

The Open Access Librarian: Educating and Advocating for Change

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Abstract

A great deal of literature on the development of open access (OA) publishing of scholarly research has emphasized the important role that academic librarians have played and will continue to play as the OA movement advances. Investigations into what continues to motivate this support have acknowledged librarians' commitment to enhancing library collections, scholarly communication processes, research innovation, and the visibility of institutions' scholarly output

. However, far less attention has been given to the ways that OA can also help librarians enrich students' educations, particularly the many undergraduates who will lose their online access to scholarly research made available through their libraries upon graduation. With this in mind, I explore ways that academic librarians in Canada have begun promoting OA to students, while also suggesting further methods they may employ to ensure students know about these resources and understand their potential uses and limitations. In this manner, this paper reveals ways that librarians advocating on behalf of the OA movement may garner further support, while at the same time advancing academic librarians' overall commitment to fostering lifelong learning and information literacy.

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Section One: Introduction

Academic librarians have been recognized as leaders in the open access (OA) movement in Canada and around the world. Their contributions have been explored and discussed extensively in the literature on OA, serving to inform, motivate and inspire continued involvement from within the profession and more broadly. At the same time, a great deal of contemporary library and information science (LIS) literature has emphasized the important role that academic librarians play in the development of information literacy skills among their largest user group, undergraduate students. However, very little attention has been given to exploring ways that each of these evolving roles for librarians might interact and to what end.

In the following paper, I draw complementary parallels between the established importance of information literacy skills among undergraduate students and the ultimate goals of the OA movement. Specifically, I investigate to what degree academic librarians in Canada have exposed undergraduate students to OA content amid their many efforts to support and further both students' educations and OA initiatives. In doing so, I argue that academic librarians need to do more to not only promote scholarly OA resources to undergraduate students, but to also teach them how to evaluate these resources in addition to those that are typically covered in information literacy instruction sessions, including personal and commercial Web sites and academic subscription journals. This is particularly important since OA can provide students with access to reliable, credible and authoritative scholarly literature that is of comparably high quality to content in the many scholarly journals that libraries subscribe to that students lose their access to upon graduation. That said, this paper reveals ways that academic librarians advocating on behalf of the OA movement may garner further support, while at the same time advancing

librarians' overall commitment to fostering lifelong learning and information literacy.

I begin this paper by establishing what significant factors led to the 'serials crisis' in scholarly publishing in the 1980s, which was soon after worsened by the so-called 'permissions crisis' (Suber, 2003), each to the ongoing detriment of library collections worldwide. This will lead me into a discussion of how and why the OA movement has emerged in an attempt to extinguish these crises and increase rather than restrict access to scholarly output using the Internet. Having presented the basis for the OA movement, I explore how librarians have herein been recognized as playing an active role in the creation, maintenance and dissemination of OA resources. I then draw attention to literature that has focused on what benefits and challenges digitized content--including that which is OA--poses for librarians attempting to help students develop information literacy skills that will serve them for the rest of their lives. This leads to a summary of the literature that I have discussed, whereby I emphasize its focus on librarians' important role as agents for change. Their significance to the OA movement and students' educations is hereby established against a backdrop of prevailing, widespread economic challenges that continue to devalue and undermine both scholarly communication processes and student learning.

The second section of this paper begins by describing specific ways that academic librarians in Canada have worked to foster a commitment to and support for scholarly OA resources. Following this, I describe the far more limited measures they have taken to promote OA and educate users about its relevance, focusing on ways that they have and have not exposed undergraduate students to these materials. To this end, I suggest a range of methods librarians might employ to ensure students know about OA resources and understand their potential uses. I conclude with a discussion of areas central to information literacy instruction as well as the

promotion of OA within the university community that are in need of further research and development if the full potential of the OA movement is to be realized.

Section Two: Relationship to the Literature

Crises in Scholarly Publishing

In 1991 Michael Gorman published an article in *The Journal of Academic Librarianship* where he attempted to envision the state of academic libraries in ten years. Upon reflecting on the possible future directions that scholarly publishers might take in this context, he predicted that “it is hard to see how a lucrative industry that is doing very well, thank you, would have any incentive to change to a method of publishing with murky financial prospects... Absent a most unlikely government subsidy, I cannot see how electronic journals could be a viable economic proposition” (7). At that time, there was good reason for Gorman’s cynicism and albeit wrong prediction that print journals would prevail for years to come.

