Learning from faculty voices on information literacy

Opportunities and challenges for undergraduate information literacy education

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Abstract

Purpose – This paper aims to investigate faculty conceptions of information literacy (IL) in a digital information landscape by examining faculty definitions of IL in the context of undergraduate education, as well as faculty perceptions of, and expectations for, undergraduate IL knowledge and abilities.

Design/methodology/approach – This is a qualitative research study with 24 semi-structured interviews of faculty in different disciplines at a large public research university in Toronto, Ontario.

Findings – Faculty view IL as fundamentally intertwined with other academic literacies and as central for the successful pursuit of much undergraduate academic research work including developing autonomous, engaged learners. Faculty place special emphasis on fostering higher-order cognitive skills, especially developing a questioning disposition and the ability to evaluate, contextualize and synthesize information sources. Faculty see considerable scope for improvement of undergraduate IL capabilities, and a large majority see a role for themselves and librarians here.

Practical implications – Findings of this and other studies align well with core elements in the new IL guidelines and frameworks for higher education both in North America and the United Kingdom. This includes highlighting a need for a strong faculty role in shaping IL in higher education in the future, a need for a holistic lens in developing multiple academic literacies, an emphasis on high-order cognitive abilities and a recognition of the importance of affective dimensions of learning IL.

Originality/value – This paper fills a gap in the literature where there is an absence of studies, especially of a qualitative nature, which explore faculty conceptions of IL. A majority of studies published focus instead on librarian conceptions and practice.

Keywords Information literacy, Higher education, Undergraduates, Faculty, Academic literacies, Information literacy assessment

Paper type Research paper

Introduction

This article reports findings from a study conducted at a large public Canadian research university investigating faculty conceptions of information literacy (IL). The study's findings fill a gap in the literature, where much about IL in a higher education context is written for librarians, predominantly featuring librarian-led initiatives, and portrayed through a librarian lens (DaCosta, 2010). Cope and Sanabria (2014) point out that the faculty perspective, however, is critical, given their core role in developing and assessing course-based research assignments. Moreover, recent large-scale studies, including ERIAL (Duke and Asher, 2012) and Project IL (Head, 2013), provide extensive insights on students' IL skills, including students' perceptions of faculty as experts in their field. Data from these studies indicate a much higher propensity among undergraduates to consult faculty, rather than librarians, about coursework and

assignments. Faculty are therefore well positioned to influence the IL agenda in higher education. Boon *et al.* (2007, p. 205) identify faculty as "potentially vital agents for information literacy". Moreover, they stress that librarians need to pay strong attention to faculty conceptions of IL. They contend that this will involve both challenging existing assumptions and seizing opportunities, using what can be learned by exploring this issue through a faculty lens. Moreover, Fister (2015, p. 60) challenges librarians' historical tendency to treat IL "as a subject that had to be taught and assessed by librarians", and indicates that the new *Framework for IL for Higher Education* (2014) offers great potential to solidify a needed stronger faculty role through promoting cross-campus conversation and by better articulating the complexities of IL and all that it encompasses.

Literature review

Faculty definitions and framings of information literacy

There are a small number of studies that explicitly explore faculty definitions of IL in the context of the current digital information landscape. Significant work (Boon *et al.*, 2007; Webber *et al.*, 2005; Webber and Johnston, 2005) has been carried out by UK scholars in the form of a phenomenographic study of UK academics' conceptions of, and pedagogy for, IL involving a total of 80 interviews at UK universities, with 20 interviews in four different disciplines: English (soft pure), marketing (soft applied), chemistry (hard pure) and civil engineering (hard applied). When asked to relate their own conceptions of IL, answers varied both within and between disciplines. However, across all disciplines, these academics saw access and retrieval of information as key to the concept. In three disciplines (English, marketing and engineering), they referred to fostering of critical thinking skills as being a fundamental element of IL, though in engineering, they referred to this more in terms of the ability to engage in "analysis" and "sense making". In all four disciplines, these academics believed that any effective pedagogy for IL needs to develop students as independent thinkers and learners and to place emphasis on higher-order cognitive abilities. In addition, a strong link between IL and real world or practitioner success was identified in both of the applied disciplines (marketing and civil engineering), and in the pure hard discipline of chemistry, though not to the same degree in English.

