuit of this goal is not a novel concept, but is viewed as the most effective route to success.^{1–4} In particular, calls have been made for the restructuring and formalization of the existing instructional arrangements that exist between librarians and academic faculty, as well as the development of newer, more powerful initiatives, which recognize the changes required for both parties to engage in full information literacy (IL) partnerships.⁵ These include the transformation of pedagogical practice to facilitate a more active, student-led approach to learning, as well as the physical redevelopment of learning space to encourage collaboration between students, and more varied use of resources for information problem-solving. For information professionals, these changes mark a welcome shift with regard to the way in which their roles in the academic community have traditionally been viewed by non-library colleagues, and the net effect has been to move them closer to the pedagogical structures that they have always supported. For instance, in respect of physical changes, the increasingly popular idea of the campus library as “learning center” effectively supplants the traditional, static image of the library as materials storehouse, and replaces it with a dynamic picture of an interactive learning environment where information is selected by users as the basis for problem-solving, rather than strictly prescribed by academic faculty. In many ways, this represents the apotheosis of the collaborative ideal, drawing together the disparate academic support services departments such as the library, teaching faculty and computing services in an organizational model, with the aim of “supporting a range of learning styles and student interaction with [...] resources and services.”⁶ The traditional “support” role of library staff is thereby reconstructed within a more integrated framework.

However, despite an ideological commitment to pedagogical innovation within the post-secondary sector, in many cases the

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inclusion of IL, both as a desired outcome and as a tool of undergraduate education, remains an aspiration rather than a fully realized ideal. In seeking to account for this apparent lack of progress, a common thread in the LIS literature has largely focused on the perceived reluctance of the academic teaching staff to instigate the appropriate structural program changes, which would permit the integration of ILD with the teaching curriculum. Information professionals, who are eager to collaborate with faculty for ILD, frequently vent their frustration with what has been dubbed the “faculty problem,”⁷ deeming faculty either apathetic or even deliberately obstructive towards their efforts to initiate joint instructional arrangements. Librarians’ anger with their academic colleagues, and with their own apparent lack of political leverage within the academic community in general, is visible in highly charged descriptions such as the following: “Academic pariahs, whom legitimate faculty may denigrate or merely tolerate, but do not generally completely embrace, librarians continue to wage an uphill battle for intellectual respect among colleagues in other departments.”⁸

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Recent studies, such as that carried out by Julien and Given,^{9,10} seem to confirm this apparent rift; their analysis of postings by information professionals to the ILI-L listserv between 1995 and 2002 demonstrates a hostile relationship, with some posters expressing the view that faculty are territorial and possessive about their courses, as well as being rude, uncooperative, arrogant and uncaring with regard to their students’ needs. Other authors have written about faculty’s apparently limited conception of the role played by librarians in the academic community, which relegates them to “support services,” rather than active contributors to the educational process. Markless and Streatfield,¹¹ in a survey of eleven colleges of further education in England and Wales, found that the library was perceived by most faculty as “primarily information stores” (p. 50), while there was little evidence of “systematic collaboration between lecturers and librarians over information skills teaching” (p. 53). Similarly, Julien and Boon¹² discovered a difficult relationship between librarians and faculty in their survey of three case study sites in Canada, with library staff complaining of apathy on the faculty’s part, as well as their apparent belief that students can develop good information skills without the assistance of librarians. These are views which stand in stark contrast to information professionals’ own self-conception of modern professional identity, which embraces a more integrated teaching role, including collaboration with key university constituents in pursuit of a student-centered vision of learning. Librarians claim that their efforts to implement and sustain ILD practices within undergraduate curricula are frequently thwarted by their dependence on individual “library-friendly” faculty members,

whose support is assured only as long as they remain in their current position;¹³ a change of personnel or a shifting of departmental priorities can, and often does, signal the end of an established IL program and a subsequent return to square one for the participating library staff. The continuing relevance of this problem is affirmed by D’Angelo and Maid,¹⁴ who note that: “A great deal of time and energy are spent on advocacy, and frequently individual efforts are not sustainable beyond the work of the individual librarians or librarian–faculty team.”

While views such as this are widespread in the LIS literature, hard evidence supporting this claim is, however, overwhelmingly restricted to anecdotal accounts and descriptions of “real life” or “how we did it” case studies, rather than founded on systematic empirical research.^{15–17} To date, the actual voices of faculty have been featured to only a marginal extent in LIS papers in general and in those dealing with IL in particular, which are written largely “by librarians for librarians.”¹⁸ Consequently, our knowledge and understanding of faculty attitudes towards, and perceptions of, information literacy development, have been shaped primarily by second-hand accounts of their behavior, relayed by the information staff who work with them. While valuable at one level, in that these descriptions offer an interesting, although one-sided, insight into library–faculty relations, their usefulness is, however, compromised by the absence of the faculty perspective. Identifying the barriers to faculty–library collaboration for ILD requires an approach which carefully examines the motives and conceptions of both parties, rather than relying on evidence conveyed by one side, however grounded in fact that evidence purports to be. Kotter, in his criticism of research into faculty–library relations, makes the point succinctly: “If evaluation of the quality of librarian–faculty relations were to rest on anecdotes, librarians would face an intractable dilemma: do such stories truly reflect the overall quality of relations at the institution, or do they reflect isolated events?”¹⁹ (p. 296). He suggests that methods of evaluation must be found that are “less subject to such distortion.” The critical importance of gaining insight into academics’ conceptions of IL, as well as their work practices, is highlighted by the title of a recent seminar given by Sheila Webber and Bill Johnston for the CAVAL Reference Interest Group in RMIT University, Melbourne: “Lifting the Lid: Information Literacy and Academics—Challenging the Assumptions of Librarians,” in which results from an ongoing UK-based study on academics’ conceptions of pedagogy for IL were presented to the participants.²⁰