As documented in a number of articles on trends in scholarly communication processes (Helfer, 2004; Nowick & Jenda, 2004; Yiotis, 2005, among others), the scholarly publishing industry became increasingly commercialized following World War II. Given high levels of supply and demand for scholarly output fueled by federal research dollars and university expansions, monopolies of commercial publishers began to take over an industry that had for hundreds of years been managed by non-profit scholarly societies. This led to what is commonly referred to as the ‘serials crisis’ in scholarly publishing in the 1980s whereby the cost of journal subscriptions grew at a much faster pace than the rate of inflation. Thus, major publishers like Reed Elsevier began reporting profit margins that increased by 20 to 40 percent annually (Yiotis, 2005). In turn, this put libraries in a difficult position since their central purpose to make

scholarship available to the academic community to advance knowledge, research and learning became financially jeopardized.

In the 1990s digitization and the expansion of the Internet presented opportunities to quell the serials crisis. After all, this could conceivably mean the end of significant costs associated with the production and distribution of print journals. However, commercial publishers found means of preserving their lucrative foothold on the scholarly publishing industry while at the same time embracing advancements presented to them by technology. They ushered in what Suber (2003) has termed the 'permissions crisis.' Here he is referring to legal and technological barriers that publishers have put in place to limit and restrict access to their digitized content and how it may be used. Specifically, this has been accomplished through the manipulation of copyright laws, licensing agreements and Digital Rights Management (DRM). At the same time, publishers have argued that they have had to maintain their expensive subscription fees because of high costs associated with developing new digital infrastructures to house their journals in addition to the continued costs associated with things like facilitating the peer review process, copy editing and promotion of their products (Professional Scholarly Publishing, 2008). Still, many publishers' reported profits remain high. For instance, in 2008 Elsevier reported an 11% profit increase over the previous year (Suber, 2009a). This has led many to conclude that such commercial publishers have failed to justify the costs of their resources (Willinsky, 2006).

A number of LIS scholars and professionals have discussed ways through which libraries have responded to this ongoing crisis (Helfer, 2004; Pyati, 2007; Yiotis, 2005). Some have joined consortiums that share access to journals among institutions, while many have also purchased 'bundles' of journals from publishers at discounted prices. Meanwhile, some libraries have resorted to cancelling their subscriptions to certain titles due to financial need as well as to

protest those publishers that have not been able to justify their costs (Helfer, 2004). Additionally, some librarians have begun participating in the open access movement. As I will discuss in the following section, a great deal of literature has explored how this movement has carried on for more than a decade now as it makes continuous strides to challenge for-profit publishers and offer librarians and library users a viable alternative to subscription journal content.

Opening Access to Research and Scholarship

Beginning in the 1990s, scholars, research councils, librarians and related interest groups began coming together to devise means of making research accessible, largely in response to the crises in scholarly publishing previously discussed. As a result, agreements, mandates and initiatives arose internationally and continue to develop in a concerted effort to drive the OA movement forward. Peter Suber (2009b) notes many historical precedents of this movement in his “Timeline of the Open Access Movement.” One of the most notable efforts he includes in the timeline is the Budapest Open Access Initiative (BOAI), whereby a constitutional convention held in December of 2001 resulted in a statement that was released in February of 2002 that defined open access and its intended functions. According to this statement, open access is:

[Literature which is freely available] on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited. (Budapest Open Access Initiative, 2002)

To achieve broader open access to research, the BOAI statement goes on to recommended two complementary strategies: OA self-archiving and OA journals. In the years following the BOAI, similar international statements were devised that further supported these initiatives, including The Bethesda Statement on Open Access Publishing (2003), and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003). As a result of such broad, international commitment, OA journals and institutional repositories that allow authors to archive their work have been created worldwide. In fact, as of August 2009 the Directory of Open Access Journals (<http://www.doaj.org/>), which is the most comprehensive index of OA journals, reported listing 4289 publications. Meanwhile, one of the most comprehensive registries of OA repositories, Open DOAR (<http://www.opendoar.org>), reported 1160 institutional repositories worldwide.

