

Open Access Research Via Collaborative Educational Blogging: A Case Study from Library & Information Science

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Abstract

This article charts the development of activities for online graduate students in library and information science. Project goals include helping students develop competencies in understanding open access publishing, synthesizing research in the field, and engaging in scholarly communication via collaborative educational blogging. Using a design experiment approach as a research strategy, focus is placed on the design of the collaborative blogging activity, open access research as a knowledge domain, and analyses of four iterations of the project. Findings from this iterative learning design suggest several benefits of implementing collaborative educational blogging activities in distance contexts.

Keywords: blogging; distance learning; higher education; open access; social media

Introduction

Graduate education in library and information science (LIS) has enjoyed early adoption of new information and communication technologies (ICTs) as a means and context for helping graduate students develop new competencies in the areas of scholarly communication, career development, and intellectual exchange. New ICTs are also, to a great extent, the objects of learning in and of themselves. With this in mind, graduate education in LIS works on many levels and students are called to learn about tools and technologies of information across many contexts, dimensions of use, and purposes.

This article charts the development of online activities for students to help them develop competencies in the areas of understanding open access research and scholarly communication via collaborative educational blogging. Although the curricular content area described originates in library and information science, the online activities reported on here are relevant to a wide variety of instructors –particularly those working with graduate students at a distance. As an article describing innovative practice in distance and e-learning, the concrete experiences described here address several challenges in online, higher education classrooms including the design of activities that:

- 1) Support peer to peer interaction and combat student isolation.
- 2) Create opportunities for distance students to develop competencies via active learning in the areas of open access publishing and scholarly exchange via blogging.
- 3) Enable lifelong learning beyond programs of study.
- 4) Connect course learning outcomes to program level learning outcomes and culminating experiences.

Open Access Research as Curricular Content Area in Library & Information Science

Open access research is defined as research and publication that is freely available and in the public sphere. There are two main models for Open Access (OA) publishing. One model exists within the for-profit publishing world whereby publishers make articles open access when authors pay them to do so or allow for author self-archiving of their articles in some manner. This way of organizing open access research is referred to as green OA. In this situation, the journals in which the open-access articles appear are essentially licensed material but someone has paid to make the article freely available. In contrast, there exist gold OA journals where all of the articles are freely available and no one is remunerated for publishing the articles.

The open-access movement poses challenges as well as opportunities for new library and information science professionals. For example, students that have an understanding of the open-access industry can more effectively navigate research practices with their future patrons and users in public, academic, and special libraries in addition to any other diverse information context they may find themselves working in. When information professionals know how to connect learners with research in the public domain, they are able to challenge structures that disadvantage users without access to traditionally licensed sources of reliable information.

It's also been noted in several studies that articles published in Open Access journals are more heavily cited than those published by more traditional routes (Atchison & Bull, 2015; Hajjem, Harnad & Gingras, 2006; Harnad & Brody, 2004; Kurtz et al., 2005). Students can support their future programs of research by reading audiences widely and globally by strategic use of open access publishing practices. With this in mind, one goal of the learning design described here was to highlight gold OA via blogging to perpetuate not-for-profit publishing, promote its proliferation, and increase its rigor by making venues more visible and accessible to peer reviewers and scholars alike.

How are blogs used in library & information science?

Sarathi Mandal (2011) defines the word blog as "an online diary where one can post information (not only text but also audio, photographs, and videos) on a regular basis". Sarathi Mandal outlines five different types of blogs including media blogs, device blogs, subject blogs, legal status blogs, and searching blogs. Katie Greenland (2013) published a significant literature review of blogging practices in the field of library and information science. She answers questions about the challenges librarian bloggers face as part of their writing activities. Her findings suggest that librarian bloggers experience issues with anonymity privacy ethics identity and presentation of self and the blurring of personal, public, private, and professional lives. Wilson and Yowell (2008) describe the use of blogging as a means of communicating disaster planning information for a Health Sciences Library. They see the Strength of blogs and the blog and format as a means of controlling the information flow related to disaster planning in their community. They argue that the strength of the blogging technology include a means of including text, links, searchability, and the ability to infuse post with images or photography.

