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Social media, authentic learning and embedded librarianship: a case study of dietetics students

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Abstract

Recent studies and reports indicate that social media tools have changed the way that people access and disseminate information. Social information, or information that is communicated and made accessible through social media networks and tools, represents a growing collection of information used by consumers, researchers and even healthcare practitioners. Undergraduate students preparing to enter the healthcare field need to understand how to use social information to reach consumers and share scholarship with other healthcare professionals. Using the dietetics curriculum at Virginia Tech in Blacksburg, VA, as a case study, this paper describes how a liaison librarian highlighted particular areas of the curriculum that she could support through information literacy instruction and embedded librarianship. By collaborating with a faculty member and using objectives from both the Association of College & Research Libraries' *Information Literacy Standards for Science and Engineering/Technology* and the Accreditation Council of Education in Nutrition and Dietetics' *2008 Foundation Knowledge and Competencies-Dietitian Education,* she developed an authentic learning experience for students in the programme. Formal and informal assessments indicated that the entire project met a significant need in the dietetics curriculum and successfully engaged students by having them negotiate the social web in an authentic learning environment.

This article is based on a paper presented at LILAC 2012.

Keywords

information literacy standards, social media, blogging, dietetics, authentic learning

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1. Introduction

1.1 New skills for a mobile, social world

When library instructors visit classes or teach guest lectures for particular faculty members, the instruction sessions often follow a familiar pattern: the librarian discusses library resources and research strategies in order to help students prepare for a specific research assignment, and then assists students in conducting their research. However, an increasingly mobile and social world demands that students gain new types of information skills in order to successfully perform in the professional and scholarly roles for which they are preparing. As information specialists, librarians are particularly poised to be able to help students and faculty begin to understand how to search for, access, evaluate and use information on the social web. In addition to supporting more traditional types of research assignments such as papers and presentations, librarians need to start working with faculty to develop authentic learning situations where students will be able to practice information literacy (IL) skills in environments that simulate real-world situations, a strategy recognised for its ability to help students more easily transfer skills to their professional roles outside of the university.

By collaborating closely with faculty members and working within programmatic curricular requirements, librarians have the ability to initiate these types of authentic learning experiences for the students that they support. This paper describes a successful librarian-faculty collaboration that worked toward the singular goal of promoting social information skills among undergraduate

dietetics students through authentic, engaging learning experiences with emerging technologies. While the context and case study may be very specific to a particular curriculum, institution and discipline, the study's methods and outcomes extend across disciplines and institutions and highlight the overall significance of academic librarians seeking out opportunities to lead the charge on promoting learning situations that will enable students to gain and retain the skills that they need to be successful in a digital, connected world.

1.2 Context

While students in nutrition-related programmes in universities around the United States will end up pursuing careers in various aspects of health care research and practice, many of these students aspire to professional careers in dietetics – the scientific study and practice of diet and nutrition. Most of these career options, like Registered Dietitian (RD) or Dietetic Technician (DT), require successful completion of a programme and professional certification accredited by the Academy of Nutrition and Dietetics' (the Academy) Accreditation Council for Education in Nutrition and Dietetics (ACEND). ACEND standardises accredited programmes in the U.S. and provides nutrition faculty members with specific learning outcomes and objectives. Librarians and information literacy instruction have long played a significant role in helping students achieve these learning outcomes, and nutrition departments achieve continuing ACEND accreditation by helping students navigate library resources. However, the growth of popular social media tools like Facebook, Twitter and blogs has changed the way that information, especially health care information, is created and delivered, and IL instruction should address this.

Consumers, researchers and entire industries are all exploring new ways to find and communicate health information. Evidence of this change can be found in the U.S. Food and Drug Administration's (FDA) ongoing discussion about and development of social media guidelines for health care, pharmaceutical and other biomedical organisations and industries (Dolan 2012; Hensley 2009; Silverman 2011). Furthermore, consumer surveys, such as a 2011 survey reported by the *Dayton Business Journal*, indicate that consumers are increasingly using social media outlets to access health information (Hart). Suggesting that many consumers also would benefit from some basic IL instruction, these findings essentially indicate that nutrition students need to be able to effectively use social media tools in order to disseminate quality health care information through the channels that consumers are already using.