While the progress of the OA Movement is promising, its future directions remain somewhat unclear. As discussed by Schmidt, Sennyey & Carstens (2005), on one side, there are OA advocates predicting its complete take over of the scholarly publishing world, led by support from research councils, governments and universities. On the other side, there are critics that claim it has not proven to be economically sustainable in the long-term. More commonly, however, there are those that argue that the future will be much like it is today, whereby a “mixed open access” environment will prevail. In this situation, publishers on both sides will continue to compete for authors and resources using a variety of economic models dependant on the needs of their readership and their own business objectives (Schmidt, Sennyey & Carstens, 2005; see also Willinsky, 2006).

While there is a significant lack of empirical evidence that speaks directly to librarians’ contributions to the OA movement as it prevails, many authors have drawn on their potential to

advance the goals of OA given their specific skills and position within the scholarly community (Bailey, 2005; 2007; Nowick, & Jenda, 2004; Palmer, Dill, & Christie, 2009; Pyati, 2007; Schmidt, Sennyey & Carstens, 2005; Suber, 2003, among others). For instance, a number of OA advocates have asserted the need for librarians to take a role in educating faculty about what OA is, and what things they need to consider before potentially making their work available through this means of publishing (see Bailey, 2007; Harnad, 2004; Suber, 2003). These considerations include that of copyright restrictions that may apply to articles that have already been published, means of retaining one's copyright for work that is published in the future, and how OA may influence the research impact that published work will have. To this end, librarians are called upon to address authors' questions about whether or not there is a greater chance that a broad range of people will read an OA article thereby enhancing the significance of their work and their opportunities for things like tenure, merit pay and promotion. (For insight into this rather inconclusive issue, see Craig, Plume, McVeigh, Pringle, Amin, 2007.) In addition, OA advocates have also called upon librarians to get involved in the actual creation and maintenance of OA resources (Bailey, 2007; D'Agostino, 2008; Suber, 2003). For example, Bailey (2007) explores the many ways that librarians can help create and maintain institutional repositories through the creation of relevant policies and procedures, design interfaces, metadata, and so on.

Additional literature on OA and librarians has gone beyond just looking at how librarians can support the OA movement and has focused on how the movement can help libraries. For instance, some have suggested librarians include appropriate, scholarly OA resources in their library catalogues and in subject guides that have been developed to help students with their research, thus further enriching the library's collection and offering users a broader range of materials (Bosc & Harnad, 2005; Schmidt, Sennyey & Carstens, 2005). A lot of the literature on

institutional repositories has also argued that a library's participation in setting up such an initiative can have a positive effect on the visibility and reputation of the library among faculty, as well as that of the overall institution since institutional repositories highlight a university's scholarly output (Bailey, 2005; Crow, 2002; Johnson, 2002; Lynch, 2003).

As the literature suggests, librarians are in a position whereby they can play a central part in creating and supporting OA resources. At the same time, OA advocates have argued strongly for the many ways that OA offers libraries, scholars and the general population a viable, more equitable alternative to the restricted resources currently offered by commercial publishers who are not able to justify their increasingly high subscription fees. One topic that is largely absent from the literature on the OA movement, however, is the degree to which academic librarians are working to inform their users about OA resources and what effect this could have on the objectives of the OA movement and student learning. As I will discuss in the following section, these resources hold a great deal of potential in that they can provide academic instruction librarians and students with many new opportunities as they navigate a prolific digital information environment.

Information Literacy in the Digital Age

Over a century ago, librarian Otis Hall Robinson wrote in *American Library Journal* that “a librarian should be more than a keeper of books; a librarian should be an educator... All that is taught in college amounts to very little; but if we can send students out self-reliant in their investigations we have accomplished very much” (1876 as cited by Adam & Beckhoff, 2004). Recently, the American Library Association (ALA) (2009) reasserted this ongoing commitment when they released a list of core competencies that graduates of ALA accredited Master of Library and Information Science programs should have. Among these competencies, they

encouraged librarians' continued support of education and lifelong learning among their users. Thus, as the profession continues to change and adapt, the importance of librarians' commitment to providing users with resources and skills that allow them to develop new knowledge, interests and understandings throughout their lives continues to drive and shape the profession.

At the heart of librarians' commitment to student learning are a range of information literacy skills necessary to locate, evaluate and effectively use information (American Library Association, 1989). As Smith (2000) points out, by helping students develop these skills, librarians have an important opportunity to work with faculty to build a shared view of how to best prepare students for the road ahead of them, thereby contributing to how effective they will be in applying themselves throughout their education and in their future careers. As documented in the literature on information literacy, many academic librarians are increasingly seizing this opportunity, integrating information literacy instruction into coursework through faculty partnerships, developing online tutorials to help foster information literacy skills, and focusing on developing these and related skills during reference transactions (see for instance Bart, 2004; Dewald, Scholz-Crane, Booth, & Levine, 2000; Donaldson, 2000; Grassian & Kaplowitz, 2009).