Coulter and Draper (2006) explore the use of blogs as a means of communicating with graduate students in ways beyond formalized information literacy (IL) instruction. The authors include a literature review charting the use of blogs in education as well as in libraries serving other purposes. The research methodology included the creation of blogs tied to graduate information literacy courses, arguing in 2006 that blogs would become part of the future in library and information science. In the ten years since the Coulter and Draper article, blogging in about libraries and by information professionals remains a highly relevant practice. For this reason alone, it behooves

library and information science educators to train new librarians to communicate via new information and communication technologies and social media.

“...we believe that, with increased marketing and collaboration with teaching faculty (translating into increased motivational power), librarians can emulate their teaching colleagues’ success with educational blogs” (Coulter & Draper, 2006, p. 110)

What is educational blogging?

Blogs have been used across many educational contexts in several different ways with myriad goals. For example, Zinger and Sinclair (2013) identify several benefits of blogging in college-level courses including cross-curricular engagement, tools for publishing, writing practice, professional networking, collaborative activity, and promotive of student engagement and communication (p. 350). Crane (2007) describes how web 2.0 technologies are used in the classroom. She focuses on blogging in the subject area of language arts and outlines the main components of blogs as a writing genre for students. Importantly, Crane outlines several rationales for the use of blogs in the classroom which can be extended to higher education contexts in addition to the K-12 environment she describes. For example, she mentions the creation of community, peer interaction, contexts for peer and instructor feedback, support for more reserved students, encouragement for reading practices in general, and a generalized support for research activity that might extend beyond educational assignments. This article conveniently provides tips and suggestions for getting started on blogging projects for educational contexts.

Cobus (2009) explores issues of informal medical information communicated via blogs in a graduate course in public health. The researchers introduced a blogging assignment into a graduate course in which students were asked to search for medical information, reflect on it, and comment on blog postings offered by peers. By structuring the assignment in this way, students learned to filter and find credible sources of information and learned to evaluate informal as well as formal medical information. Importantly the blog assignment met goals related to helping students learn about social media as well as new information and communication technologies but combined this with curricular goals in the domain of the course.

“To create successful 2.0, assignments, the technology should be an enabler rather than the dominator” (Cobus, 2009, p. 29).

Another study (Bishop et al., 2014) implemented a blogging activity for graduate students and evaluated the students’ reactions to the blogging activity. These authors felt that the blogging added competencies beyond traditional graduate education with the acknowledgement that not all students will pursue careers in academic research. The authors also surveyed students to see the percent that were interested in pursuing their own individually-authored blogs (around 50% were interested in this). Recognition of the importance of competencies relating to networking and writing for dissemination and their relationship to goals for formal publication (via academic journals) were a strong part of the motivation to introduce a blogging activity.

Other work (Alqudsi-Ghabra & Al-Bahrani, 2012) compares activities that involve voluntary vs involuntary blogging on the part of library and information science graduate students studying in Kuwait. The authors refer to the involuntary blogs as course centered and the voluntary blogs as student-centered. The authors findings extend previous work by concluding that (among many dimensions of learning) the blogging activities contributed to critical thinking, provided opportunities

for networking, allowed students to engage in public affairs, and supported students in developing competencies in new information and communication technologies.

Working in the field of library and information science education, Stephens (2016) created a blogging community for graduate students working in an online environment. This study is highly relevant in terms of gaining student perspectives on participation in an online blogging community and what this means for their programs of study. Via this survey study, Stephens' findings suggest that "students have positive perceptions of the effectiveness and usefulness of student blogging communities" (p. 306).

Collaborative educational blogging

While individually-authored blogs have been investigated for their ability to facilitate collaboration among online groups (Stephens & Roberts, 2017), collaborative blogging activities are less studied. Along slightly different lines to previous work charting educational blogging, Xie, Ke and Sharma's (2010) research studied peer interaction during team blogging activities. These authors found that collaborative educational blogging brings new dimensions to learning by facilitating reflective and higher order thinking (p. 461). They report in an earlier article that peer blogs and related comments provide "diverse perspectives and information so that they could gain a holistic indent view of the content" (p. 461). Researchers found that the questioning blog postings (as opposed to "monologuing" posts) resulted in conversations that achieved greater cognitive depth and breadth. These findings suggest that the aspect of questioning discourse seems important to team blogging designed to support learning in particular.