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LITERATURE REVIEW

Although relatively rare, a number of studies over the years have endeavored to convey the faculty perspective on library-related matters, and this research has contributed greatly to the

body of knowledge concerned with faculty–library collaboration. Broadly, studies of faculty in the LIS literature have investigated the following phenomena:

- faculty attitudes towards librarians, and perceptions of librarians' role and status;
- faculty conceptions of IL, plus attitudes towards ILD and pedagogical practices; and
- faculty ratings of institutional library services.

The various objectives, which provided focus to the studies, indicate the areas in which librarians perceive academic influence to be most salient, namely: the nature and extent of campus library usage, the question of awarding faculty status to librarians, the success and acceptance of teaching programs, faculty–librarian relations, and the general role and status of the campus library and information staff within the academic community. With regard to the topic currently under investigation, faculty attitudes specifically towards information literacy development remain a comparatively under-researched phenomenon. The most comprehensive research to date remains Hardesty's 1991 study, which involved the development and application of an extensive "Library Educational Attitudes Scale," to measure the attitudes of selected faculty towards the role of the library in undergraduate education, including the instructional role.²¹ Other key papers in this area include Maynard,²² Cannon,²³ Thomas²⁴ and Leckie and Fullerton.²⁵ Academics' conceptions of IL have been explored in two major studies, namely Doyle²⁶ and Bruce,²⁷ while, as mentioned above, a study of academics' conceptions of, and pedagogy for, IL in post-secondary education is currently underway in the UK.²⁸

Taken together, these studies offer some insight into how faculty conceive of information literacy, and into how they believe that it is, and should be, facilitated within undergraduate education. A finding that proved common to all studies was the variation that exists between different disciplines with regard to how IL is conceptualized by academics, and in the methods by which students are engaged in ILD during their education. For instance, Cannon²⁹ discovered a greater tendency among Arts and Humanities faculty to invite a librarian to instruct their classes, than among Mathematics and Statistics faculty. More recently, Boon, Johnston and Webber³⁰ described varying conceptions of IL and of pedagogy for IL among academics in the disciplines of Marketing and English. Hardesty,³¹ however, suggested that it is local institutional culture rather than discipline alone, that accounts for variation among faculty attitudes with regard to the library and ILD. Common to the studies by Cannon³² and Leckie and Fullerton³³ was a finding that ILD modules with input from library staff are favored less by faculty than those which they (faculty) can facilitate themselves. For instance, librarian-delivered modes such as subject-specific classes, demonstrations and general research classes are used to a much lesser extent than faculty-controlled methods, such as setting assignments which incorporate information skills and develop critical-thinking, discussing the research process in class, and explaining discipline-specific resources to the students. Similarly, the studies also revealed low support among faculty for instructional methods requiring a high degree of library–faculty collaboration, such as credit courses, team-teaching and jointly designed assignments. In their study, Markless and Streatfield³⁴ reported that teaching faculty

consider course assignments to be the main vehicle by which students develop IL skills, although no structures for formal ILD had been established within any of the curricula that they surveyed. In her earlier study of Canadian libraries, Julien³⁵ referred to the "difficulties encountered with faculty and student attitudes that hinder positive relationships with librarians" as a major barrier to the establishment of ILD programs in the institutions surveyed. Her later research into ILD in Canadian academic libraries³⁶ also points to a general lack of support for ILD within the various institutions, with library staff describing faculty as apathetic towards their instructional efforts, as well as harboring a belief that students can develop efficient information skills without librarians' assistance.

From a general perspective, a number of studies have also sought to explore faculty attitudes towards librarians and their role in the academic community, including Cook,³⁷ Ivey,³⁸ Withnell,³⁹ Divay, Duchas and Michaud-Oystryk⁴⁰ and Oberg, Schleiter and Van Houten.⁴¹ These studies reveal that, although faculty express appreciation for the work carried out by academic librarians, they do not consider their teaching role to be particularly important, and view their overall contribution to undergraduate education as limited. Library staff appear to be valued by faculty primarily for the support services they provide, including collection development and reference assistance. While they perceive library staff as professionals within their own domain of information services provision, they do not, however, rate them as academic equals; it appears that this is a view which is largely engendered by a perception that librarians do not publish sufficiently in the scholarly literature to be considered *bona fide* faculty members. Their lack of formal teaching experience is also mentioned as a limiting factor. A recent informal study of Social Science faculty affirmed academics' "service-oriented" view of librarians, but also suggested that the professional disconnection that exists between the two groups is due to organizational issues and status differences that combine to maintain their separateness. The authors suggest that, unlike librarians, faculty do not necessarily perceive this disconnection to be a problem.⁴²