A more recent study by Cope and Sanabria (2014), involving 20 interviews with faculty from different disciplines at two colleges in New York, found that faculty see IL as fundamentally integrated with other types of literacies, including reading comprehension, vocabulary and writing. They see IL as part of a larger academic discourse. While these faculty agreed that basic IL skills need attention, they shared a common view that the ultimate goal is to offer scaffolding so that students move from lower-order to higher-order mastery of literacies, including critical thinking, deep reflection and synthesis, which they see as "the hallmarks of academic knowledge production" (Cope and Sanabria, 2014, p. 487). So their work, in common with that of Boon *et al.* (2007), identifies critical engagement with information as centrally important, and connected to this, developing students capable of "independent and original thought and analysis" (Cope and Sanabria, 2014, p. 494), while also indicating that faculty perceive a role for themselves in educating students in this way.

Saunders (2012) explored faculty perspectives on IL, including how they define or understand this concept, and how important they believe it is for their students. She

used a combination of survey and interview research across a range of disciplines in 50 US colleges and universities. Faculty definitions of IL were found to vary. Most arrived at a definition that included location, access, evaluation and application of information. Her study finds that not only do faculty perceive IL to be very important but also a strong majority (77.6 per cent) say they address IL concepts in their teaching.

Gullikson's (2006) earlier study – survey research involving four Canadian universities – explored faculty perceptions of ACRL's *IL Competency Standards for Higher Education*, and similarly found that faculty believe IL to be important across all five standards. Morrison (2007), in interview research with faculty at a Canadian university, explored perceptions of the value of IL. Some themes emerge in common with the aforementioned studies. Faculty stress IL's value in helping students to become self-directed, autonomous learners, while also speaking to how it can help students appreciate the world of scholarship and be a key to engagement in knowledge discovery. Faculty in this study also identify a value for IL in preparing students for employment.

Faculty conceptions of undergraduates' information literacy abilities

Many studies have found that faculty commonly perceive undergraduate students' IL skills to be below the levels that they would like to see (Bury, 2011; Cannon, 1994; Cope and Sanabria, 2014; DaCosta, 2010; Dubicki, 2013; Duke and Asher, 2012; Gonzales, 2001; Leckie and Fullerton, 1999; Saunders, 2012; Singh, 2005).

Studies also indicate that faculty concern about skills tends to apply to varying degrees across the board (Boon *et al.*, 2007; Bury, 2011; Cope and Sanabria, 2014; DaCosta, 2010; Dubicki, 2013; Morrison, 2007; Webber *et al.*, 2005). However, a consistent finding is that in the area of higher-order cognitive skills, including in particular students' abilities to critically evaluate and engage with information sources, faculty underscore the importance of student competencies, and yet simultaneously perceive students' competencies to be especially lacking. In contrast, the ability to locate and access information sources forms less of a concern, relatively speaking, and is described by faculty most often as a lower-order skill set.

Related to higher-order thinking skills in general, several studies (Boon *et al.*, 2007; Cope and Sanabria, 2014) indicate the importance faculty assign to textual information in the context of undergraduate research, especially in the humanities. For example, Cope and Sanabria (2014, pp. 494-495) specifically speak of "a textual theme" when discussing their findings, referencing faculty's desire to see undergraduates closely read and synthesize written texts, rather than just regurgitate what they have read. Although it was found to be most strongly associated with the humanities, these abilities were recognized as a bedrock in general education programs also.

Studies by both Cope and Sanabria (2014) and Saunders (2012) find that faculty recognize students' strengths in using information technology and perceive student confidence in using online search tools, especially uncovering sources on the free Web, but are frustrated by students' overreliance on Google and a tendency to rely on the first few things they find.

Students' challenges in evaluating information and differentiating between information formats are linked by Cope and Sanabria (2014) to faculty's conception of students' inability to adequately conceptualize the context in which their research takes place. Several studies (Cope and Sanabria, 2014; Morrison, 2007; Saunders, 2012) identify a related tendency for students to accept information at face value, especially

that presented by institutional authorities (such as the library or major newspapers), without realizing scholarly discourse is about informed argumentation. They exercise a lack of discrimination in choosing their information sources and experience challenges with thinking critically and asking questions about sources they are reading.

Methodology

The purpose of this study was to explore faculty perspectives on IL by showcasing a subset of results from a larger study. This includes data on faculty conceptions of the value and meaning of IL in the context of undergraduate education (faculty were asked to speak off the cuff initially and then asked to give reactions to existing definitions and standards). It also includes findings on faculty perceptions of and expectations for undergraduates' IL abilities.

This research was conducted over a two-year time frame (2010-2012) and involved a total of 24 semi-structured interviews at York University, a large public research university in Toronto with almost 55,000 students, offering both undergraduate and graduate degree programs.

Interviews ranged from one to two hours in length, with most being about 90 min. An interview guide was prepared in advance. The questions were open-ended, and other than the general lead-in questions, including one asking for faculty's own IL definitions, the order of questions and their exact phrasing was not fixed. The Human Participants Review Committee of the university approved the study protocol and proposed research instrument. All participants signed a consent form.