More recently, Kuo, Belland and Kuo (2017) designed a collaborative blogging activity for non-traditional, African American students enrolled in two instructional design courses. This survey study quantitatively studies relationships between blogging self-efficacy, sense of community, perceived collaborative learning, and perceived learning. Kuo et al. (2017) note the "the importance of collaborative learning and sense of community on perceived learning in blog-enhanced settings" (p. 47). Their findings also confirm the preference for community-based, collaborative learning on the part of African American, non-traditional students. Along these lines, they argue that blogging activities are particularly well-suited to providing the organizing structures for community learning with some suggestions for activity design.

Research Strategy

The collaborative educational blogging project described here follows earlier efforts described above by asking questions about the feasibility of implementing team blogging and the sustainability of collaborative blogs. Questions about how collaborative blogging can meet diverse pedagogical and curricular goals also inspired this design. Another motivating factor for creating team-based learning activities was to minimize the creation and abandonment of student blogs. "Zombie blogs," created by students not interested in engaging in blog-authoring long-term, are one example of the lack of utility associated with personal blogs that enjoy activity for short periods of time. Along similar lines, there is a lack of professional usefulness associated with blog management systems where students do in fact author blogs but the availability (of blogs) beyond course assignments is either less visible, not easily shared publicly, or restricted altogether.

Research questions

With these challenges in mind, we pose two core research questions. The first is as follows:

Is it feasible to create a sustainable blog for LIS graduate students where student work can remain accessible over long periods of time?

In addition to issues of sustainability and responsiveness to transience of student participation in blogging, our goals included exposing LIS graduate students to a particular knowledge domain: open access journals, articles, and the processes of searching the open access literature. With this in mind, we sought to explore:

Can a collaborative team-authored blog meet curricular goals for LIS education? If so, what tools, structures, and organization of activity might we implement?

A design experiment approach

Considering the recent strengthening of the open access publishing model and growth of educational blogging, we wanted to see if these content and practice areas could be combined in an online instructional approach. To achieve this, we adopted a research strategy informed by Ann Brown's design experiment approach. Initially introduced by Ann Brown (1992), design experiments involve the development, implementation, and evaluation of instructional activities while contextualizing interventions within localized sets of practices and contingencies. Work by The Design-based Research Collective (2003) and Dede, Nelson, Ketelhut, Clarke and Bowman (2004) has further articulated design-based research as those methods that attempt to "gain insight into how, when, and why innovations work in practice" (Dede et al., 2004, p. 159). Wang and Hannafin (2005) further define several characteristics of design-based research:

- 1) Often conducted within a single setting over a long time.
- 2) Iterative cycles of design, enactment, analysis, and redesign.
- 3) Contextually dependent interventions.
- 4) Document and connect outcomes with development process and the authentic setting.
- 5) Collaboration between practitioners and researchers.
- 6) Lead to the development of knowledge that can be used in practice and can inform practitioners and other designers (2005, p. 7).

Like Brown and other design-based researchers, the project attempts to understand an innovation (a LIS team blogging activity), and consider whether it supports learning in a distributed academic community. As an experiment in learning design, it is hoped that participation in collaborative blogs will foster new forms of (ongoing) interaction between faculty, students, new professionals, and community members at large. The iterative process of intervention-driven change inherent to the design experiment model has the potential to contribute to theory about learning and practical considerations about developing similar writing collaborations and engagement with the literature.

By taking a design experiment approach, the blogging project allowed for consideration of the process of infusing blogging practices into existing distance learning classrooms. Bound up in these efforts was the goal of creating sustainable contexts supportive of engagement with the scholarly literature and professional development for LIS graduate students. Lunsford and Bruce (2001) identify six attributes they suggest are characteristic of collective, virtual workspaces designed to support collaborative learning. They include shared inquiry (a common set of problems or issues), intentionality (a shared consciousness of the blog as a shared project),

active participation and contribution, access to shared resources (open access research), technologies, and boundary crossings (moments where gaps in geography, time, institutions, and disciplines may be bridged) (Lunsford & Bruce, 2001, p. 295). Along these lines, the design of a LIS collaborative blog was structured to include similar attributes to those described by Lunsford and Bruce.

Setting

The project involved extending blogging assignments to graduate students in six (distance) library and information science courses delivered in Canvas online course management software. Blogging activities involved students enrolled in four sections of a course related to designing services for diverse populations (course A) and two sections of a course in learning design to support various forms of literacy (course B). The first iteration involved both courses in fall 2015 and the second iteration involved those same courses in the spring 2016 semester. The third and fourth iterations involved one section of course A in fall 2016 and one section of course B in fall 2017. Students were distance graduate students in library and information science using a common course management system (Canvas) to access learning activities. Each course enrolled between 15 and 57 students. Students worked in teams of anywhere from 3 to 5 students.