STUDY AIMS

This paper reports a section of the results from a larger study of the barriers to collaboration for ILD in post-secondary education, which was carried out in the Republic of Ireland from 1999–2004. Based on the premise that faculty–library collaboration is one of the critical elements for establishing successful IL programs in undergraduate education, the study sought to uncover the internal and external factors in the academic environment which disrupt the potential for such collaborations, and therefore the potential for integrated ILD in post-secondary institutions. In particular, the research problem zeroed in on the issue of "faculty culture" and the theoretical proposition advanced by Hardesty,⁴³ and supported by Badke,⁴⁴ who suggested that the entrenched beliefs, perceptions and work practices, which are characteristic of academics in post-secondary institutions, may prevent them from engaging in collaborative initiatives with external parties, including librarians, particularly with regard to their teaching activities. For instance, Hardesty observes that academics are typically time-poor, attempting to combine teaching, research and administrative responsibilities, as well as keeping up-to-date within their fields. He suggests that they are protective of the professional autonomy afforded by their position and as a

result, tend to be resistant to change, particularly when imposed from outside. Furthermore, he notes that faculty culture in general currently places a greater value on published research at the expense of teaching, which is not rewarded to the same extent as research activities. Therefore, academics who appear hostile or apathetic towards librarians' efforts, may simply be operating within a different set of norms, which diverge substantially from the professional ethos that characterizes library and information work. Arguably, understanding the nature and origin of "faculty culture" may help librarians to uncover the common goals, practices and perceptions, on which successful partnerships can be based. Accordingly, the present study aimed to provide insight into the perceptions, beliefs and practices of members of two selected academic disciplines, in order to identify the areas of conflict and "culture clash" that may hinder the establishment of IL programs in the institutions surveyed.

This paper presents a cross-section of the study findings, providing a unique insight into the perceptions and beliefs of academic faculty with regard to the facilitation of ILD within undergraduate curricula. It is shown that the participating academics harbor a number of beliefs that are at odds with librarians' visions for an information literate curriculum, and which may to some degree account for the lack of collaboration in this regard. Undergraduate education was selected as an important transitional stage for students, who are leaving the comparatively structured environment of secondary schooling, and entering the world of academia, which requires a different approach to learning.

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METHOD

As stated previously, the problem explored in this study is one that has received comparatively little attention in the LIS research literature to date. Consequently, the absence of an established theoretical framework to guide the research process suggested that an exploratory approach was called for, rather than one which aims to test pre-defined variables. The current literature on research methods suggests that, for studies of this kind, a qualitative research design may best serve the aims of the researcher, since "the variables are largely unknown, and the researcher wants to focus on the context that may shape the understanding of the phenomenon being studied."⁴⁵ As previous research on this problem is limited, the decision was thus taken to adopt a primarily qualitative approach. Furthermore, the complex nature of *academic life*, which was the principal context for the research, dictated that an approach be selected that attempts to preserve the context in which the participants carry out their work. Finally, the need for flexibility and openness to unexpected themes cemented the requirement for a qualitative research design.

The choice of research design was informed by the case study and "grounded theory" frameworks, both of which offer a flexible approach and do not require the identification of a rigidly pre-formulated list of variables to test. The data collection instrument selected was the semi-structured interview, which allows exploration of unexpected themes, while at the same time permitting the imposition of a degree of structure on the participant-researcher conversation, in the form of key topics or questions. The sampling frame was selected on the basis of purposive *criterion* sampling, which aims to identify participants who are likely to be the most informative in relation to the research questions, rather than statistically significant. Both academic and subject librarian participants were chosen, based on pre-defined lists of criteria, which aimed to exclude participants who were unlikely to offer much insight on the topic under investigation, and to include those who were. The two disciplines chosen for the study were selected for maximum contrast according to the hard-soft, pure-applied categorization developed by Biglan:⁴⁶ Sociology, an academic, research-oriented discipline falls into the "soft-pure" category, while Civil Engineering, a vocational, practice-oriented discipline, conforms to Biglan's notion of "hard-applied." Interviews took place on a phased basis over a two-year period. In total, twenty faculty members from each discipline participated, as well as nine subject librarians.

Analysis of interview transcripts conformed to the procedures associated with *thematic coding*, an approach designed to identify and expand key themes discussed by the participants, and ultimately to suggest new theoretical insights into the problem under investigation. Reporting of research results mainly involved the exploration of key themes, using participant quotations as illustrative examples, although a degree of quantification was necessary, in order to accurately describe the frequency with which themes occurred within the sample groups.

WHAT FACULTY THINK: "WE'RE ALREADY DOING IT!"

One of the most striking results to emerge in the study was the belief, expressed by most of the participants, that the prevailing instructional paradigm for both disciplines is fundamentally designed to encourage the development of information skills among students, although no formal IL structures were found to exist: "It's not addressed directly, but it's not omitted either." By and large, faculty suggested that students gradually become information literate through participating in one or more of eight existing learning situations:

1. through completing a series of information exercises [at one institution];
2. through Research Methods courses and seminars [in Sociology only];
3. through "core skills" modules that incorporate information skills [in Civil Engineering only];
4. through Computer Skills classes, including Internet searching;
5. through library-based modes of instruction, such as library tours, orientation sessions and lectures from library staff;

6. through feedback received from tutors or lecturers for project and essay work;
7. through the process of completing the final year dissertation; and
8. through general direction from lecturers and library staff, who recommend important sources of course-related information that students should use.