However, while making a strong commitment to teaching students information literacy skills that will serve them while they are attending university and into the future, academic librarians have had to face challenges posed by a prolific, diverse range of information that has become available to students via the Internet. Since the late 1990s, there continues to be a dramatic rise in commercial and personal Web sites on the World Wide Web, as well as those produced by news organizations, government agencies, and non-profit institutions (including but not limited to OA resources). Additionally, there is a growing abundance of sites using Web 2.0 technologies, which focus on information sharing and collaboration (such as wikis, blogs and social

bookmarking). Together or separately, these emerging sources of information have complicated how librarians go about teaching students how to evaluate and use information effectively.

Within this context and assisted by search engines like Google that make information very easy to find on just about any topic imaginable, numerous studies have documented undergraduates' declining use of library resources in favor of freely available Internet sources (including Griffiths & Brophy, 2005; Lee, 2008; Lim, 2009; Lippincott, 2005). This is problematic since not only are expensive library resources not being used to their fullest potential, but students are using resources that are generally of a much lower quality. To this end, these and related studies have shown that students are failing to critically evaluate Internet sources for things like authority, relevance, accuracy, and objectivity. This literature has thus argued that librarians need to do more to teach students about the differences between library resources and those that are available for free online. For instance, they need to ensure students know how to effectively evaluate commercial Web sites for possible bias in the information they provide, and also, they need to understand the particular strengths and weaknesses of peer reviewed, scholarly sources (i.e., that they are typically unrivaled sources of authoritative, reliable information, though they may not always be as current as that which can be found on the Internet).

While librarians and scholars have recognized that teaching students about how to approach a range of research sources, like Web sites and scholarly literature, is important to the development of their information literacy skills, discussions of how OA resources factor into library instruction have been all but completely absent in the literature. While some OA advocates have noted that librarians need to do more to ensure students know about these resources (Bailey, 2007; Connor, 2009; Harnad, 2004), there is a strong need for more literature

that discusses how this might actually be accomplished and to what end. This situation is problematic not least because it devalues librarians' commitment to providing students with resources and skills that can contribute to their educations while in university and following graduation. Thus, there is a need for a stronger focus on OA resources in information literacy instruction to ensure that students know how to find them, evaluate them and recognize not only their benefits but also their limitations.

Particularly in disciplines outside of science, technology and medicine where there is greater access to funding for OA initiatives and higher public demand for OA research, the consistent quality and abundance of OA journals is not particularly high. While a variety of business models have been devised that suggest there is much hope for further evolution of OA publishing in all disciplines in the future (Willinsky, 2006), problems associated with the indexing, editing and vetting of some current OA content remains and should not be ignored in efforts to promote these resources to students (and all other library users). Schmidt, Sennyey & Carstens (2005) support this claim, stating that "even a relatively 'respectable' list of open- access journals such as DOAJ will include journals of widely differing quality in terms of both content and editorial control" (410-411). Additionally, they go on to point out that in some cases OA journals are not included in any indexes or aggregators. For example, they discovered that a peer reviewed, scholarly OA journal entitled *Magnetic Resonance in Solids, Electronic Journal* (<http://mrsej.ksu.ru/>) was not included in the DOAJ when they investigated the breadth of content it indexed. This title remains absent in 2009, even though it continues to produce new articles, limiting the ways through which people may come across it. Additional studies have identified similar difficulty in finding OA content, noting that many OA resources are not included in popular citation indexes that are used by students when conducting research, such as

Web of Science or *Google Scholar* (Jasco, 2005; Norris, Oppenheim & Fytton, 2008). This literature therefore suggests that librarians should not only promote OA to students, as I have suggested, but also actively educate them about means of both finding them and critically evaluating them for their varied usefulness.

