Many Paths, One Journey: Mapping the Routes to Information Literacy

Margy MacMillan

Students arrive at functional information literacy from myriad directions: some learn in formal settings, others from peers and parents; some gain experience in finding information through hobbies, others through work. Their paths wind through a variety of information environments, some user-friendly, some hostile, all evolving rapidly even as the students pass through. The trail often circles back on itself, showing the same landmarks from different angles, and often there are obstacles, barriers to access or understanding. Despite all this, or because of it, most students develop an understanding of how to find what they need. This paper uses information from the I-SKILLS Résumé project to map some of the paths students take so that we can be better guides along the way.

The I-SKILLS Résumé project was originally intended to observe student learning through a required semi-structured reflection assignment administered at several points in the journalism program (MacMillan 2005, MacMillan 2008). I thought that the tool would show what students were learning and how their information skills grew over time. Seeing where they learned information skills, and how they integrated learning from academic and non-academic experiences was an unexpected bonus. LOEX 2009 presented an opportunity not only to share these results with participants, but also to review with them the materials and process that led to my insights. The participants contributed valuable feedback and insights, and I thank them for their hard work in the session.

MacMillan *(Instruction Librarian)*
Mount Royal College [Calgary, AB]

Literature Review

In the vast sea of publications and presentations on information literacy (IL), comparatively little work has been done on where, outside of the library classroom, students obtain skills and knowledge in this domain. Much of the literature treats students entering postsecondary education as blank slates and assumes no prior knowledge or experience. While there is some material on IL in the workplace (Lloyd, 2007), little connects it back to the classroom. And while there have been great strides and initiatives to incorporate IL into school curricula, there is surprisingly little documentation of the effects of that instruction when the students graduate to college or university. A notable exception to this is Gross and Latham's recent work on prior learning experience which asked students to identify how they learned what they knew about finding information. Their work has contributed significant insights to the field, highlighting that students learn beyond the library classroom, and that most indicate a substantial degree of self-teaching (Gross & Latham, 2008, Latham & Gross 2008). Neely's work corroborates this, as in her study, "nearly 30 % of students indicated they had learned how to use the library on their own" (2002, p. 85). Geffert and Bruce (1997) in a more detailed study asked students where they learned each individual skill, and also saw a high percentage reporting self-teaching alone or in combination with IL instruction.

This self-teaching aspect may be linked to searching that students do outside of their academic needs. Given, in 2002 noted that in mature students "everyday experiences also informed their academic work" (p. 25), and that those experiences were connected to rich lives, including hobbies, personal interests and volunteer work. In a paper that bridges user studies with practical suggestions for instruction, Ellis

and Salisbury describe a large study that asked students about prior formal instruction, but did not inquire about informal learning, although the data revealed a strong preference for Internet searching which may be linked to self-teaching and everyday satisfying of information needs. They observed that students were able to transfer IL skills from course to course, and urge librarians to teach students in a way that acknowledges and extends their experience.

METHODOLOGY

The I-SKILLS Résumé project is a long-term study, now extended to ten years, of the information skills and knowledge of journalism students. The I-SKILLS Résumé tool was designed to encourage students to reflect on and articulate their information skills, both as to foster meta-learning, and to help them prepare for interviews, develop portfolios, etc.

Beginning in 2003, journalism students were asked to fill out an initial I-SKILLS Résumé in November of their first year, after they had received some information literacy instruction integrated into several courses. These were emailed back to the student in subsequent years for updating. In 2008, I took a six-month leave to process and analyze the data. To do this, I adapted the phenomenographic approach Christine Bruce used in her landmark study, *The Seven Faces of Information Literacy* (1997). I highly recommend her work to anyone interested in qualitative research. The analysis involved reading through the résumés, iteratively developing and coding categories of statements, and looking for patterns, convergences, differences and other interesting bits that jumped out. This form of study allowed me to recognize and track both the individual experiences of students and trends that occurred over time. The data included in the current paper come from a single cohort, 44 students who began the program in 2005.

In a session at the LOEX conference, participants worked to develop categories and note trends using sample data. I mocked up I-SKILLS Résumés from actual student statements stripped of identifying details and mixed to create hybrid samples. Issues raised by the group were those faced by the author – how far to go in interpreting data, what students actually meant by some of the statements, and a lack of articulation of where learning occurred.

LIMITATIONS AND ADVANTAGES OF THE METHODOLOGY

An advantage of the phenomenographic approach is that it honors the subject, letting data emerge from the source. This advantage is countered by a certain level of chaos in the data. The very broadly structured résumé format elicited statements resistant to narrow categorization and definitive results. What I can say with confidence is that students learn information skills in a variety of ways throughout their academic careers. Most have some background knowledge of finding information before they arrive, and most develop more skills in response to a variety of factors as they progress.