The research design used in this study was flexible and based on the "grounded theory" framework (Glaser and Strauss, 1967). This approach supported the generation of exploratory qualitative data rather than aiming to test pre-defined variables. This was deemed most fitting, given that the research topic of focus, namely, faculty conceptions, values and observations of IL in an undergraduate education context, is one where an extensive body of research does not exist, at least in terms of studies grounded in qualitative approaches.

Application of a purposive sampling approach meant that this study sought out participants who met predefined criteria. All faculty selected for interview either currently taught students in undergraduate courses or had done so within the past two years. In all cases, faculty taught in courses where there existed some expectation that students would engage with secondary information sources in preparing for projects and assignments.

To ensure representation of a heterogenous group of faculty, representation across a range of disciplines was sought. One-third of the faculty interviewed taught in the social sciences and humanities, one-third in the sciences (including physical, life and health sciences) and one-third in business. Moreover, the researcher sought to include faculty who approach the development of IL instruction in different ways, including teaching these skills collaboratively with a librarian, teaching solely or by relying on the librarian to teach.

Participation was solicited by e-mail. Lists of potential faculty to approach were generated by asking York librarians to share the names of faculty with whom they had close working relationships. To identify faculty where library ties were not so close, but where courses have some expectation for research, the author engaged in some syllabus analysis to identify courses of relevance and contacted faculty individually.

This study was not controlled for demographic characteristics of participants. The key characteristics of the 24 faculty interviewed are outlined in Table I below. Ultimately, an even split between female and male participants emerged – half were female, and half were male. A good diversity in range of years teaching is represented in the sample as shown below. Finally, when it comes to approaches to teaching IL, it can be seen that in this sample, only two interviewees indicated that IL receives no attention in their classroom through instruction practice or assignment design. Only three interviewees rely primarily on a librarian for teaching of IL. The most common models in this sample were teaching IL collaboratively with a librarian (9 faculty) or solo (10 faculty).

All interviews were recorded and transcribed verbatim. Through an iterative, recursive process codes were developed and applied using NVivo. Common themes from the transcriptions were extracted using a grounded theory approach.

Findings and discussion

Faculty conceptions of the meaning of information literacy

Each interview began by asking participants which qualities or abilities an information literate person would demonstrate. To elicit "off the cuff" responses, they were provided with no hints or prompts. Faculty defined IL more narrowly than most standardized definitions and frameworks. No major disciplinary differences were discerned.

Faculty overwhelmingly placed emphasis on two main elements when defining IL: the ability to access information (21 faculty) and the ability to evaluate information and its sources critically (20 faculty). Moreover, they typically framed this within the context of the pursuit of academic or scholarly research. The following is representative of a common response:

> Students' ability to access and analyze research material mainly from different sources. Um. It could be the internet. It could be databases that are in the library or not […] (Business).

The ability to engage critically with information sources was found to be at the heart of faculty conceptions of the meaning of IL. Faculty had a lot more to say about evaluation than access. This included the ability to distinguish between information available via Google and Wikipedia *vis-à-vis* information retrieved from library databases and

Demographic and teaching characteristics	Number of faculty
Gender	12 female and 12 male
Teaching years	1-9 years: 4
	10-19 years: 7
	20+ years: 13
Teaching responsibility	All taught undergraduates
	20 faculty teach graduate students
Subject disciplines	Business: 8
	Humanities or Social Sciences: 8
	Sciences: 8
Approach to teaching IL	Rely primarily on librarian: 3
	Both faculty and librarian play a role: 9
	Teach one or more aspect of IL solo: 10
	Do not teach IL themselves or through librarian: 2

resources, the ability to understand the difference between peer-reviewed information sources and sources in the popular mainstream, and the ability to correctly apply criteria to assess source reliability. As one faculty member puts it, IL is about:

> […] the ability to distinguish between credible and less credible sources. So to be able to sort of, you know, know the value and appreciate the value of peer-reviewed articles versus popular literature […]. You know, you want to teach them fluency in knowing the difference between different types of sources, and how to integrate them in to your work and be smart about that […] And yeah, you want to tell them about the value and dangers of using the web for a lot of their research, especially Wikipedia issues (Social Sciences).

As another faculty member stated, information literate students should be able to not only evaluate search tools but also each individual resource they find:

> […] think as [they] are picking it up, "What have I got", "Who produced this?" "Where is it coming from?" [They] can think critically about that tool, and [they] can think, um, critically about what [they've] found at the end of the day (Social Sciences).