Summary

The literature that I have reviewed discusses two broad areas of focus that have dominated investigations into the OA movement and its relationship to libraries. One area has drawn attention to the emerging commercial interests that have commoditized information in the scholarly publishing industry and constrained library budgets. The other strong focus has been on emerging initiatives that have begun challenging these interests whereby librarians, scholars and scientists have started to develop alternative means of publishing scholarly work on the Internet that is freely accessible. This literature tends to focus on the benefits that these OA initiatives can bring to scholars and the impact of their research. Furthermore, it emphasizes the important role of librarians in the creation and maintenance of OA resources and how these can enrich library collections. However, as a whole the literature on OA and libraries has paid very little attention to the specific, practical benefits and challenges that OA resources present to library users and what role librarians play in their use of these materials.

Academic libraries are in and of themselves places of ongoing change with a persisting, central commitment to providing the communities that they serve with information, data and knowledge (Kilgour, 1993). This means that in order to meet their users' needs, librarians must keep up with various means through which information is delivered and help their users realize whatever benefits and challenges they may encounter when using this information. The literature on librarians' role in the development of information literacy skills among undergraduate

students strongly asserts this commitment. Particularly as information becomes more prolific and diverse via digitization and the advancement of the Internet, librarians are striving to find new ways to ensure that students have information literacy skills that will help determine their effective use of information in university and after they graduate. Unfortunately, there has not been a lot of emphasis on the challenges or importance of teaching undergraduates about OA resources. While it has been rightly argued that “libraries intent on providing access to scholarly information cannot afford to ignore open access venues” (Schmidt, Sennyey, and Carstens, 2005, 407), more attention needs to be given to how these resources might be of use to students as well as what implications they might pose.

To explore what I have identified as a need for a stronger focus on librarians’ contributions to the OA movement and how they might expand this contribution by integrating OA into information literacy instruction, in the following section I turn my attention to the status of OA in Canadian libraries. I begin by drawing from examples of the many ways that Canadian librarians have built support for OA within their profession, and partnered with scholars and a variety of related interest groups to develop OA publishing initiatives. I then reflect on examples of ways through which academic librarians have participated in promoting these and other OA initiatives to their largest user group, undergraduate students. In concrete terms, this investigation reveals that Canadian librarians’ contributions have helped move the OA movement in Canada from something peripheral and experimental to what is truly becoming a mixed OA environment in scholarly publishing. However, it also reveals a need for more attention being placed on the promotion of these resources and their uses if librarians are going to fully commit to working towards ensuring the long term success of both the OA movement as well as that of university students.

Section Three: Advocating and Educating for Change

On May 28, 2008, the Canadian Library Association (CLA) Executive Council officially accepted a position statement that had been drawn up by the CLA Task Force on Open Access (now known as the CLA Open Access Interest Group). Recognizing that providing access to information is an essential function of libraries and a cherished value of librarianship, they asked that all libraries in Canada support open access. To this end, they called upon libraries to:

- Support and encourage policies requiring open access to research supported by Canadian public funding...
- Raise awareness of library patrons and other key stakeholders about open access, both the concept and the many open access resources, through means appropriate to each library, such as education campaigns and promoting open access resources.
- Support the development of open access in all of its varieties...
- Support and encourage authors to retain their copyright, for example through the use of the CARL / SPARC Author's Addendum, or through the use of Creative Commons licensing. (Canadian Library Association, 2008)

In what follows, I describe a number of ways that academic librarians have either heeded this call to support OA, or in many cases simply continued their ongoing support. In this manner, I make the point that the active involvement of librarians in OA initiatives is quite strong.

However, I also wish to point out that more needs to be done in terms of raising the awareness of OA among library patrons, in this case, undergraduate students, if libraries are to truly establish their support for the OA movement in addition to student learning.

Commitment and Support

When it comes to assisting with the creation of OA resources and educating scholars about what is involved in making their scholarly output openly accessible to all, Canadian librarians have been very active contributors to the OA movement. Prime examples of this are evident in their involvement in setting up and maintaining both institutional repositories and OA journals.

Pinfield (2009) defines institutional repositories as “a set of systems and services which facilitates the ingest, storage, management, retrieval, display, and reuse of digital objects” (165). He goes on to explain that repositories typically house a variety of digital content, including theses, journal articles, book chapters, datasets, conference papers, working papers, and so on. In Canada, librarians at nearly every university in the country have helped with the development of such repositories that thus allow authors to self-archive their scholarly output and make it openly accessible via the Internet. In fact, in a recent survey of 29 of its member libraries (Shearer, 2009), the Canadian Association of Research Libraries (CARL) reported that 23 had functioning institutional repositories, while three more reported that they planned on implementing a repository in the following year. Examples of these institutional repositories include that of The University of Alberta (<http://repository.library.ualberta.ca/dspace/handle/10048/188>) and Simon Fraser University (<http://ir.lib.sfu.ca/>). Each of these repositories is fully functional with a variety of searching and sorting options, offering well organized open access to a variety of materials produced by members of their respective university’s scholarly communities.