Besides offering nutrition and other health care professionals channels for disseminating quality health information to the public, social media tools provide nutrition professionals with ways to exchange scholarly and professional information (Buttriss 2011). Nutrition students need to start viewing and utilising these tools as legitimate conduits for continuing education opportunities, scholarly discussions and professional awareness. Because social media networks generate such large quantities of information, students need to learn effective strategies for navigating an increasingly social web. Academic librarians have a responsibility to share their expertise within dietetic programmes and curricula in order to facilitate students' understanding of using social media and other web-based communication tools appropriately and effectively.

2. Literature review

The case study and ideas described in this paper are grounded in three major areas of thought and discussion in education and IL research. First of all, this paper looks at the way social media has changed the information landscape in many respects, and creates both new modes of communication and new types of information. Next, this paper considers two specific strategies for effectively addressing social media and IL in a 21st century classroom: embedded librarianship and authentic learning. These three key ideas provide a theoretical framework for exploring how librarians can work with faculty members from different disciplines to incorporate and promote IL skills needed in a digital world.

2.1 Social media & IL

As discussed in the next section of this paper, existing IL standards such as the ACRL *Information literacy competency standards for science and engineering/technology* do emphasise the significance of students' ability to use current information technologies for both accessing and communicating information. Bruce, Hughes, and Somerville (2011) argue that IL instruction, even when touching on technology and technology tools, often focuses too much on these standards and related skill-based concepts, which do not always help "students engage with content through their information use processes", or, become aware of the different information experiences that often shape their daily activities (p. 523). Laurie Bridges (2012) points out that most undergraduate students participate in social networking and websites on a daily basis, accessing and communicating much of their information through social media tools (p. 48). Indeed, recent statistics from the Pew Internet Project's research related to social networking indicates that 86% of internet-using young American adults aged 18-29 actively participate on social networking sites (Brenner, 2012). The question, then, is how librarians can help students become informed learners by incorporating discussions of social media tools and social information into IL instruction.

Lili Luo (2010) finds that librarians' inclusion of Web 2.0 and social media tools within IL instruction sessions helped students master important IL concepts and skills; however, the simple inclusion of these tools within instruction sessions may not be enough to address the changing nature of information on the web. James Purdy (2010) notes that many classes, particularly composition classes, promote "an antiquated model of knowledge production" that does not help students become aware of how using or producing information for Web 2.0 and other social media tools might be different from using or producing more traditional forms of knowledge (p. 48). Purdy recommends that instructors from all disciplines show students how social media and other technology tools play a role in knowledge production, and emphasise knowledge production as an "iterative, collaborative, and evolving process" (p. 57).

Ultimately, though, Bridges (2012) identifies librarians, "with their extensive knowledge about information literacy and positioning within the university culture", as the ideal agents for helping students become aware of their information experiences and evolving into the informed learners that Bruce, Hughes, and Somerville (2011) describe (p. 56; p. 526). As a library instructor herself, Bridges accomplishes this goal by teaching a for-credit course at Oregon State University entitled *Social media: a life lived online*. However, many librarians have neither the opportunity nor the time to serve as the primary instructor for an entire for-credit course; in these cases, librarians are turning to the model of embedded librarianship in order to help students become savvy information producers and consumers in a digital environment.

2.2 Embedded librarianship

The concept of embedded librarianship has gained popularity over the past few years. In their book *Embedded librarians: moving beyond one-shot instruction* (2011), Cassandra Kvenild and Kaijsa Calkins define embedded librarians as those who "work closely over extended periods of time with non-librarian groups" (p. vii). Examples that Kvenild and Calkins give include librarians joining a semester-long course, maintaining a presence in a class website and participating in class planning efforts (p. vii). David Shumaker and Mary Talley (2010) add more examples to this list, including any sort of specialised service or outreach such as support on a particular project and focused outreach.

Library literature is full of specific examples of successful embedded librarianship initiatives. Jerremie Clyde and Jennifer Lee (2011) review the history of embedded librarianship at the University of Calgary, focusing on departmental (external to the library) office hours, special research support and branch libraries. Similarly, Starr Hoffman (2011) explores the involvement of six different academic librarians in online courses, chronicling the individual librarian's experience in each different setting. Overall, Hoffman (2011) found that the development of the student-librarian relationship was one major, but unforeseen, benefit (p. 453). One study, conducted by

Frank Mechaca (2012), even identified how embedded librarians can partner with faculty in order to “insert themselves into students’ workflow as research resources”, helping students gain an understanding of what it means to be researchers in the twenty-first century and preparing those students to evaluate and use information made available through the web and social media outlets (p. 406).