Organizing structures

Much of the blogging and education literature describes project designs that encourage students to develop individually-authored blogs. Particularly in library & information science education, the emphasis has been (traditionally) on the competencies associated with the development and maintenance of the blog as a technology in and of itself with less emphasis on the content and sustainability of the blog over time. We felt there is a drawback to single-authored blogs for students in that they may have no desire to continue to blog over time and their blog may lose its relevance as a living object to demonstrate professional competency in both content and technology. Another drawback of individual blogging is the lack of social and cognitive interaction between students as they engage with the scholarly literature.

The blogging activities served several purposes as part of the overall learning design. For example, one goal was to support student competencies in engaging with new information and communication technologies such as social media. Another goal was for students to engage with the literature associated with the content domain of the course. Bound up in goals for professionalization was the idea that students should learn how to write in scholarly ways across many contexts, the blogosphere representing only one. Collaborative and group activity was also an important part of this design to improve student perceptions of social/cognitive presence, team building, and professional networking. Related to the idea of familiarizing students with the academic literature was the hope of exposing students to open access research.

We registered a URL and hosted a WordPress installation for the domain <http://www.openaccessreader.com> (see figure 1).

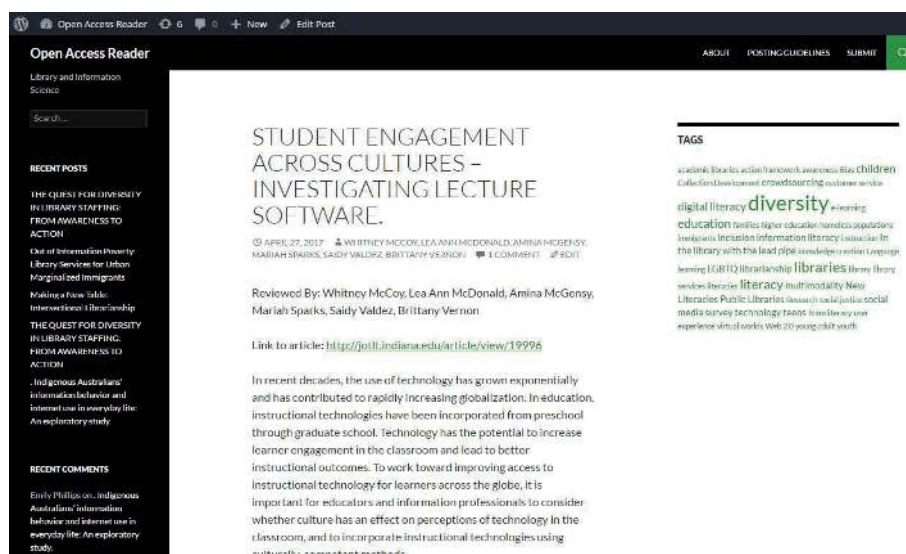


Figure 1: Screenshot of Open Access Reader Blog

Several plugins were used to provide blogging-specific functionality for the website including linking of form-based posting, searching, tagging, and postings to social media sites such as Facebook and LinkedIn. We implemented a modified version of the “User Submitted Posts” plugin distributed on the WordPress website. This plugin generates a form hosted on the WordPress installation that allows users to submit posts for approval by an administrator.

Our modifications primed the plugin for students and researchers to submit an article retrieved from several course content-related open access journals to promote discussion. First, the submitters entered their names, provided the title of the article and linked to where the article is hosted. Additionally, submitters were encouraged to “tag” their submissions to allow other users of the website to find other similar articles and give browsers an impression of the discussion and content of the article. Relevant tags were journal names and subject designations. When a submission was received, it was reviewed by the faculty (administrator). If approved, the submission was published to the website. Two social media plugins were implemented to encourage users to spread and share their discussion. One allows users of the website to share submissions on LinkedIn; the other to share on Facebook.