For both disciplines, the process of researching, writing and presenting coursework assignments represented the key context for IL development among students. In particular, the final year dissertation, which is a required component of all undergraduate degree programs in both disciplines, was referred to by participants as an opportunity for students to “take ownership” of their subject, and develop an independent view of the discipline and the structures of scholarly communication that underpin it. This process, however, appeared to be somewhat unreliable, as students received very little formal training in how to research and write academic dissertations—while the Sociologists focused primarily on instructing students in the practical application of empirical research methods, the civil engineers included just one or two research sessions in their core skills modules. Consequently, students were expected to approach their dissertations in “learn by doing” mode, guided by their supervisors on a semi-regular basis. While faculty expressed the hope that, in negotiating the research process, students would develop such competencies as a “critical approach to the scholarly literature,” “the ability to critique theoretical propositions” and “the ability to analyze information and draw conclusions,” there was no clear sense how, or if, this would actually come about. The same reasoning was applied to the minor essays and projects that students were also required to submit as part of individual modules, which by and large included an information-seeking component. The idea of constructive feedback as an effective instructional tool also emerged in several of the participants’ comments: “And in terms of giving information, I mean, certainly in the reports that they do, we are constantly giving feedback, like you know, that report is badly structured, and that isn’t the way you write a report.” There was a tacit assumption among faculty that students would somehow absorb and develop the requisite knowledge and skills through the very process of preparing a piece of written coursework, and by applying the advice meted out by their supervisors. In the present study, just one faculty member, a sociologist, actively questioned the validity of assuming that students will learn by doing, while receiving minimal direct guidance:

“You know, the more I think about it. . . in my head, I’m criticizing those students for not doing it [researching properly], but maybe it’s not a fair criticism because maybe they’re not taught it well enough. To me, it’s obvious. . . And it’s probably a failing in us alright, that we don’t do it, you know.”

WHAT FACULTY THINK: THE EFFECT OF STUDENT MOTIVATION

One of the more striking themes to emerge from the data analysis was the pervasiveness of the belief that the extent to which students develop as information literate individuals

depends almost entirely on personal interest, individual motivation and innate ability, rather than on the quality and format of the available instructional opportunities: “I think if they are [information literate], it’s because they did it themselves.” Rather than suggesting that it should be a desired learning outcome of undergraduate programs, a number of participants observed that students can become information literate only if they proactively and independently choose to pursue the opportunities that are available to them during the course of their education. As a corollary, therefore, *failure* to become information literate is viewed principally as a function of a student’s personal decision *not* to focus on developing his or her information competence: “If they wanted to be information literate at the end of coming out from here, they really could be, right? If they don’t prioritize that, or think that it’s important, they just will come out of here not knowing how to. . .” The idea of individual responsibility for self-development and learning is a powerful one, and is viewed by faculty as a strong indicator of whether a student will benefit from their educational experience as a whole, not just in the IL arena. In particular, personal interest in a subject area is considered a critical determinant of success: “How students develop most things is out of interest. . . you can lead a horse to water, but you can’t make it drink. So, if you’re interested, you’ll learn, and if you’re not, you’re wasting time.” The idea of personal, or life, interest, versus the student’s interest in successful completion of coursework assignments was explored by one sociologist, who suggested that students become information literate through the intersection of these two strands:

I think people are developing [IL] in their own lives, whether they have need of it out of interest, or facility, or whatever. . . But then I think for those then who are following a certain. . . whether it be a project or whatever. . . when you’re actually working on a project, or when you *need* something for your own argument, for what you’re doing. . . so I think there are two different ways in which you proceed in that.

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However, the question of individual motivation, while viewed on the one hand as a noble and important character attribute in the context of student learning, also emerged as a source of considerable frustration for some faculty, who expressed despair at their perceived inability to stimulate independent learning activity among their student groups: “I would suspect that with a number of them, it doesn’t matter what you do, they’re never going to be that. . . they’re probably not that interested anyway, they probably don’t see the value in it.” The study found that this belief permeated the faculty

“psyche” to such an extent that it affected almost every aspect of pedagogy, including the faculty’s choice of teaching method, the assessment schedules imposed by them and the reading lists prepared for each module. For example, despite an expressed preference for small group teaching among the majority of faculty, the actual extent to which the method was used in practice was extremely limited, with lectures remaining the primary teaching approach. Several participants attributed this directly to lack of student motivation, citing such stumbling blocks as the students’ frequent failure to do required reading in advance, their deliberate reliance on other group members to carry the workload and their refusal to participate actively in group discussions. Similarly, the inclusion of textbooks at the expense of more varied resources on course reading lists was attributed to the perceived reluctance of students to do more reading than is required to achieve a pass grade: “I mean if you teach one course, what [students] want is any textbook that will give them most of the information very quickly.” This belief, which at one level is tantamount to a *fear* of how the students will react to any mooted change in the curriculum or pedagogy, represents a tangible problem for those wishing to modify existing programs to facilitate information literacy. Faculty, who are uncertain as to how their students will respond to innovation, are perhaps less likely to wish to commit to collaborative arrangements with librarians. In some of the participants’ comments, there was a sense of resignation and powerlessness, which is often the root cause of inertia. For instance, one civil engineer expressed his frustration at students’ perceived laziness in doing research, which invariably led him to perform the required task for them:

They’re not able to [perform adequate literature searches], they haven’t the patience to do that, they want you to point them directly at the article. Like for example, those projects, I end up telling them the key article...or else the thing would fall apart completely. There would be a number of key articles, but inevitably I’d end up telling them what it is.