Workshop participants noted that it would have been useful to have another researcher coding data or a rubric to improve inter-rater reliability, and I agree that the research suffers from potential biases in my interpretation. However, it may be that my familiarity with the students' courses and required professional work made it easier to distinguish work-based influences from course-based ones. It was interesting that those participants who left their marked-up sample data behind after the workshop coded the statements almost identically to how I had marked up the originals – i.e., where I had identified a self-taught skill or one learned at work, the participant appeared to have come to a similar conclusion.

RESULTS

For this paper, I examined I-SKILLS Résumés from a single cohort of 44 students who enrolled in the journalism program in 2005. There were clear trends on where and how students gained information literacy skills: library classes were noted by the highest number of students, followed by experience from searching for personal interest, experience from work, and self-teaching. Relatively few noted learning from people other than the researcher, and only three students in this cohort noted high-school experience.

Where/how they learned	Number of students reporting
Library classes in journalism/communications courses	41
Library classes in other courses	30
Searching experience related to personal interest	26
Self-teaching	13
Searching experience related to work in news settings	12
Learning from people other than the librarian	4
Searching experience related to other work	3
High school experience	3

DISCUSSION

Library classes in journalism/communications courses

While some students merely listed the numbers of courses where they felt they had learned IL skills, most provided descriptions of what they had learned that generally corresponded to goals for the sessions, such as finding news sources, evaluating web sites, learning about specific tools like statistical sources or techniques such as using limiters in Google searching. Some comments also noted transfer of skills from journalism classes to other courses. Many of the comments are very similar to those from a study of students in a stand-alone course reported by Lebbin; they too noted that instruction increased familiarity and comfort with a range of resources, and the transferability of skills from one course to others (2006). The high rate of response in this category may be taken as an indication of the benefits of program-integrated instruction; students were able to describe what they learned and many added statements that indicated they valued the experience:

- *"I've done library sessions in acom 2207, acom 2211, acom 2231 and all were helpful. I will admit I only used google(and the like) before these sessions but now I have a broader knowledge of what there is to search on the internet"*

- *"I have done library sessions on finding the validity of websites, on finding information on writing and other works of communication scholars and have learned about the world of blogs."*

- *"[I] have been able to find articles for psych and polisci classes this semester because of what you have taught me."*

Other courses

For non-journalism courses most students just noted the course number, e.g., ENGL 2201. This was a more difficult category to pars, as students did not always indicate whether they had had a library session, or just had an assignment that required research, however most of the classes they recorded would have had a library session, based on our library's annual reports. Some students were more explicit about what they gained from these sessions:

- *"admn 1150, anth 2201, astr 2205, engl 1112, engl 2201"*

- *"Specific library sessions which introduced the skills of general searching in the specific field. Eg Biol 2231 introduced published experimental data and scientific studies"*

Searching experience related to personal interest

This category of the data was the most surprising to me and raised the most discussion from the workshop participants. The results confirm Given's work on the overlap between information seeking for personal needs and searching to satisfy academic or professional requirements (2002). Students articulated knowing how to search for various kinds of non-academic information like sports, music, and popular culture. Many explicitly linked interest in the subject to proficiency, but none in this cohort linked 'leisure' searching to academic skills. The statements came mainly from the "Special Expertise section of the résumés (see example below), where there were comparatively few statements related to information gathering for professional or academic purposes. This category is distinguished from self-teaching in that no student articulated where they learned these skills — they apparently just 'knew' them — this may indicate that students felt no perceptible effort in learning how to do this kind of searching, which was almost exclusively web-based.

- *"sports, hockey, music ...good at finding these because they interest me...can find most sports info using basic internet searching"*

- *"mildly illegal copies of media, programs ... deep searching required"*

Self-teaching

In coding this category, only statements that explicitly referred to self-teaching were included, although it is likely that much of the 'personal interest' searching was self taught. Thirteen students out of a cohort of 44 included a statement related to self-teaching, results very close to the 30% reported by Neely (2002), but much lower than those reported by Latham and Gross (2008). In their three studies however, "taught myself" was choice in a list of possible answers. The 26 students in this study who noted experience in searching for personal interests might have chosen that option. As with searching for personal interest, most self-teaching referred to Internet searching:

- *"self-teaching on search engines such as google, yahoo etc"*

- *"acom 2207,, acom 2211, 2231 and then I just each myself"*

Searching experience related to work in news settings.