Virginia Tech has long embraced the practice of embedded librarianship; in 1994, Virginia Tech Libraries founded a College Librarian programme that placed librarians directly within academic departments (Seamans and Metz 2002). Nan Seamans and Paul Metz (2002) describe this programme as a “barrier-disregarding, technology-leveraging, connection-making aggressive innovation” that has the ability to transform higher education (p. 332). In the ten years since the publication of the article describing this programme, Virginia Tech’s College Librarians have had the opportunity to co-teach, co-publish and co-present, earning the trust and respect of students and faculty members along the way. Indeed, it is because of this long-standing tradition of embedded librarianship and culture of librarian-faculty collaboration at Virginia Tech that the case study described in this paper was possible, and as successful as it was.

In each of these examples, librarians were able to work with a class or group of students beyond the traditional 50-minute lecture, essentially allowing them to form connections with students and contextualise ideas related to IL. Indeed, the idea of IL and contextualisation is one of the major benefits of embedded librarianship, and one that leads into a discussion of authentic learning. Librarians have long known that one-shot instruction sessions that do not relate to a particular course assignment or exercise are difficult to teach and usually not very successful in terms of student learning outcomes. This is because students need to be able to relate skills and other higher-order ideas related to IL to their use and application to the student’s life.

2.3 Authentic learning and practice

In what many consider to be a seminal text on human learning, Jeanne Ormrod (2008) defines authentic activities as those that are similar to what a student may encounter in the world outside of the educational context. Library instruction sessions and IL-oriented tasks that occur in isolation, or without any context, do not assist students in seeing the larger picture and understanding how what they are learning can be transferred to the real world. Land, Hannafin and Oliver (2012) centre their discussion of authentic activities on the idea of authentic practice, or “engaging students in disciplinary practices of professional practitioners” (p. 11). Educational research, such as that conducted by Daniel Edelson and Brian Reiser (2006), suggests that authentic practice can increase both student motivation and understanding of domain- or disciplinary-specific knowledge (p. 336).

Several examples of librarians consciously utilising authentic learning activities and working toward authentic practice appear throughout the literature. Carol Leibiger (2011), drawing a close connection between embedded librarianship and authentic learning, discusses the importance of collaborating with faculty to integrate IL into discipline-specific projects. Similarly, Larissa Gordon and Eleonora Bartoli (2012) explore authentic IL practice in a graduate counseling psychology programme by using professional standards from the Association of Counselor Education and Supervision to contextualise instruction and exercises. Diekema, Holliday and Leary (2011) demonstrate how students participate in informed learning when engaging with authentic problems. Their research specifically focused on students in a distance education school library media administration programme, and it described how an online IL module used authentic activities to help students deeply engage with information and professional problem solving.

Embedded librarianship and authentic learning activities are often employed simultaneously to help students understand and engage with the changing nature of information in a digital, increasingly connected world. The rest of this paper focuses on how these concepts work together to enhance student learning in a dietetics course at Virginia Tech. By focusing on significant disciplinary standards and exploring social media tools specific to the dietetic profession, the strategies and

case study described below demonstrate how librarians can foster faculty buy-in and support student retention of critical skills and concepts.

3. Translating IL standards

The Association of College & Research Libraries' (ACRL) *Information literacy competency standards for higher education* suggest that IL is "common to all disciplines"; however, many librarians find it difficult to translate the significance of IL standards into terminology that other disciplines, with varied curricular goals, can understand (2000, n.p.). Fortunately, the guidelines that standardise ACEND-accredited dietetics curricula provide librarians with a disciplinary vocabulary that academic librarians can use to start a dialogue about the importance of IL and demonstrate an understanding of the discipline. Furthermore, by understanding the professional and disciplinary goals outlined in the ACEND *2008 Foundation knowledge and competencies*, librarians have the ability to add genuine value to nutrition-related programmes by helping them meet ACEND accreditation standards, which specifically include the mandate that dietetics students become familiar with social media and other emerging technology tools.