About half of the faculty referred to the fact that IL embraces the ability to identify the nature and extent of information needed to answer a research question. However, there was widespread recognition that this is a high-level competency, and it is not realistic to expect undergraduates to have sophisticated knowledge here, but rather a general appreciation of the broad range of types of information that are available to help with an academic research topic. One interviewee's response is representative of what faculty generally said on this theme:

> I think for undergraduates I don't even need them to know the full range of what's out there, but they need to get the concept there is a range (Social Sciences).

Other aspects of IL, which appear in standard definitions, featured to a small degree in the responses of study participants. With just a few exceptions, interviewees did not think of IL beyond the point in the research process where a student evaluates the information sources found, that is they did not define IL in terms of the use and application of information found. So, for example, in offering definitions of IL less than 15 per cent spoke in terms of the ability to use information effectively to accomplish a specific purpose. When it came to understanding of economic, legal and social issues surrounding the use of information, just three faculty defined IL as connected with this.

Having answered the question of how they would define IL, interviewees were given an outline of the five standards contained in ACRL's (2000) *IL Competency Standards for Higher Education*. They often identified with many elements presented and generally acknowledged their importance, even though not all elements had been at the forefront of their minds when offering their own definitions of IL.

Faculty perceptions of and expectations for undergraduate students' information literacy abilities

The results of this study bear out some key findings discussed earlier in the literature review section of this article. Without exception, the interviewees agree that IL skills are fundamental to the pursuit of academic research work, including at undergraduate level. In addition, all faculty identify room for improvement in IL skills, though the degree to which this was observed to be the case did vary. Faculty typically spent most time

identifying and describing areas for improvement relative to their expectations of students' abilities, with proportionately far less time spent on students' strengths. In some cases, faculty were surprised or frustrated by students' lack of skills, while in other cases, they were empathetic, recognizing that students cannot be expected to acquire these without practice, guidance and instruction. Below follows an outline of key findings organized thematically.

Information literacy is perceived as fundamentally intertwined with other academic literacies and these literacies collectively are seen as very important. Faculty did not think of IL separately from other twenty-first century literacies, especially academic reading and writing, though note-taking, presentation skills, problem-solving and numeracy (in science) are also mentioned to a lesser degree. They often spoke about a range of literacies that students need for success in academe and to become autonomous, critical thinkers and engaged citizens:

> […] critical skills are something that we need in order to function in our society. We need to have critical skills. It's not important to feed students but to get students to feed themselves (Humanities).

Faculty recognize the way in which academic literacies are interconnected, with some of them finding ways to address these literacies in their teaching. Moreover, it is very common for them to speak of these literacies as linked to the ultimate goal of developing students' confidence and ability to navigate and work effectively in the scholarly information landscape:

> Well, I think what comes to mind is the ability to work with academic materials, academic literature […]. That's what I focus on when I talk about IL. We consider it part of our critical skills package. Critical in a broad sense, right? (Social Sciences)

Faculty spoke a great deal about both the academic reading and writing abilities of students, even though they were not the topic of specific questions, clearly showing that they see them as interconnected with IL, with some expressly voicing this:

> There is a very close connection between IL instruction and writing instruction (Social Sciences).

> I want them involved in a blizzard of information and I want them to be able to read accurately and analytically (Humanities).

A total of 15 faculty expressly point to the fact that undergraduates' writing skills need development, and nine (just above one-third) state that they are explicitly teaching writing skills in one or more ways as part of their courses. In the sciences, heavy reliance on lab reports, together with large class sizes, mitigate against giving students practice with writing research papers until third or fourth year, and most science faculty commented on this, wishing there were better established approaches to building writing skills earlier in degree programs.

A total of 13 faculty talk about their concerns with students' lack of academic reading skills with eight (one-third) stating that they are explicitly teaching students how to read and digest mainly scholarly materials in their classes, e.g. through reading quizzes on assigned readings. This concern and focus on academic reading is observed in all disciplines, but with more frequency in business, the social sciences and the humanities.

Topic formulation is a high-level skill where, without guidance, students struggle immensely. Many faculty said that undergraduates typically come as novices to the scholarly literature in a specific field, and thus have difficulty determining what is manageable or realistic when developing a research question. This faculty member eloquently defines some of the challenges of his students and how he aims to assist them:

> The hard part of doing an essay is figuring what to write an essay about, and how to frame it, and how to determine what is relevant to learn about to do it. And that is very hard […] they are not good at that, but I am sympathetic because I think it is extremely difficult […]. They are much happier if you say to them "Pick one of the following topics" […]. Part of what you get in university seems to me to be a frame of reference for understanding issues, where you can connect them to other issues, and see a web of information, and they don't have a very rich web yet. So they will pick a topic, but they don't see how a web forms around it, and how to move out of it. They just sit there with their topic. That's what I try to do is to show them how it moves out in different ways (Humanities).