Four iterations of a blogging course assignment

The project involved extending blogging assignments to graduate students in six (distance) library and information science courses (see figure 2). Blogging activities involved students enrolled in (four sections) of a course related to designing library services for diverse populations and another course in learning design to support various forms of literacy (two sections). Student groups of between 3 and 5 members were asked to collaboratively author one blog posting about an article relating to our course content. Only articles retrieved from a (gold) open access journal were appropriate for the assignment. In the first iteration of the assignment, students were sent appropriate open access articles for analysis and posting. In the second (and subsequent) iterations, student groups searched for and selected their own articles. Students in the second iteration (and beyond) were reminded to select only topical articles that are open access (freely available to anyone) and to search the blog to make sure their article had NOT been blogged about prior. Article choices were then sent to the professor for approval.



Figure 2: Blogging assignment prompt

Each group contributed a collaboratively-authored 750-1000 word (approximate) response to the article chosen. Quite a bit of structure was provided to students in terms of possible topics and content to include in their postings. Suggested content included a request that postings contain some combination of the following:

- 1) Article synopsis and core research question(s).
- 2) Methods used to answer the research question.
- 3) Findings and conclusions.
- 4) Unanswered questions you have and what future research might address.
- 5) A thoughtful attempt to answer your own questions.

Student groups were also tasked with responding to a peer group's posting by either extending their thoughts in a new direction or attempting to answer a question posed in the original post. These responses were in the range of 3 sentences in length. Groups were asked to skim the other group's article prior to commenting. Finally, students were provided with a link related to the assessment of student blog postings published in *The Chronicle of Higher Education* (Sample, 2010).

Findings and Analysis

The project as design experiment sought to create a learning context that works on multiple levels, responds iteratively to the community of learners, and sustains its relevance in multiple dimensions over time.

A sustainable, collaborative, student-authored blog

Although blogging activities have become very popular in educational contexts, the time scale for engagement is usually limited to the semester over which the class plays out. In many courses, the blog is explored as a tool for dissemination of ideas but efforts are short-lived. Even though there is acknowledgment that blogging can assist students professionally, little effort is made to

support student activity over the long term. Particularly in library & information science education, the emphasis has been (traditionally) on the competencies associated with the development and maintenance of the blog as a technology in and of itself with less emphasis on the content and sustainability of the blog over time.

With this in mind, we tried to build-in or anticipate that the blog postings would exist beyond the timeline of the course. Therefore we built a blog where students played the role of contributor rather than sole author. We hoped students would insert blog URLs into their personal e-portfolios to demonstrate competencies associated with new information and communication technologies as well as their mastery of curricular content and understanding of open-access, scholarly literature. Blog-based writing was selected as a means of supporting their ability to engage in new forms of scholarly communication.

External challenges to the sustainability for a blog such as this lie in the necessity of maintaining domain licensing and subscriptions to content management software (in this case WordPress). Spam comments became a problem during the second and subsequent iterations. A captcha utility will be implemented in iteration five to prevent spam comments that must be waded through continually. For this study, these structures were implemented and maintained over four semesters and the plan is to continue maintaining them in the future. Since there is no expectation that students or their groups ever contribute to the blog in the future, there is less reliance on past writers to return to the site. Future courses incorporating collaborative blogging activities guarantee a continual source of content and, thus, the sustainability of the site. With commitment on the part of the faculty member, the blog and its content can exist in perpetuity.

Over the course of the study, there was some evidence of students pointing back to their contributions in e-portfolios (see figure 3) and via social media pingbacks.

2 THOUGHTS ON "ICT USE: EDUCATIONAL TECHNOLOGY AND LIBRARY AND INFORMATION SCIENCE STUDENTS' PERSPECTIVES - AN EXPLORATORY STUDYEW ARTICLE"

Pingback: Competency M – Collaborate & Present | MLIS Coursework [Edit](#)

Pingback: Competency H – Emerging Info & Communication Tech. | MLIS Coursework [Edit](#)

Figure 3: Student pingbacks to their e-portfolio

After the second iteration, we began highlighting student blog postings via LinkedIn (see figure 4). There was positive reception from LinkedIn connections to the student contributions.

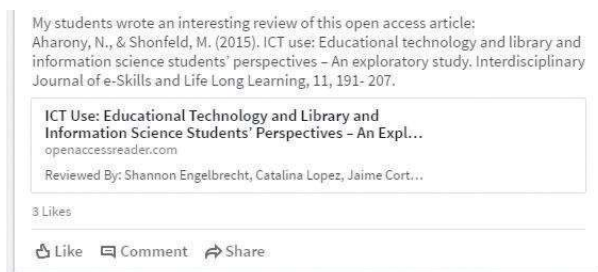


Figure 4: Faculty share of a student group's blog posting on LinkedIn

It is our plan to communicate with students and encourage them to update us on their future uses of their contributions. In support of this goal, we plan to model resource sharing and career management via social media (more strategically) in future courses.