The *2008 Foundation knowledge and competencies – dietitian education* emphasises the importance of students' ability to use information technology to locate, synthesise and produce science-based health care research. Knowledge Requirement One from these guidelines indicates that dietetics students need to be able to "locate, interpret, evaluate and use professional literature", an imperative that closely aligns with performance indicators described in Standards One, Two, and Three of the *Information literacy standards for science and engineering/technology* (Accreditation Council for Education in Nutrition and Dietetics 2008, p. 1; American Library Association/Association of College and Research Libraries/Science and Technology Section Task Force on Information Literacy for Science and Technology 2005, n.p.). Traditionally, library and IL instruction sessions have centred on these three IL standards, demonstrating ways to navigate library resources, locate relevant databases, effectively search these databases and evaluate the information found.

However, according to Knowledge Requirement Two, emerging nutrition professionals also need to be able "to demonstrate effective and professional oral and written communication and use…current information technologies when communicating with individuals, groups and the public" (Accreditation Council for Education in Nutrition and Dietetics 2008, p. 2). Similarly, two performance indicators from Standard Four of the *Information literacy standards for science and engineering/technology* echo this knowledge requirement, underscoring students' ability to "communicate…effectively to others" through use of a "range of information technology applications" (American Library Association/Association of College and Research Libraries/Science and Technology Section Task Force on Information Literacy for Science and Technology 2005, n.p.). Performance indicators from Standard Five indicate that students also should acquire the ability to stay current with trends and research in their fields, and be able to "recognise forms and methods of scholarly publishing in the field" such as "blogs, RSS feeds" and other sources of information online (American Library Association/Association of College and Research Libraries/Science and Technology Section Task Force on Information Literacy for Science and Technology 2005, n.p.).

Table 1. Alignment of the ACRL IL standards and ACEND knowledge requirements

ACEND	ACRL	Students will be able to:
Knowledge Requirement 1.1	Standard 3	Locate, interpret and evaluate information found through research queries
Knowledge Requirements 1.1 and 2.2	Standard 4	Use information and current information technologies to effectively accomplish a specific purpose or communication
Knowledge Requirement 2.1	Standard 5	Recognise the importance of lifelong learning and the need to keep current within the field of nutrition and dietetics

These guidelines—Knowledge Requirement Two and IL Standards Four and Five—provide a pedagogical basis for exploring why and how to address the role of social media tools in IL instruction developed specifically for nutrition students. The next section of this paper explores specific strategies that librarians can use to help students become comfortable with using social media tools to communicate with specific audiences – either other professionals, the public, or specific groups – and gain confidence in using these tools for staying current within the nutrition profession.

4. Technical & creative aspects of social information in dietetics

Just as traditional library instruction sessions focus on locating relevant resources and using them effectively, IL sessions incorporating social media should discuss finding applicable tools, understanding the technical aspects of these tools and then developing content appropriate for a target audience of either consumers or other professionals. Professional organisations dedicated to nutrition, like the Academy and the International Food Information Council (IFIC), highlight the social media tools that may be most appropriate for exchanging information and communication health messages. For example, the websites of both the Academy and IFIC list specific tools that the Academy uses to communicate with its members and the public: blogs, Facebook, Twitter and LinkedIn (Academy of Nutrition and Dietetics 2012a; International Food Information Council 2011). While students will undoubtedly have personal experience with at least one of these tools, many of them have never used them at an advanced level or considered the tools' professional applications.

Among university faculty and administrators, there remains a growing level of skepticism surrounding the idea that most university students arrive on campus as technology experts, having come of age in the digital era (Bennett, Maton, & Kervin 2008). For this reason, many courses like business or technical writing courses have begun to include components that address technology skills. Similarly, IL instruction sessions need to explore the technical functions of the social media tools being recommended for student use; before students can begin to create appropriate content, they need to know how these sites work. For social networking sites like Facebook, LinkedIn and Twitter, librarians should definitely address security issues related to these sites; this might include discussing password strength, relating personal information and keeping close tabs on "spam" comments and other site followers or users. Additionally, librarians might want to think about addressing some simple design issues. Setting up aesthetically pleasing and easily navigable sites are skills that students most likely will not have gained through administering their personal Facebook or LinkedIn accounts.