There was a general agreement that students flounder when asked to independently identify a research question, typically proposing topics that are unwieldy and too broad. As one interviewee explains, in helping students to obtain a manageable topic focus for their assignments, it can be useful to give them guiding questions to help them tease out sub-themes within a broader subject area.

Students rely strongly on familiar resources and need help to appreciate the complexities of the scholarly information landscape. At the start of the research process, students struggle to define the nature and extent of information needed to address their research question. Strongly related to this is that undergraduates are perceived to not have a well-developed sense of the world of scholarly information, including understanding different information resource types and their characteristics:

> Knowing what they need in terms of a book. "Is it a journal article?" "Is it a magazine article?" "What's a periodical?" "What's the difference between a refereed and non-refereed article?" They don't ask that question but they don't know the difference (Business).

Instead, there seemed to be general consensus that in the absence of guidance, students typically begin their research with the information sources that are most familiar to them, usually Google and Wikipedia. Faculty were generally frustrated that they do not tend to move beyond mainstream internet search tools like Google.

Half of the faculty interviewed pointed to student reliance on Wikipedia as a source of information for research purposes. While most of them see a role for Wikipedia in getting a general overview of a topic, they do not want to see this source referenced in papers and want students to be quick to move beyond it.

Another theme that surfaced was that while undergraduates feel very comfortable in using information online, they lack knowledge and appreciation of print, especially in the scholarly domain. Connected to this was an observation that visits to the library to consult print collections were less frequent than faculty would like, and prompting is needed to make this happen. One faculty member advises students to:

> […] check out the books in the library because that's one of the things that I find actually that the students […] it's as if books are this exotic item. They never thought of actually consulting them. 'A book? Oh, where would I find that?' (Business)

Science faculty referenced the fact that commonly much of the literature they would like their students to consult is online anyway, though most did not see this negating the value of a trip to the physical library. In the humanities, concern about this is especially strong, hardly surprising given the importance of monographs in this field.

Several faculty were exasperated that students quite often think the number of sources needed to answer a research question is easily quantifiable, instead of recognizing that this is context-dependent, and determined by a range of factors, such as the research topic, and the amount and scope of materials published on it.

However, while there was frustration about undergraduates' lack of ability here, there was a recognition of a need to keep expectations in check, as this is a high-order cognitive ability:

> I don't think many undergrads have the maturity to be able to do the first thing here; that is to determine the extent of information needed. That's a hard one […]. In fact, I usually provide them with a fair amount of primary literature to get them going and only the most industrious really start venturing out on their own (Science).

Faculty admire student's fluency in the free Web, but generally lament this does not translate to solid skills when searching scholarly databases. Fifteen faculty expressly stated that students' abilities to search for information sources need development. However, relative to the focus on students' ability to critically evaluate information sources, this skill set received less attention. In fact, among the sciences and the business disciplines, a substantial number of faculty perceived this to be a lower-order skill, not especially linked to students' capacity for critical thinking:

> […] I think getting the information and accessing it, those, I think, are sort of the basic skills […] (Business).

Faculty commonly expressed the view that students have good skills in searching the free Web. In addition, students' proficiency with social media was acknowledged, as was their fluency in navigating YouTube and music websites. Faculty consistently stated that students' abilities in these domains far exceeded their own competency levels.

Several faculty acknowledged that the availability of Google in the classroom and the students' proficiency with finding known items or information about specific people has led to a richer and more interactive classroom dynamic which they welcome:

> […] in the lectures or in class we were talking about somebody and the kids all have their laptops […] I drop a name and the next thing you know they have pulled them up. The lectures are a different phenomenon (Social Sciences).

In terms of students' ability to search scholarly information sources, a few faculty, notably in the sciences, believe students have sufficient skills. More commonly, in science and business, where search skills are more commonly defined as lower-order abilities, there was a degree of frustration about why skills were lacking in terms of using scholarly databases:

> I am sure if they wanted to find information about Lady Gaga, I am sure that they could write an amazing paper on stuff they find on the internet but it doesn't seem to translate in to going to the electronic resources, you know, for scholarly resources […] (Business).

Humanities and social science faculty in particular are more prepared to give search strategy skills explicit attention (either solo or working with a librarian), including teaching students about controlled vocabularies, and how to identify key concepts to search.

Critical thinking and evaluation of information sources is a central concern for faculty. One strong focus of attention was a concern to improve undergraduates' abilities to critically engage with the information sources they use in academe. This included developing a questioning disposition, building abilities to contextualize information appropriately and improving skills in evaluating sources using appropriate criteria. These abilities are seen to interweave strongly with what is essentially at the core of academic literacies, including IL, writing and reading skills.