Meeting curricular goals for online LIS education

Our study demonstrated that collaborative blogging activities can be easily sustained once structures and activity designs stabilize. What about the blog's relationship to curricular goals? As mentioned before, much of the prior educational blogging literature describes project designs that encourage students to develop individually-authored blogs. We felt there is a drawback to single-authored blogs for students in that they may have no desire to continue to blog over time. Blogs may lose their relevance as living objects demonstrating students' professional competencies in both content and technology if activity ceases on the blog.

With these challenges in mind, we placed students in the role of contributors to an ongoing scholarly blog designed to highlight open access research in the field of library and information science. The blog operates as a collaborative activity on two levels. First, the blog represents a collaboratively-authored artifact drawing readers' attention to emerging, easily accessible research in the field of library and information science. Second, the blogging course assignments were written to prompt students to search for, analyze, and write about open access research in their field of study as a collaborative task. Student groups analyzed their own articles and posted group-authored reviews of their articles. As one student describes:

"As part of a group assignment, we review an article based on the themes of the class. Retrieved from an open access database, our group came across an interesting article on diversity of staff in a library" (Student reflection, 12/16/2017).

Groups then (also collaboratively) commented on the posts of peer groups. In one example, a group comments on how a review post spurred discussion of equality in library services:

"Your conclusions started a dialogue in our group about the difference between an equal services framework, in which everyone should be treated equally regardless of difference, and equitable services framework, which tries to account for systematic disadvantages and seeks to uplift marginalized populations" (Collaboratively-authored response, 05/06/2017).

Another comment drew attention to the way blogs can support “issue-raising” among new members of the field:

“This is a perspective that our group has not read about or thought much about. But we all came to the general consensus that LIS research often does involve the use of surveys, to the point where it becoming less and less creative in a world that seems to be becoming more creative in approach. It was certainly refreshing to read your group’s article on this topic, as it is a very prevalent issue in the field, and in many other fields as well. We feel that there needs to be a change in the most influential researchers within different areas of LIS, and others will follow suit” (Collaboratively-authored response, 12/01/2016).

In the comment above, students explored two topics of contestation in the field. These activities are essential for new professionals as they establish themselves as practitioners as well as scholars. Along these lines, we were able to create an active learning event where students collaboratively worked on a curriculum-intensive task. The task exposed new information professionals to open access research in library & information science and created a context where students practiced identifying and searching for open access journals and articles related to course topics. Students wrote about the scholarly literature in a blog posting format, a highly relevant form of scholarly communication in their field. The course work products had ongoing relevance for inclusion in student e-portfolios or work collections.

Conclusion

Findings from this iterative learning design suggest several benefits of implementing collaborative educational blogging activities in distance context. First, students had the ability to build relationships by working together on searching the open access (OA) literature of the field and synthesizing it in a review format. The design also challenged students to engage in professionally-relevant practices of scholarly communication (blogging). As mentioned previously, students not only discussed their own work but collaboratively authored responses to other groups. Evidence of students using the blog postings as contributions to their e-portfolios (our online program’s culminating experience) demonstrated the relevance of the activity to their program of study and career preparation. The focus on open access research in the field is supportive of lifelong learning in that the ability to search and synthesize the OA literature is something students can take with them. These competencies will serve them regardless of whether they work in an organization that budgets for traditionally licensed materials or pursue a career where funding for traditional journal and database subscriptions is not available. Despite the benefits made visible by the project, the authors recognize that more work needs to be done to explore student perceptions of the activities. We can imagine that qualitative data collection of these perspectives would expand the project in fruitful directions. Finally, and not yet explored adequately, is the place the blog occupies in the professional community and what can be done to raise awareness of its existence and utility. Zinger and Sinclair (2013) observed that student blogs have the potential to support networking between students and professionals internationally.

“Our health blog started out small with only the college community responding to our students but then we opened up the blog and our students were communicating with people from all over the world” (Zinger & Sinclair, 2013, p. 350).

With this goal in mind, we hope to do more to develop this site as a professional resource for communication among students and researchers actively publishing in open access journals.

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