WHAT FACULTY THINK: “THEY’LL ‘PICK IT UP’ OVER TIME”

The academics’ belief that a student’s path to ILD is, by nature, a solitary one was reflected in comments illustrating their expectations that the students will “pick it up” as they go along—a number of the study participants suggested that there is a tacit assumption among faculty that an information literate mindset is developed in this haphazard manner. To an extent, it appears that these expectations are linked to the academics’ *personal* experiences of university education, where they developed information skills gradually, and usually without much direct assistance: “I think it’s then way I learned it—on my own!” One sociologist recalled her own undergraduate experience of being exhorted by lecturers that she and her classmates should be “copping on” to information skills by a certain point, although they had received no instruction. She suggested that her approach as a lecturer, and that of her colleagues, undoubtedly derived from those early experiences: “we sort of expect [students] to read a book and to notice how a reference is cited, we expect them to spend time in the library, and learn how to use even the file card system.” The idea of expecting students to fend

for themselves with regard to ILD is articulated in the “sink-or-swim” model described by one sociology academic, which is premised on the central assumption, or hope, that students are sufficiently independent-minded to seek assistance if necessary:

“And you know, perhaps it’s a sink-or-swim model, and people would, if the need arose, if there was no other option, they’d surely beg, borrow or steal someone’s computer or find a friend who could help them, or whatever...I mean, in a sense, that’s how most people, I think, have learnt about the Internet...they kind of pick it up as opposed to some systematic form of training.”

Accordingly, a number of the faculty stated their belief that IL is developed in a largely inconsistent, ad-hoc manner or through a process of “trial and error,” as students apply various strategies to problems before arriving at the optimal solution. Equally, some suggested that it occurs according to the “law of exposure,” as students repeatedly encounter situations in which they are required to draw on their IL ability, however limited it may be. The extent to which students will adapt and modify their information-seeking strategies is viewed once more as a function of motivation and ability. As one sociologist observed:

“I think there’s a good deal of ad-hoc stuff, that they just ransack readily available sources...it is a common and useful method of proceeding. Some stop at that. Some have an ability to move beyond that to a limited extent, by looking, using bibliographies and citation indexes, and asking around...to a broader pattern.”

It was clear from some of the faculty’s comments that, although they believe that students do eventually become information literate, they were generally unable to explain the mechanism by which it occurs: “I’m never too sure how!” A consequence of this belief is, therefore, the assumption that no formal structure is necessary to encourage ILD among students—it is seen as a natural, almost intuitive process, whereby students will somehow work it out for themselves through encountering and resolving information problems throughout the course of their education. In a sense, this finding echoes observations made by Leckie⁴⁷ about faculty’s tendency to create assignments that are too difficult for undergraduate students. In her paper, she refers to the unreasonable expectations that academics have in terms of the information sources they think students should use, and the research process they believe students should adhere to in completing the assignment. Academics, most of whom have completed a PhD, and who are regarded as experts in their chosen fields, have become accustomed to particular information seeking strategies, which may not involve the library, but rather depend on a network of personal contacts, and a system of following citation trails, neither of which are suitable for the novice researcher who is experiencing the process for the first time, and has no sense of who is regarded as important in the field: “Unlike faculty, undergraduates do not know what they want for their research paper, except to complete it in a way that satisfies the professor.”⁴⁸ In the present context, it seems that faculty’s personal experiences of becoming information literate as students also influence their attitudes to how it should be facilitated in the curriculum.

WHAT FACULTY THINK: ILD AS A SOCIAL PROCESS

Another theme to emerge from the interviews with faculty was the belief that students learn how to be information literate mainly through working with their fellow students, and turning to their peers for assistance when difficulties are encountered. This view was expressed particularly by civil engineering faculty, whose enthusiasm for “social learning” in this context can be attributed to their perception of the undergraduate civil engineering student body as an unusually close-knit community, imbued with a strong team-work spirit and sense of collegiality. Opportunities to work with fellow students did appear greater in the civil engineering programs, where small groups of students frequently collaborate on design projects, and in laboratory sessions. By contrast, as one sociologist observed, there seemed to be less of a pattern of co-operation among undergraduate Sociology students: “it tends to be quite atavistic and less weighted that way [for our students].” However, one sociologist who taught smaller classes, and had adopted a seminar style of teaching, described the synergistic effect of this type of group learning situation in developing information skills:

“With small groups you have a fairly good sense of how they’re getting along because if your learning and teaching situation is discussion-based, you have a good sense of what information is going in there...you know whether things are understood, whether there’s accuracy, what’s going on there. And then you also move into then different levels of comprehension, so...how well are students interrogating the information, you have a good sense of that, because your sounding board is happening in the class and also you’re not waiting until the very end, let’s say in the examination.”

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The strength of social learning in fostering ILD lies in the opportunities it presents for students to share both information, and information-seeking strategies. Sometimes, this can simply be a function of physical proximity. As one civil engineer noted: “If they’re in our PC lab working away, they’ll be sharing information, you know, that is a good site to go to for that or whatever.” In most of the comments, however, participants seemed unsure as to the mechanism by which this occurs, observing vaguely that, “they sort of pick it up from their friends, and they develop them,” or “I think they probably learn quite a lot from each other.” Once again, this belief points to an assumption that ILD should constitute a naturally occurring process, when the appropriate conditions prevail. However, it is also indicative of a lack of awareness among faculty with regard to the degree of intervention and guidance that is necessary for IL to develop, and therefore a problematic finding in the context of ILD as a structured approach to pedagogy.