Included in this category were statements related to journalism work that took place in professional settings during practica, or in the production of *The Journal*, a newspaper integrated into a number of courses in the journalism program. This paper covers events in the community, takes paid advertising and is distributed throughout southwest Calgary. The work involved in publishing it is at a professional level so I categorized statements relating to that as 'work' rather than 'classes'.

- *"the experience of being an active working journalist for the Journal has taught me about searching for*

press releases and important contact info"

- *"my work at Global [a television station] helped me develop my research skills through additional news systems and databases"*

Searching experience related to other work

While only three students responded in this category, their statements highlight an understanding of which aspects of work had a bearing on IL skills. One student had worked at the public library while others noted work in information-intensive environments.

- *"researched travel destinations and exotic locations to compile vacation packages for a travel agency I used to work for"*

Learning from people other than the librarian

In this cohort there were very few statements explicitly linking learning with a person other than me. Unlike the populations studied by Latham and Gross (2008), no student in this cohort noted peers or friends as sources of information. Like the self-teaching category, peer teaching may be hidden within the statements on searching for 'personal interest'.

- *"I already had some research skills…mainly taught me by my cousin, a computer technician."*

- *"My instructor refreshed my knowledge on how to find articles in acom 3383."*

High school experience

Unlike the students in other studies (Ellis & Salisbury, 2004; Neely, 2002, Latham & Gross, 2008) very few students mentioned high school as a source of IL skills. That may be a result of the current environment in Alberta where students in many schools do not have access to a full-time librarian, still less to programs of IL instruction.

IMPLICATIONS FOR TEACHING

From the data we can see that students develop information literacy skills in response to a number of stimuli, classes, work, and, most notably perhaps, personal interest. This is one aspect of students' prior experience that we need to be more intentional about leveraging in teaching – if students can learn to navigate complex interfaces to find obscure information about sports and music, we can help them transfer those skills to searching catalogues and databases to find books and articles. Other implications for teaching stem from the transfer of skills between work and academic practice, and among courses. As Ellis and Salisbury note, it would help student build on existing knowledge if they can be made more the related skills they have already learned in various contexts (2004).

CONCLUSIONS

The I-SKILLS Résumés provide a glimpse into what the students consider to be sources of information literacy knowledge. Some knowledge apparently grows organically within them as they pursue their interests, but they see value in formal IL instruction that they can relate to both academic and work contexts. The information gained through the résumés continues to inform my teaching and I am looking forward to using new strategies to build connections between searching for personal interest and information seeking for academic and professional purposes.

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APPENDIX 1: SAMPLE I-SKILLS RÉSUMÉ

(1) = first résumé, (2)= added in second résumé, (3)=added in third

Personal: Lois Lane

Special Expertise: *(What kinds of info or topics are you especially adept at finding/evaluating/using)*

- (1) I am an avid hockey fan, therefore, finding information such as hockey stats and any info on favourite teams and players, I've become pretty good at. I know what to look for regarding this specific subject.

- (2) The research classes have only helped me define those skills. I am also very good at finding information on companies, and statistics regarding the stories I am working on. I was okay at doing all of this before last year, but have definitely improved since taking the classes.

- (3) The information I am especially adept at finding is sports information as that is what I look for most often. I have also been able to find articles and information for my feature, as well as my political science and psychology classes this semester because of what you have taught me. Many research sources I learned about were also helpful on my first practicum.

Education: *(What library sessions, classes, training, reading, self teaching etc. have you done in the area of information skills - e.g. ACOM 2207, ENGL 2201)*

- (1) I've done library sessions in ACOM 2207, ACOM 2211, ACOM 2231 and ENGL 2201 in my first year. All were very helpful. I will admit I only used google (and the like) before these sessions. But now I have a broader knowledge of what there is to use to search on the internet.

- (3) You refreshed my memory in ACOM 3345 last year and ACOM 4425 this year. I have also had sessions in my PLSC 2201 class this year. I have trained myself to use Google extremely efficiently and I have used the Mount Royal Library website to access resources – especially StatsCan.

Experience: *(what types of information can you find and what tools can you use – e.g. article databases, library catalogues, deep web sites, laws, addresses, etc)*

- (1) I've used the Public Library's website a lot. I've also used the Mount Royal library's website, in the library sessions and outside them.

- (2) I use search engines a lot – Google a lot of course. I use article databases and library catalogues as well. Mount Royal's as well as the public library

- (2) I found info on joint replacements for a story I'm working on in article databases and on the Statistics Canada site.

- (3) I found a lot of useful information while on my DFS about the health of people in the region as well as information about residential fires.

Other: *(Anything else pertaining to your information finding/evaluating/usage skills you'd like an employer to know, e.g. citing/analysing/bias checking)*

- (2) Passionate about research and the quest for knowledge