Finally, and perhaps most importantly, IL sessions should address creating quality content appropriate for dissemination through these tools. Writing formal research papers does not promote the skill set required for writing blog, or other social media, posts on nutrition topics aimed toward the public or summarising in-depth scientific research via social networking tools for other professionals to read. In order to expose students to the kinds of communication activities that they will be encountering in their professional lives, IL instructors can collaborate with nutrition courses' primary instructors to develop assignments incorporating authentic activities (Ormrod 2008, p. 342). Authentic activities, like writing a blog post that will be published or developing a Facebook page dedicated to a particular nutrition topic, have many benefits for students, including: inspiring students to gain background knowledge, promoting higher level thinking skills, conveying higher expectations for student performance and helping students take risks and experiment with new ideas (Ormrod 2008, p. 344). The next section of this paper, a case study of an instruction session and related assignment used for a nutrition course at Virginia Tech, illustrates the concept of authentic learning and provides an example of librarian-faculty collaboration that incorporates IL, through the use of social media tools, into the course's curriculum.

5. Social information & authentic learning: a case study from Virginia Tech

5.1 Background

The author of this article, as the College Librarian for the Department of Human Nutrition, Foods and Exercise (HNFE) at Virginia Tech, had the opportunity to work with a course entitled *HNFE 3224: communicating with food* during two consecutive academic years. Students in this course learn to research specific target audiences, develop nutrition-related information that the target populations would understand and work with multimedia technologies to disseminate their information. Although general social media tools were briefly discussed as part of one lecture, a conversation between the course instructor and the library liaison highlighted a need in this particular course: giving students the opportunity to practise writing blog posts aimed toward and accessible by the general public. The course instructor invited the librarian to develop and deliver a 50-minute lecture revolving around blogs and other web-based tools. Armed with support from the ACEND *2008 Foundation knowledge and competencies*, the *Information literacy standards for science and engineering/technology*, and information about authentic learning activities, the librarian suggested a supplemental, extra-credit assignment that would allow students to see their work published as guest contributions to the subject blog used by the librarian to communicate with the HNFE department, which was also linked to a national blogroll associated with the ADA (Miller 2011). Overall, student reactions to both the instruction session and the assignment were positive, and both the librarian and instructor came away with ideas for future improvements.

5.2 IL Instruction Session

Delivered in February 2011 and February 2012, the IL sessions developed for *Communicating with food* focused on explaining and generating discussion about the types of information available on the web. In addition to drawing from performance indicators defined in Standards Four and Five of the *Information literacy standards for science and engineering/technology*, the session included a discussion of evaluation criteria for all types of web resources, using objectives taken directly from Standard Three (American Library Association/Association of College and Research Libraries/Science and Technology Section Task Force on Information Literacy for Science and Technology, 2005). The lesson plan for each instruction session was broken into five distinct sections, each lasting roughly ten minutes: (1) defining "social information", a term used by the librarian to describe information created for and disseminated by social media tools; (2) looking at examples of social media tools used for appropriate scholarly and professional exchanges; (3) looking at examples of social media tools used to appropriately communicate health information to the public; (4) discussing criteria for evaluating all types of web resources and applying them to

sample blog posts found on the web; and (5) discussing how to properly cite images and sources within social media content.

During the in-class discussion on using social media tools for professional purposes, the library instructor asked each class of 60 students how many of them followed any blogs, professional or otherwise; in each class, only a few students confirmed that they regularly viewed entertainment blogs. As a follow-up question, the librarian asked how many students had ever written a blog post; in each class, no students in the class were able to confirm that they had. Student interest was piqued, however, when the librarian pulled up the Academy's website and pointed out the number of blogs that people within the nutrition profession were writing, both for the nutrition profession and for the public at large. At this point, the librarian introduced the supplemental blogging assignment, continuing to refer to it throughout the lesson to help students realise the immediate application of the material that she covered during the class. During the class sessions held in Spring 2011 and Spring 2012, students asked perceptive questions about using social media tools, and seemed to genuinely understand the significance of the topic to their discipline. The student participation in the extra credit assigned proved the reality of this interest, and confirmed the need for the curriculum to cover this type of material.