WHAT FACULTY THINK: PROBLEM-SOLVING FOR ILD

A further context, in which participants perceive that students come to develop an IL mindset, centers on the concept of

“applying theory to practice,” which is predicated on the notion that teaching in itself is essentially futile, unless it is accompanied by opportunities to apply the skills that are learned:

“You develop them by using, by doing it, it’s the only way you learn anything, as far as I’m concerned! I mean, you can read about it all day, you can sit and listen to courses, and people telling you how to do it, but the only way you learn how to do a design or to anything, is to sit down and have an actual example that you have to research, some particular topic, and you go and find out.”

From this perspective, IL is seen to develop through the experience of being confronted with an unfamiliar situation or a seemingly intractable information problem, and in the process of gradually working out how to achieve a satisfactory solution or find an appropriate answer to a question: “By actually finding a problem where they can’t find good information, they use the information skills they didn’t know they had!” This essentially task-oriented view of ILD is central to the constructivist ideology of self-directed and self-paced learning, where students learn to take an active approach. The central assumption underpinning this theory is that it is the value and meaning that students attach to particular tasks, which determines how receptive they are to learning the skills associated with task completion. This assumption was echoed in an analogy, adopted by one sociologist to convey her conception of how students develop an IL mindset, in which she described her personal experience of learning how to use a computer, explaining how her ability to use the word processing package progressed and receded according to how much she practiced:

“I’d liken it to something like me learning the computer. When I got my first computer, I learned a program to word-process on it. And, I only learned that one program, because I actually used it. And as soon as I stopped using it, I forgot how to use it.”

The academics viewed the connection between practical problem-solving and ILD in a number of ways. For one civil engineer, the process represented the defining moment where knowledge and application are brought together to achieve a desired end. Conceptually, for the students, it serves to clarify the distinction between information-gathering, and information *use*, where previously the line was blurred:

“And I think it’s done through problem-based type learning, where they see scenarios, they see case studies, they see situations, they’re asked to solve a problem. And it’s not until then that they actually make the mental connections between the knowledge and the processes that are required to convert that knowledge into use...into design, into whatever.”

Active engagement with a research task was viewed by another civil engineer as an opportunity for students to learn how to construct an effective information strategy, through the iterative process of making mistakes and seeking assistance from qualified sources. In her description, she differentiated between the “technical” problems of accessing information, and the “more subtle” conceptual difficulties involved in

locating relevant information, for which she suggested the example of keyword-searching:

“But maybe if it’s something more subtle, if it’s something to do with the keywords that they’re using, maybe they’re not getting very fruitful. . .sometimes it would happen to myself, that I’d put in what I think are the most obvious keywords, and getting rubbish back. And I just try some completely different tack, and you’re getting all this stuff back, you know.”

While this belief does suggest an inherently more structured approach, the question of whether ILD is a process which occurs intuitively still remains; in this case, while faculty viewed problem-solving as the key context for development, there was no reference to the degree of instructor intervention that might be necessary for success, or the extent to which ILD should be included as an explicit objective of the problem-solving tasks.

CONCLUSION

Although providing just a snapshot of what faculty believe about ILD in two disciplines, 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 concept of “learning by doing” featured strongly in faculty’s comments, although the need for structured intervention and guidance was not a key theme. Paradoxically, students’ personal motivation emerged as both a positive and a negative influence on faculty’s approach to pedagogy. In the first instance, the belief that intrinsic motivation is a key determinant of ILD constitutes a reasonable assumption, and serves as a reminder that learning tasks should be constructed that will engage the student in a meaningful sense. However, the degree to which faculty also appeared to consider themselves bound by their expectations of the learning situations in which students will, or will not, participate, is a troublesome finding, and suggests that the persistence of the traditional, passive learning framework is at least partially based on faculty’s reluctance to “rock the boat,” and incur student resistance. This paradox is highlighted further by the faculty’s apparent belief that the road to ILD is essentially a solitary journey, driven by the student’s own personal interest. On the one hand, the student is expected to identify, and avail of, the existing opportunities for ILD within the curriculum. On the other, students are perceived as extrinsically motivated by the desire to simply pass a course, and to do no more than is required to achieve an acceptable result.

The findings, which revealed how faculty appear to rely heavily on coursework assignments and dissertations as a primary vehicle for ILD, are similar to those reported by Markless and Streatfield,⁴⁹ who also questioned academics about their pedagogical practices for information skills development in post-secondary institutions the UK. However, in their report, the authors expressed concern about the faculty’s apparent dependence on coursework assignments as a vehicle for information literacy among students, noting a number of potential problems with this approach. In the first instance, they suggest that assignment protocols, for the most part, do not specify clearly enough the information skills that students require to successfully complete the project—rather, the use of vague, overly generalized terminology such as “research skills” or “information gathering” in assignment outlines fails to provide sufficiently clear guidelines for the students, in

terms of the level of mastery they are expected to reach. Secondly, they argue that the lack of direct learning support provided to students in doing research may lead to them to “reinforce inappropriate or incorrect execution of the skill.”⁵⁰ Their overriding concern is that students do not receive appropriate guidance, as their lecturers assume that they are “learning by doing,” a belief which they describe as a “common trap.” Finally, they suggest that the criteria for grading assignments almost always focus on the final outcome, rather than the information *processes* that led to the completed project. As a result, students receive no useful feedback on whether their research approach was effective: “How can anyone be sure which particular skills have been mastered and which used inefficiently to produce a particular end result?”⁵¹ An additional point for consideration concerns the information behavior of the students themselves, and their tendency to “pull together just enough ‘at random’ information to support the requirements of the paper.”⁵² Overworked students, who recognize that their information skills are unlikely to be graded separately, are unwilling to spend time in developing competency in this area—inevitably, they will put in the minimum amount of effort required to gain a pass grade. In the present study, faculty’s comments pointed towards an *assumption* that students would develop competence in this way, although there was no direct attempt to design assignments specifically with this outcome in mind.