In terms of open access journals, many academic librarians in Canada have provided their support in the same manner through which they have helped create and maintain institutional repositories by offering technical support and server space. Institutions that are taking part in such initiatives include Simon Fraser University, the University of British Columbia and

McMaster University, among others. These journals typically support the work of faculty, and sometimes also that of students. It is also worth mentioning that there is at least one journal that is produced by and for LIS professionals in Canada entitled *Partnership: The Canadian Journal of Library and Information Science Practice and Research*

(<http://journal.lib.uoguelph.ca//index.php/perj>), which is hosted by the University of Guelph.

This reveals librarians' active involvement in not only supporting these publishing initiatives but participating in them as well.

Either as part of their hosting initiatives or separately, academic libraries in Canada also offer their university's faculty online information about publishing their work in open access venues. Often in the form of Web pages featuring Frequently Asked Questions (such as this one produced by McMaster University Library: <http://library.mcmaster.ca/scholarly-communication/open-access>), these sites answer queries as to whether open access is compatible with things like copyright and peer review, and explain what some of the specific advantages and limitations are to making one's work available to all. Libraries also typically have staff members who are trained to answer any questions that faculty might have about adding their work to OA venues. For instance, similar to a growing number of academic libraries across North America, the University of Western Ontario recently hired someone in the position of "scholarly communications librarian." Part of this employee's new role is to work with faculty to assist them with their publishing concerns and possible publishing initiatives via OA channels as well as through more conventional publishing methods.

Canadian librarians are also playing an active role in developing technical infrastructures to house OA content and do so at a reasonable expense. The costs of creating and maintaining institutional repositories and OA journals can be somewhat significant in terms of required

staffing and technologies (Bailey, 2005). However, librarians have been active in finding ways to keep their costs down. For instance, most institutional repositories in Canada operate using open source publishing software that is free and that can be modified to meet their particular needs. A prime example of this is DSpace (<http://www.dspace.org>), which was developed by the library at MIT and is currently used by 14 CARL member libraries (Shearer, 2009).

In Canada, a similar, notable open source option has been developed called Open Journal Systems (OJS) (<http://pkp.sfu.ca/>). This journal management and publishing system is devoted to making open access publishing a viable option for journals worldwide. It has been developed by the Public Knowledge Project, which is a joint venture by librarians, faculty members and graduate students at the University of British Columbia and Simon Fraser University. To this end, librarians at Simon Fraser have played a critical role in this project's development and maintenance, offering technical support, development assistance and web hosting (Willinsky, 2006). As a result of this concerted effort, as of March, 2009 there were 833 open access journals utilizing this software to host their content, while another 2135 are using it worldwide (based on the number of servers that are hosting an installation of OJS; Public Knowledge Project, 2009). It is also worth noting that the technology developed as part of the OJS initiative is playing a major role in the creation of a nation-wide digital libraries project involving 21 Canadian universities that seeks to make scholarship in the humanities and social sciences openly accessible. Known as the Synergies Project (<http://www.synergiescanada.org/>) this initiative has also drawn on the technical expertise of academic librarians from Simon Fraser University, The University of New Brunswick and The University of Toronto (Lorimer & Maxwell, 2007).

The examples of Canadian academic libraries' involvement in the OA movement that I have here spoken to by no means provide a complete picture of the many contributions that

librarians have made and continue to make across the country. However, they do speak to a strong commitment to OA by librarians who have worked to create and maintain OA publishing initiatives to support the work of the scholarly community at their own individual institutions and more broadly. That said, I now turn to an exploration of ways through which academic libraries have contributed to the promotion of these materials among their users.

Promotion and Education

Clearly, the call for academic librarians to support OA has not gone unheeded. However, what remains is the need for them to make a stronger commitment to drawing university students' attention to OA, especially given the rapidly emerging wealth of free, readily available, scholarly content OA resources have to offer students now and in the years ahead of them. In this final section I begin by discussing areas where librarians have participated in the promotion of OA materials, while also pointing out areas where they have apparently fallen short. I conclude with a few suggestions that librarians might adopt to further undergraduate students' awareness of these resources and their potential uses and limitations.