5.3 Authentic learning & practice

The lecture and blog assignment due date coincided with the Academy's National Nutrition Month, and the library instructor decided to capitalise on this coincidence to make the assignment both more effective and more appealing. National Nutrition Month is a "nutrition education and information campaign created annually in March by the Academy"; the theme for 2011 was "Eat Right with Color" and the theme for 2012 was "Get Your Plate in Shape". The Academy solicits blog posts on the annual theme in order to feature these posts on their National Nutrition Month blogroll – a wonderful opportunity for students to gain national exposure for their efforts (Academy of Nutrition and Dietetics 2012b).

The assignment's learning objectives emphasised performance indicators from Standards Four and Five of the *Information literacy standards for science and engineering/technology*. Specifically, the assignment was designed to help students acquire the abilities to (1) acknowledge the use of information sources, (2) apply creativity in the use of information, (3) communicate effectively with others and (4) recognise emerging forms and methods of scholarly publishing in the field. In both 2011 and 2012, students were given several weeks and a set of detailed instructions for developing and submitting their blog posts directly to the librarian. If the blog post met the criteria outlined in the instructions, then the blog post would be graded accordingly and published during National Nutrition Month on the pre-existing subject blog managed by the librarian. The librarian and course instructor worked to design specific instructions that would scaffold the students' experience with the learning objectives specified. The pre-existing blog, *Notes from Newman: HNFE research & resources*, was developed by the librarian in July 2010; the librarian was able to add the subject blog to the National Nutrition Month blogroll by following instructions on the Academy's website (Academy of Nutrition and Dietetics 2012b). The student-contributed blog posts would be tagged with "National Nutrition Month" along with other, unique tags developed by the students. The assignment instructions asked the students to use any word processing or desktop publishing programme to design the blog post, then to submit it via email to the librarian.

Figure 1. Notes from Newman blog

The blog posts were assessed according to a rubric corresponding to the detailed assignment instructions and designed in collaboration by the librarian and the course instructor. Students could achieve anywhere from 10 to 20 points for the blog posts; blog posts that met the minimum requirements earned 10 points, while blog posts that were exceptional in creativity, content, and tone earned 15 or 20 points. The librarian and course instructor worked together to decide what level of work qualified as "exceptional" and teamed up to assess and award points to the submitted assignments.

Table 2. Assessment rubric for blog assignment

Attributes	Grading scale	Grading scale	Grading scale
200-300 words	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
Two tags	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
At least one image with appropriate attribution	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
2 or fewer spelling/grammatical errors	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
Original work	ACCEPTABLE	ACCEPTABLE	ACCEPTABLE
Creativity	ACCEPTABLE	ACCEPTABLE OR EXCEPTIONAL	EXCEPTIONAL
Appropriate for target population, including title	ACCEPTABLE	ACCEPTABLE OR EXCEPTIONAL	EXCEPTIONAL
	10 points	15 points	20 points

5.4 Outcomes & assessment

Overall, 31 out of 120 total students chose to complete the extra credit blog assignment in 2011 and 2012. Although the blog assignment was optional, all 120 students were exposed to the lecture on social media and received the handout with the assignment criteria describing a quality blog post. The 89 students who chose not to complete the blog assignment were encouraged to read the blog posts written by their peers that were ultimately published on the *Notes from Newman* blog and discuss them in class with the main course instructor. While these students clearly did not engage with the learning objectives at the same level as their peers who chose to write blog posts, their opportunity to interact with the blog posts still represented a level of authentic engagement. Detailed analysis of the disparity in participating and non-participating students' retention and confidence relating to the learning objectives will be explored in future iterations of the course and this particular assignment, if opportunity allows.

All 31 blog posts submitted were deemed worthy of publication on the *Notes from Newman* subject blog. Student performance on the assignment, in addition to anecdotal feedback from the students, indicated that the assignment achieved its learning objectives. While no blog post earned the full 20 points, the submitted posts demonstrated critical thought and high quality work. Instead of finding images on the web, many students took their own pictures for the blog posts they submitted, and all of them incorporated scientific or professional research in an understandable and ethical way within their posts. These posts have all been published on *Notes from Newman* and are still available on the site; these posts are all labeled with the tags "National Nutrition Month" (Miller 2011).