What is clear from these findings is that IL has not yet become a priority for academic faculty. The comments made by faculty in the present study were, to an extent, exploratory in nature, as they grappled with an unfamiliar question. In particular, the assumption that IL was already accounted for in the learning situations that prevailed at the time of the interviews, demonstrated a lack of awareness of the issues surrounding pedagogy for ILD—perhaps understandable, considering the publishing domain for IL papers, which is virtually limited to Library and Information Science. This suggests that despite the extensive promotional work undertaken by information professionals, IL remains an undiscovered country for academics. A number of potential strategies are suggested to resolve this issue:

- the inclusion of IL on the list of professional development modules offered to teaching faculty in post-secondary institutions;
- specific targeting of journals in the educational research field for the publication of articles on pedagogy for ILD;
- specific targeting of educational conferences for the presentation of papers on current ILD research;
- organization of discipline-specific workshops, seminars and conferences on ILD for faculty; and
- increase in the level of promotional activities for ILD at institutional level, particularly with regard to the lobbying of university governors for the inclusion of ILD as a criterion for promotion and tenure.

“What is clear from these findings is that IL has not yet become a priority for academic faculty.”

NOTES AND REFERENCES

1. Patricia Iannuzzi, "Faculty Development and Information Literacy: Establishing Campus Partnerships," *Reference Services Review* 26 (1998 Fall-Winter): 97–102, 116.
2. Marion C. Winner, "Librarians as Partners in the Classroom: An Increasing Imperative," *Reference Services Review* 26 (1998 Spring): 25–30.
3. Dick Raspa & Dane Ward, *The Collaborative Imperative: Librarians and Faculty Working Together in the Information Universe* (Chicago: American Library Association, Association of College and Research Libraries, 2000).
4. Hannelore B. Rader, "Building Faculty-Librarian Partnerships to Prepare Students for Information Fluency: The Time for Sharing Information Expertise is Now," *College & Research Libraries News* 65 (2004 February): 74–76, 80, 83, 90.
5. Jane Scales, Greg Matthews, & Corey M. Johnson, "Compliance, Cooperation, Collaboration and Information Literacy," *Journal of Academic Librarianship* 31 (2005 May): 229–235.
6. Edward Oyston, *Centred on Learning: Academic Case Studies on Learning Centre Development* (Aldershot, Hants: Ashgate, 2003).
7. Constance McCarthy, "The Faculty Problem," *Journal of Academic Librarianship* 11 (1985 July): 142–145.
8. Robert Hauptman & Fred E. Hill, "The Academic Librarian as Classroom Teacher," in *The Librarian in the University*, edited by H. Palmer Hall & Caroline Byrd (Metuchen, NJ: Scarecrow Press, 1990), pp. 93–121.
9. Heidi Julien & Lisa Given, "Faculty-Librarian Relationships in the Information Literacy Context: A Content Analysis of Librarians' Expressed Attitudes and Experiences," *Canadian Journal of Information and Library Science* 27 (2003 September): 65–87.
10. Heidi Julien & Lisa Given, "Finding Common Ground: An Analysis of Librarians' Expressed Attitudes towards Faculty," *Reference Librarian* 43 (2005): 25–38.
11. Sharon Markless & David Streatfield, *Cultivating Information Skills in Further Education: Eleven Case Studies* (London: British Library Research and Development Department, 1992).
12. Heidi Julien & Stuart Boon, "From the Front Line: Information Literacy Instruction in Canadian Academic Libraries," *Reference Services Review* 30 (2002 Summer): 143–149.
13. Abigail Loomis, "Building Coalitions for Information Literacy," in *Information for a New Age: Redefining the Librarian*, edited by Fifteenth Anniversary Task Force, Library Instruction Round Table, & American Library Association, Libraries Unlimited (Englewood, CO, 1995), pp. 123–134.
14. Barbara A. D'Angelo & Barry M. Maid, "Moving Beyond Definitions: Implementing Information Literacy Across the Curriculum," *Journal of Academic Librarianship* 30 (2004 May): 212–217.
15. Evan Farber, "Faculty-Librarian Cooperation: A Personal Retrospective," *Reference Services Review* 27 (1999 Fall): 229–234.
16. Wade Kotter, "Bridging the Great Divide: Improving Relations Between Librarians and Classroom Faculty," *Journal of Academic Librarianship* 25 (1999 July): 294–303.
17. Lars Christiansen, Mindy Stompler, & Lyn Thaxton, "A Report on Librarian-Faculty Relations from a Sociological Perspective," *Journal of Academic Librarianship* 30 (2004 March): 116–121.
18. Kimberley M. Donnelly, "Building the Learning Library: Where do we Start?" in *Future Teaching Roles for Academic Librarians* (New York: The Haworth Press, 2000) pp. 59–75.
19. Kotter, "Bridging the Great Divide: Improving Relations Between Librarians and Classroom Faculty," p. 296.