One faculty member describes the issue thus and surmises that the ease of access to information on the Web may aggravate the problem because it leaves an impression that one can just look something up:

> Once they get to university […] it should be about engaging with the knowledge […]. This ability to understand and think about where does knowledge come from: What do we know? How do we know more? […] I mean the idea that we no longer need to know things because you can look them up bothers me (Business).

In addition, there was a strong concern that students are not questioning enough of the information that they encounter, especially on the free Web. They may be able to source information on a topic quickly, but experience difficulty making solid judgment calls about whether a source is reliable or appropriate. Some faculty attribute this to a black and white framing of information, i.e. undergraduates tend to classify information as true or untrue, right or wrong, too often taking it at face value:

> But the idea that you just go on the internet and find out your answers. It seems to be everyone is comfortable with that. Not comfortable with thinking: "Is it true?" Not comfortable with thinking: "Is this the best possible source and how do I discriminate?" (Social Science)

Other faculty members talk about how this black-and-white framing of the information landscape stems from a perception that information is facts, and that in doing research students believe they are looking for *the* answer to a research question.

Faculty say that students struggle to comprehend that scholarship is a conversation where they will encounter different voices and viewpoints. They struggle with the nuances of what one faculty member described as "the messiness" of research. There is a concern to help them understand they are not dealing with facts that they simply need to relay or summarize, but with a body of knowledge where reflection and critical thinking is needed.

One faculty member seems to think that once students come to terms with the messiness of research, and start to negotiate its complexities, including its ambiguous, nonlinear and iterative nature, they pass through a portal of sorts, somewhat akin to the idea of "scholarship as conversation" or "research as inquiry" which are among the six threshold concepts defined by ACRL (2015):

> I think there is often with students a point at which they start to realize that things are far more complicated that they thought. And that is kind of really scary. But on the other hand, once you kind of really start to realize that, then you really get it. It's a basis on which you can start to build a different set of critical skills. And to know, in a sense, that you are never 100 per cent certain (Humanities).

Another thread related to critical thinking and students' abilities to evaluate information sources is an observation by some faculty that students tend to prefer to operate on the surface of information, rather than engaging with it deeply:

> I just call it thinking to the bottom. They are not skilled at doing that. They are skilled at staying on top. I think they know a lot of things, a little about a lot of things (Business).

Some believed that this may be due to students' familiarity with browsing the web, where information is easy to skim and consume in small bits at a time. In contrast, longer, single, organized pieces of academic writing are more challenging for students.

Related to this theme were many faculty concerns that students do not devote enough time to assigned course readings nor engage effectively in academic reading tasks. Students often assume that a general impression of assigned course readings will suffice, and they experience challenges in reading texts for structure and key arguments, and in reading closely, accurately and analytically.

One faculty member articulates the direction in which students need to develop to improve their ability to engage with and deconstruct academic readings:

> You have to be selective. You have to learn. You could read hundreds of articles. How do you get down to the two or three that are important? How do you get down to the two or three paragraphs that are important? How do you learn to map these things, to create a map of this sort of thing? (Social Sciences)

Several faculty also emphasized another dimension of this challenge, namely, that students will typically find the jargon of the scholarly discourse to be challenging and obtuse. Yet, to be able to critically engage with an information source, developing some level of proficiency is essential.

Faculty say student challenges abound in the interconnected areas of synthesizing, documenting resources and academic integrity. Faculty frequently said that undergraduates struggle with the different voices or points of view in any given scholarly discourse. Not only is it challenging for them to make sense of them but also very difficult to reconcile these voices with their own voice. This, in turn, leads to problems with striking the right balance between paraphrasing and quoting in academic assignments, and in extreme cases may result in plagiarism. There was a recognition by some faculty that mastery of this skill set is, in a sense, diagnostic – students who do well here typically have the best literacy skills:

> One of the things I find is that skill with citation is diagnostic for me, like if people know how to cite online stuff, they have much better skills. That's one thing, I've noticed, it's cut and dried […]. The people that have the best literacy skills, they know exactly how to cite. They have the most sources (Business).

However, a majority of faculty described skills in properly documenting and synthesizing sources, including a strong understanding of academic integrity, as needing much development among undergraduates. Student challenges in this area manifest themselves in different ways.

Some faculty observed that undergraduates new to university, before having exposure to secondary information resources, and influenced by approaches they have learned at high school, have a tendency to see their own opinion as most important, and do not endeavour to bring in outside evidence:

> […] they don't get the nature of evidence. I can't emphasize that enough. They make broad sweeping generalizations and conclusions about people and the world without any backup […] (Business).