Several students offered positive, unsolicited feedback about the experience. These comments, mostly communicated via email, expressed excitement about the fun nature of the assignment along with trepidation and anxiety about doing something new. "I'm really excited about this assignment and I think it will be really fun," one student wrote; additionally, several other students made comments such as "I have never posted a blog or written one, so this is all very new to me," and "I've always been interested in blogging, but never had the guts to write one myself" (HNFE 3224 students, personal communication, 26 and 27 February 2011). The most rewarding feedback received, though, indicated that the assignment had genuinely facilitated at least one of the learning objectives: the ability to recognise emerging forms and methods of scholarly publishing in the field. This piece of feedback included the student comment that "ever since I made the post, it really sparked my interest in following more blogs, which I have really started to do!" (HNFE 3224 student, personal communication, 23 March 2011).

Statistics gathered by Google Analytics provide additional insight into the success of this assignment. Before the first student-written blog post was published, 411 unique people had visited *Notes from Newman*. From 22 to 30 March 2011, the initial time period during which the student-written blog posts were published, an additional 65 unique visitors visited the site; from 12 to 31 March 2012, the second time period during which the student-written blog posts were published, an additional 357 unique visitors visited blog. Furthermore, content statistics show that the National Nutrition Month blog posts are some of the most popular ever published on the blog; as of the writing of this article, statistics for the "National Nutrition Month" tag indicate that the student-written posts represent the second most-viewed group of posts on the blog, and the original post describing the National Nutrition Month student-blogger project remains the second-most viewed post on the entire blog.

Both the librarian and the HNFE 3224 instructor hope to continue this collaboration in future semesters. Since the course is taught in the spring, the assignment will again revolve around National Nutrition Month. Changes to the assignment may include making it mandatory, starting the project earlier in the semester so that the librarian and instructor could assess the assignments well before the beginning of National Nutrition Month and providing more follow-up information and reflection time.

6. Challenges & conclusion

Although the Virginia Tech example was successful, incorporating social information skills into IL instruction can present a number of challenges for librarians working with dietetic programmes. First of all, it may be difficult to prioritise teaching about social information; often, librarians will only get one opportunity to talk with a class. If that class has not already discussed library resources and effective searching techniques, then there may not be time to really discuss social media tools and information. At Virginia Tech, most of the students in HNFE 3224 had already had at least one IL session with the librarian and were already familiar with library resources. Along the same lines, discussing social media tools during an IL session requires buy-in from the course's main instructor. Using the ACEND *2008 Foundation knowledge and competencies – dietitian education* may help demonstrate the significance of social information, but building the relationships and collaborations with instructors that can facilitate these types of lessons and assignment does take time and persistence.

However, as the research indicates, working toward a strong librarian-faculty collaboration or embedded librarianship model is well worth the time and effort that it takes. It is imperative that students gain an understanding of IL in a digital age, and librarians should make every effort to demonstrate the value and benefits of contextualizing IL instruction in authentic, discipline-based sessions and activities for faculty members who may remain skeptical. Librarians who suspect that their students would benefit from more or simply more discipline-based IL sessions should take inspiration from the examples described throughout this paper. Faculty members or even library colleagues who need additional convincing may find it difficult to argue with the evidence presented through the numerous case studies and other research papers that present the benefits of authentic learning activities and embedded librarianship models.

Staying current with new technologies and new trends in health care research may also present a challenge to busy librarians, since being able to teach about social media tools requires that librarians stay up to date with both technology and research trends. However, leveraging helpful technologies like RSS feeds, alerting services and social networks can help busy librarians stay current with relatively small investments in time and effort. Using these tools has the added benefit of helping librarians gain personal experience with the types of tools they may be discussing with their students. As Kevin Stranack (2012) writes, many librarians are not comfortable with using social media tools to promote their own professional development and current awareness. Stranack argues that, by experimenting with new tools such as blogs, Twitter and Facebook, librarians learn to both consume and create information in a social world, exactly the concept that we are trying to promote in our students. Ultimately, librarians who understand the benefits and potential ambiguities of using social media tools in their professional lives can better communicate these ideas to their students, colleagues and faculty members.

Overall, as Jill Buttriss (2011) of the British Nutrition Foundation summarised, "The environment for communicating information on nutrition and health has changed, meaning that our communication skills need to be better than ever" (p. 38). Dietetics students – the next generation of nutrition professionals – need to feel confident in this dynamic environment as they communicate scientific information and advances to the public and with each other. Academic librarians and IL principles can and should play a significant role in helping dietetics students, and, indeed, all other types of students, gain proficiency in this in environment, despite the challenges that this information environment may pose to all those involved.

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