At present, there appears to be a growing number of OA journals included in academic library catalogues. A common practice among libraries is to include a catalogue entry for the DOAJ and its contents. This practice is aided by the journal index's support of the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) (<http://www.openarchives.org/OAI/openarchivesprotocol.html>), which is also supported by most OA repositories and allows any service to obtain records for inclusion in their own collection. Placing content from the DOAJ in library catalogues is a step in the right direction for libraries in their promotion of OA since it involves including these journals alongside subscription based titles where students and others using the libraries' resources may stumble upon them depending

on what they are researching. In addition, a few libraries have put together guides that detail what OA resources are and where to find them (e.g., via the DOAJ, institutional repositories, or limiting one's search in the library resources database Ulrichsweb.com to OA content). A great example of this is Concordia University's OA research guide (<http://library.concordia.ca/research/openaccess>). This guide works as both a promotional tool and an educational resource, which explains what OA is and where to find it, as well as why OA is important and where to go for more information on relevant OA initiatives.

A further notable initiative that many Canadian academic librarians recently participated in to promote OA resources to their students as well as the broader university community was Open Access Day, which was held internationally on October 14, 2008. Organized by SPARC, PLoS, and Students for Free Culture, the mandate of this partnership was "to broaden awareness and understanding of Open Access, including recent mandates and emerging policies, within the international higher education community and the general public" (PLoS, 2008, para. 4). According to the event's Web site (www.openaccessday.org), 120 organizations participated from 27 countries worldwide, which included a number of Canadian university libraries in Alberta, British Columbia, Newfoundland, Ontario and Quebec. This year, the event will take place over an entire week (October 19-23, 2009) to allow participating institutions some flexibility as to when they hold events (see: <http://www.openaccessweek.org>). Already a number of Ontario libraries have signed up to participate. OA Week events will feature possible OA button and t-shirt giveaways, guest speakers and video showings dependant upon what activities each participating library decides to organize to meet their individual community's needs, interests, and available resources.

The promotional tactics that I have here reflected upon speak to the importance of telling library users, including undergraduate students, about OA initiatives, OA resources and where to find them. However, it is perhaps even more crucial that librarians teach students how to evaluate these resources since they tend to possess specific characteristics that determine their usefulness dependant upon a users' information need. Based on an extensive search of online materials produced by Canadian academic librarians as well as an in-depth overview of the scholarly and professional literature, it appears that discussions about OA resources are not typically addressed in library instruction. For instance, I searched for the term "open access" in the American Library Association's Information Literacy Instruction Listserv archive (<http://lists.ala.org/wws>). This very active listserv is followed by hundreds of Canadian and American academic librarians eager to share their teaching methods and experiences. However, it produced only one result relevant to OA, which spoke not to instruction but to the cataloguing of Internet resources. I also reviewed a number of information literacy tutorials that are hosted online by, for instance, Acadia University (<http://library.acadiu.ca/tutorials>), Dalhousie University (<http://www.library.dal.ca/How/LibCasts>), and the University of Alberta (<http://www.library.ualberta.ca/guides>). These too failed to mention OA resources, focusing instead on means of finding and evaluating scholarly sources, books and Web sites (which were discussed in very general terms).

In order to ensure that students are aware of OA resources and use them effectively, there are a number of things academic librarians might consider doing. For instance, as part of participating in Open Access Week, librarians could perhaps make a stronger commitment to involve undergraduates in the events that they have planned. While hosting this event is a great advocacy tactic to get the university community's attention about OA issues and resources, the

previous year's Open Access Day events at a variety of institutions tended to focus more on faculty involvement, addressing topics such as rights of authorship when publishing in OA venues. To reach undergraduate students, librarians might consider:

- creating and distributing information pamphlets about OA and why it could be specifically useful to their needs and interests;
- launching an online resource like a research help guide on OA materials that week and feature it on the library news section of their Web site; and
- gaining faculty member's permission to visit classes during the week to tell students about specific OA resources that might assist them in their coursework.