Several faculty observed that once undergraduates have been exposed to the scholarly literature, there can be a tendency, especially in the early stages of an undergraduate degree, for them to continue to start from their own opinion or viewpoint, and then engage with the literature simply as a means to back this up. This stems from students' lack of comfort and skill with experiencing a contested body of knowledge, in contrast to a viewpoint similar to their own or a factual answer to their question. Several faculty talk about this issue, and how they seek to address it in their teaching:

> What I always tell students is that when you go to the literature you do not select something that will merely support an idea or contention that you have. You have to look at what is out there. The whole idea is that you may see that there is a conflict out there […]. You may then have to ask yourself what is the best way to proceed in understanding this material […]. They cannot simply select what they want, and throw everything else out. They may end up throwing out the baby, and keeping the bath water! (Sciences)

As students progress in their university studies, they quite commonly come to realize that they should not seek out the literature to back up their own viewpoint. Ironically, in a concern to represent everything, they find and not risk being accused of plagiarism they lose their own voice. In addition, students typically struggle to distill information down to key points. They find it hard to summarize, not to mind synthesize. They have a great deal of trouble striking the right balance between use of quotations and paraphrasing in their written work:

> So […] that writing skill of how you incorporate quotes in to the flow of the paper, in to your voice, that completely eludes some students. So they have this weird idea that when you are writing you have to *so* preserve what the author has said that *your* voice disappears (Social Sciences).

Faculty often characterize this practice as a lack of time or motivation to do the work or symptomatic of students' lack of ability to synthesize what they have read or to construct their own argument.

Many faculty identify lack of time as a cause of frequent plagiarism. In some cases, language challenges, including English as a second language (ESL), were also seen as connected. To address widespread concerns about plagiarism, most faculty spend time in their classes talking about the principles of academic integrity and why it is important to cite sources properly, referencing not only its value in academe but also sometimes in contexts that may apply in students' professional or civic lives after graduating. Some professors adopt tools in their courses to help address or avoid plagiarism including Turnitin, the university's academic integrity tutorial, or citation management tools.

While faculty express concern about the technical aspects of citing, e.g. correct punctuation and syntax, they place much higher weight on students' demonstrated ability to synthesize relevant information from resources and integrate this into their research assignments in ways that demonstrate true understanding and critical reflection.

Conclusions and recommendations

This study's findings corroborate those in the literature review. This includes a widely held faculty view that IL competencies are important in higher education and play a fundamental role in helping students become confident, engaged autonomous learners.

Faculty identify many areas for development in undergraduates' IL abilities and place especially strong weight on the fostering of higher-order cognitive skills, especially critical engagement with, and the ability to evaluate and contextualize information sources. While many faculty (71 per cent) acknowledge a role for librarians in teaching IL (especially how to access information), even more (80 per cent) identify at least some role for themselves in fostering IL, and related literacies among students (often wishing they had the time or expertise to do more). Faculty view IL as fundamentally interconnected with other types of twenty-first century literacies, including reading for comprehension, critical writing skills and other learning skills.

Findings of this study also indicate that diverse models and approaches to IL instruction are important with some faculty being open to co-teaching with librarians or other literacy specialists, while others are not. In some cases, faculty may welcome a role by librarians, or other literacy experts, as consultants offering advice on course and assignment design.

In practical terms, some recommendations for effective IL partnerships and programming in higher education follow from the findings of this study. In some cases, York University Libraries have already progressed down pathways which this and other studies establish as important and necessary in faculty eyes. In other cases, more work remains to be done.

The value of a holistic approach in designing student learning resources

The common faculty view that academic literacies are best taught and learned in a holistic manner, documented in this and other studies, leads to a strong recommendation to continue and build on student-focused initiatives in this vein. Traditionally academic services such as the library and writing departments have worked in siloes. At York and other universities, this has changed in recent years as a result of the creation of a Learning Commons or similar construct. At York, this takes the form of a partnership between academic support services (the Libraries, the Writing Centre, Learning Skills Services and the Career Centre). The value of the Learning Commons's co-curricular supports in the form of colocated service desks in one central hub, and collaboration on workshop programming helps students acquire academic literacy skills. Moreover, the availability of the Student Papers and Academic Research Kit (SPARK)[1], an interactive modular online learning resource with quizzes, designed collaboratively by Learning Commons partners, further helps students to navigate and master academic literacies when writing academic papers. This online resource, built on the principle that academic literacies are fundamentally interconnected, adopts a holistic approach to teaching these skills, rather than treating each one as a separate domain.