20. Sheila Webber & Bill Johnston, "Information Literacy and Academics: Challenging the Assumptions of Librarians," Paper presented at CRIG Seminar "Lifting the Lid," Melbourne, November 2005. Online. Available: http://www.caval.edu.au/members/wpr/crig/pa/Info_Literacy/Webber%20and%20Johnston%202005.ppt (February 7th 2006).
21. Larry Hardesty, *Faculty and the Library: The Undergraduate Experience*, (Norwood, NJ: Ablex, 1991).
22. J. Edmund Maynard, "A Case Study of Faculty Attitudes toward Library Instruction: The Citadel Experience," *Reference Services Review* 18 (1990 Summer): 67–76.
23. Anita Cannon, "Faculty Survey on Library Research Instruction," *Reference Quarterly* 33 (1994 Summer): 524–541.
24. Joy Thomas, "Faculty Attitudes and Habits Concerning Library Instruction: How Much has Changed Since 1982?" *Research Strategies* 12 (1994 Fall): 209–223.
25. Gloria J. Leckie & Anne Fullerton, "Information Literacy in Science and Engineering Undergraduate Education: Faculty Attitudes and Pedagogical Practices," *College & Research Libraries* 60 (1999 January): 9–29.
26. Christine Doyle, *Outcome Measures for Information Literacy within the National Education Goals of 1990: Final Report to National Forum on Information Literacy: Summary of Findings* (New York: ERIC Clearinghouse on Information Resources, 1992).
27. Christine Bruce, *The Seven Faces of Information Literacy* (Adelaide, Australia: Auslib Press, 1997).
28. Sheila Webber, Bill Johnston and Stuart Boon, UK Academics' Conceptions of, and Pedagogy for, Information Literacy. Online. Bill and Sheila's Information Literacy Place (n.d.) Available: <http://dis.shef.ac.uk/literacy/project/index.html> (February 6th 2006).
29. Cannon, "Faculty Survey on Library Research Instruction," pp. 524–541
30. Stuart Boon, Bill Johnston and Sheila Webber, "UK Academics' Conceptions of, and Pedagogy for, Information Literacy: A Comparison of Two Disciplines, Marketing and English," Paper presented at EADTU, Open University, Milton Keynes, 2005. Online. Available: http://dis.shef.ac.uk/literacy/project/files/EADTU_May_09_2005.ppt (February 7th 2006).
31. Hardesty, *Faculty and the Library: The Undergraduate Experience*, pp. 28–32.
32. Cannon, "Faculty Survey on Library Research Instruction," pp. 524–541.
33. Leckie, and Fullerton, "Information Literacy in Science and Engineering Undergraduate Education: Faculty Attitudes and Pedagogical Practices," pp. 9–29.
34. Markless and Streatfield, "Cultivating Information Skills in Further Education: Eleven Case Studies", p. 21
35. Heidi Julien, "Information Literacy Instruction in Canadian Academic Libraries: Longitudinal Trends and International Comparisons," *College & Research Libraries* 61 (2000 November): 510–523.
36. Julien and Boon, "From the Front Line: Information Literacy Instruction in Canadian Academic Libraries," pp. 143–149.
37. Margaret K. Cook, "Rank, Status and Contribution of Academic Librarians as Perceived by the Teaching Faculty at Southern Illinois University, Carbondale," *College & Research Libraries* 42 (1981 May): 214–222.
38. Robert T. Ivey, "Teaching Faculty Perceptions of Academic Librarians at Memphis State University," *College and Research Libraries* 55 (1994 January): 69–82.
39. LeeAnn Withnell, "Faculty Opinions of Academic Library Service Policies," *Journal of Interlibrary Loan, Document Delivery & Information Supply* 4 (1994): 23–79.
40. Gaby Divay, Ada M. Ducas, & Nicole Michaud-Oystriky, "Faculty Perceptions of Librarians at the University of Manitoba," *College & Research Libraries* 48 (1987 January): 27–35.
41. Larry R. Oberg, Mary Kay Schleiter, & Michael Van Houten, "Faculty Perceptions of Librarians at Albion College: Status, Role, Contribution and Contacts," *College & Research Libraries* 50 (1989 March): 215–230.
42. Christiansen, Stompler and Thaxton, "Librarian-Faculty Relations from a Sociological Perspective," p. 118.

43. Larry Hardesty, "Faculty Culture and Bibliographic Instruction: An Exploratory Analysis," *Library Trends* 44 (1995 Fall): 339–367.
44. William B. Badke, "Can't Get No Respect: Helping Faculty to Understand the Educational Power of Information Literacy," *Reference Librarian* 43 (2005): 63–80.
45. John W. Creswell, *Research Design: Qualitative and Quantitative Approaches* (London: Sage, 1994).
46. Arthur Biglan, "Relationships between Subject Matter Area Characteristics and Output of University Departments," *Journal of Applied Psychology* 57 (1973 June): 204–213.
47. Gloria J. Leckie, "Desperately seeking citations: Uncovering faculty assumptions about the Undergraduate Research Process," *Journal of Academic Librarianship* 22 (1996 May): 201–208.
48. *Ibid.*, p. 206.
49. Markless and Streatfield, *Cultivating Information Skills in Further Education: Eleven Case Studies*, p. 21.
50. *Ibid.*, p. 23.
51. *Ibid.*, p. 29.
52. Patricia SennBreivik, *Student Learning in the Information Age* (Phoenix, AZ: Oryx Press, 1998).