In terms of integrating OA resources more thoroughly into their collections and instructional practices, there are a number of further practices and activities that librarians may consider. They include the following:

- Stay informed. There are a number of great forums on the Internet that discuss current issues and developments in OA in Canada and around the world. These include *The OA Librarian* blog (<http://oalibrarian.blogspot.com>) and Peter Suber's widely read *Open Access News* blog (<http://www.earlham.edu/~peters/fos/fosblog.html>). Such resources can help librarians develop their own approaches to OA and methods of educating students and all library users about these resources.
- Work with faculty and department chairs to develop instruction sessions that are integrated into the curriculum to allow for more time to cover topics that are pertinent to both the class itself and the development of information literacy skills (including, but not limited to OA). Often, a librarian will visit a class only once at the beginning of the

semester and be afforded only enough time to show students the most basic resources they will require for their coursework.

- Create classroom activities that ask students to compare a variety of OA journals with subscription journals and personal and commercial Web sites on whatever subject matter they are studying. After they have had a few moments to explore each resource, have them discuss what they thought about the different content types and how they could or could not be useful to them. This activity could serve to create awareness and foster understanding and discussion about scholarly research processes and how to effectively evaluate not only OA resources but a variety of materials that are available to students.
- Update online tutorials and research help guides on finding and evaluating research resources to include specific information about OA journals and repositories. Nearly all Canadian university libraries offer online tutorials and subject guides on resources and information literacy skills that could serve to benefit students further with the addition of content about what OA is, where to find it, and how to evaluate it (factoring in information on how things like pre-prints and post-prints differ).
- Be critical of the journals included in the DOAJ and vet materials included in its index before adding them to the library catalogue or research help guides. Although its FAQ claims that it only contains scholarly, peer-reviewed sources, some of the titles that are listed in its directory are of a questionable quality. For instance, some are comprised partially or sometimes entirely of articles written by postgraduate students, such as *Anthropology Matters* (<http://www.anthropologymatters.com/index.html>). While this does not necessarily detract from the quality of the information the source provides, a student who fails to evaluate a source for its authority or who does not take a close look

at the journal's editorial statement to ensure the source was indeed reviewed by experts could conceivably run into problems by using such a source.

Section Four: Discussion and Conclusion

In its discussion of information literacy competency standards, the Association for College and Research Libraries' Web sites states: "By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities" (2000, para. 6). Through helping university students develop information literacy skills, librarians play a critical role in this process. To this end, their strong commitment to informing and educating students about the wide and prolific variety of OA resources available to them on the public Internet, and means of evaluating their reliability and usefulness, can bring an additional, valuable attribute to their education. Alerting students to the hundreds of quality controlled, scholarly OA journals listed in the DOAJ, for instance, can present them with a valuable supplement to the resources already available to them through library journal subscriptions and print materials. Meanwhile, many OA resources that are not peer reviewed, for example, present a unique and valuable teaching opportunity through which students can learn about scholarly communication processes and what defines scholarly literature from that which is not of the same caliber. Additionally, and perhaps most importantly, unlike the vast majority of academic resources available to students through library subscriptions, exposing students to OA resources provides them with access to a wealth of scholarly research materials that will still be readily available to them after they have graduated.

Treated separately or as a whole, these points suggest an important and timely direction for academic librarians, whether their aim is to advocate on behalf of OA and its ultimate goal to make all information equitably accessible to all, or to simply educate students about the broad range of materials that are available to them. Librarians creating awareness about OA resources encourages students' continued growth, critical thinking skills, and lifelong learning, which information literacy instruction and the very tenets of higher education inherently ascribe to.

Moving forward, the OA movement in Canada presents an important and promising area for future research into contemporary understandings of the role that academic librarians can play in advancing OA initiatives and support, as well as means of understanding information literacy standards in an expanding, digital environment. The experiences and perspectives of students, university graduates, faculty members, and academic librarians as they relate to each of these topics are vastly understudied. Future studies on these subjects' awareness of the OA movement and their opinions on its purpose and goals could deliver important insight into how the movement might continue to structure its publishing initiatives and approach to advocacy. Additionally, more research also needs to explore effective methods of integrating not just OA resources into information literacy instruction but also other emerging digital information technologies such as Web 2.0. OA resources are not the only research materials that call for the expansion of information literacy instruction and its approaches to digital content. Nor is the OA movement itself and librarians' involvement in its development the only solution to problems facing libraries in regards to the conventional scholarly communication system (Bailey, 2007). However, these areas do promise important new directions for librarians as they continue to support student learning and all library users' access to information and knowledge.

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