The role of partnership with educational developers

This and other studies show that faculty *themselves* wish to play a role in fostering students' academic literacies, including IL skills, but feel they are not equipped to do so. Moreover, aforementioned studies establish that students rely strongly on faculty for advice to improve their abilities here. Faculty development initiatives are therefore highly recommended to build progress toward integration of academic literacies in curricula. Since 2012, York has made headway in this domain. Partnerships between literacy specialists on campus, including librarians and educational developers, have played a key role in actualizing change. The Course Design @ York program,

coordinated by the Teaching Commons, helps instructors design new courses or revamp existing ones. For over three years, the Learning Commons has offered a three-hour workshop on teaching academic literacies, including IL, as part of this program. In addition, the Learning Commons partners offer workshops for teaching assistants several times a year designed to help them teach undergraduates library research, critical reading and writing skills, as well as academic integrity principles and citation skills[2].

The value of new information literacy frameworks and models

The IL guidelines and frameworks that have emerged in recent years are clearly on the right track if faculty participation is to be engendered. ACRL's *Framework for IL for Higher Education* (2014) and Secker and Coonan's (2011) *New Curriculum for IL*, also known as ANCIL, developed in the UK, both treat a wider spectrum of abilities, practices and habits of mind than did earlier standards and guidelines. The UK curriculum has a whole strand dedicated to academic literacies. The concept of metaliteracy is at the core of the *ACRL Framework*, referring to a set of overarching abilities, where students interact and are essentially literate in multiple formats. In addition, this and other studies, in common with the *ACRL Framework*, emphasize the critical importance of higher-order metacognitive engagement with the information ecosystem. They indicate a strong faculty interest and belief in the fundamental value of strengthening students' higher-order cognitive skills, especially critical engagement with information and its sources.

Moreover, attention to the affective aspects of learning IL competencies is another element underpinning the *ACRL Framework* and in common with this study and others. The six threshold concepts contained in this *Framework* are accompanied both by descriptions of knowledge practices and student dispositions, which address affective and attitudinal aspects of learning. This aligns well with findings from this study, where quotes show faculty devote much time to thinking about students' emotions, as they experience challenges in the area of IL. Moreover, Boon *et al.* (2007, p. 224), citing Bruce (1997), argue that "librarians must also acknowledge, and act upon, the affective higher-order aspects which are so important to academics, and which also emerged in Bruce's study".

York has started to adopt ACRL's *IL Framework*. In summer 2015, the library's Teaching and Learning Committee designed a 90-min workshop for faculty focusing on this framework and its constituent elements. A key objective was to help faculty identify and use major elements in this framework in their own assignment design. Librarians and faculty were grouped at round tables based on broad disciplinary affiliation to engage in a range of activities and conversations. Workshop attendance was high and feedback from evaluations resoundingly positive. Based on this success, future workshops of this nature are planned, as early as Fall 2016.

Identify and partner with administrators of core campus programs to achieve information literacy integration, e.g. general education and first-year experience

This study's results indicate that most faculty believe that the lack of strong IL skills among students needs attention and that they support teaching these skills in curricular contexts. Seeking opportunities to achieve this goal will be very important for the future of IL in academe. Working in partnership with campus leaders in the areas of general

education or first-year experience can be a good starting point. An example of a fruitful partnership at York, which could serve as a model for other institutions, is a grant-funded initiative started in 2015 to improve the "first-year experience". One goal is to give more explicit attention to academic literacies in first-year courses by providing resources, workshops and support for instructors. The Learning Commons is providing ongoing advice on teaching tools and strategies first-year instructors can avail of to assist them in teaching academic literacies, including IL, to first-year students. This includes SPARK's Faculty Module[3]. It is organized to help instructors succeed in integrating SPARK into their courses and to facilitate their design of effective assignments.

There are many opportunities for constructive and fruitful collaboration on progressing IL as part of curricula in higher education. In the words of Boon *et al.* (2007, p. 225), faculty:

> […] conceptions of IL and the significance they give to particular elements (e.g. evaluation and critical thinking) suggests that they need but a little prodding to see IL not as something done in a library, but something central to their roles.

With ANCIL and ACRL's *IL Framework*, the time is ripe for meaningful change to propel curriculum integration of IL skills and abilities, alongside other core literacies, with emphasis on elements valued by librarians and faculty.

Notes

1. York University. Learning Commons. *Student Papers and Academic Research Kit (SPARK)*, www.yorku.ca/spark
2. York University, Learning Commons, *Workshops on Teaching Academic Literacies*, http://learningcommons.yorku.ca/workshops-on-teaching-academic-literacies/
3. York University, Learning Commons, *SPARK Faculty Module,* www.yorku.ca/spark/faculty/index.html

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