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# Embedding in the 21st Century Academy: Crossing curriculum and geography

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**Embedding in the 21st Century Academy: Crossing curriculum and geography**

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***Abstract:***

*Upon entering the new millennium, the University of Wyoming Libraries have expanded traditional one-shot library instruction and desk-bound reference into a suite of embedded services including reference, instruction, and curriculum and general education planning. Increased enrollment, along with increases in librarian consultations and instruction, have provided opportunities for innovation. Growing numbers of online students at the university encourage librarians to hone distance services and to experiment with new delivery methods. Librarians take care to follow both the ACRL guidelines for information literacy at the academy as well as the best practices for serving distance learners. Both distance and on-campus reference and instruction at the UW Libraries have grown into a constantly deepening "embeddedness" within classrooms, curricula, and online teaching and learning environments.*

*Following the national trend away from the traditional reference desk, the UW Libraries are exploring options for point of need reference both in person and online. Reference service is embedded across platforms, meeting patrons on the university portal, online course management software, and on the Libraries' own "online branch" offering email, instant message, text message, and telephone reference options to all users. Demand for library instruction is on the rise, and with the uptick in demand, UW librarians experiment with more embedded and distance strategies for student learning. Librarians deliver instruction to distance learners through synchronous and asynchronous methods including embedding librarians in online courses. Similarly, we have undertaken embedded projects in on-campus classrooms as well as at the curricular level and within university departments and student services. Instruction librarians are represented on university-wide curriculum and assessment committees, work closely with faculty development programs, and*

*participate in a state-wide educational articulation project. Subject liaison librarians participate in curriculum development with their departments. The shift to embedded models of librarianship has informed assessment methods at the UW Libraries, as well. No longer satisfied with the old instructor evaluation model from one-shot instruction sessions, librarians are utilizing different tools to assess student learning and they are also assessing the needs of library constituents.*

*All of these efforts aim to truly embed information literacy instruction across the curriculum and embed librarians in nearly every level of teaching and learning at the university.*

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### **Biographical sketch:**

Kaijsa Calkins is English Reference and Instruction Librarian and Cass Kvenild is Distance Learning Librarian at the University of Wyoming. They are currently editing a book from ACRL press entitled *Embedded Librarians: Moving beyond one-shot instruction*, forthcoming in Fall 2010.

### **Embedding in the 21<sup>st</sup> Century: Crossing Curriculum & Geography**

Embedded librarianship is a fairly new, hot topic in librarianship, but it is based in a long tradition of innovative library services, especially in reference and instruction. Definitions of embedded librarianship vary. Shumaker and Tyler in 2007 noted that embedded librarianship was not a "one-off" interaction but rather depended on collocation of the librarian and the group being served: "Whether it is physical or virtual, meeting the needs of the user at the point of need wherever that may be is critical to the embedded librarian service model." At the University of Wyoming Libraries, we have adopted this definition and base many of our services around the notions of collocation and point-of-need services. We strive for library ubiquity across campus and total awareness of library services for our distance students and faculty. To do this, we embed services wherever possible, at the point of need, point of instruction, and even the curriculum and general education planning levels. We take seriously what early embedded librarian Barbara Dewey called the "imperative for academic librarians to become embedded in the priorities of teaching, learning, and research in truly relevant ways" (Dewey, 2004). This paper will offer background on embedded initiatives at the University of Wyoming and a description of our embedded initiatives in reference, instruction and curriculum development.

### **Background**

The University of Wyoming Libraries is a relatively small academic library system, holding around 2.5 million volumes in the collections. The Libraries primarily serve university students, faculty, and staff, but there are several smaller, important patron groups. The University of Wyoming is the only provider of baccalaureate and graduate education, research, and outreach services in Wyoming (UW, 2010). As such, it provides the only research library in the state, which must serve a wide variety of constituents with varying educational needs. Students are the largest patron group at the University Libraries, and a significant portion of these can be considered at risk of discontinuing or not succeeding in college coursework. While the university does not have an open admission policy, most first-time, first-year applicants are admitted (95.9% in 2009). Similar to national averages, ACT

standardized test scores for incoming UW first-year students indicate that many are not ready for college-level reading; 40-45% of incoming Wyoming freshmen do not meet the ACT college readiness benchmark score of 21 on the reading portion of the exam. Librarians at UW have tailored reference and instruction to support students who might be under-prepared for college-level research.

Another key factor at UW is the geographic distribution of its student body. Of the 12,427 degree-seeking students enrolled at the university as of fall 2009, 2,084 (nearly 17%) were distance learners through the University's Outreach School (OIA, 2010). The Outreach School offers a variety of degree programs to distance learners in formats including video conference, online course systems, and face-to-face courses at regional education centers. Growth in enrollment in distance courses through the Outreach School now outpaces growth in traditional enrollment at the university, following the national trend toward more online higher education. The foundation of the UW Libraries' services to distance learners is the ACRL *Standards for Serving Distance Learners*, in particular the Access Entitlement Principle, which states that all patrons, regardless of location, are entitled to the same library services (ACRL 2008). The University of Wyoming has offered distance education across the state for decades and the library has maintained a positive collaboration with the Outreach School throughout that time. Nearly twenty years ago, the Libraries created a library liaison position for the Outreach School and the services offered by this librarian have continued to increase in number and usefulness over time.

Embedded librarianship requires intense collaboration with campus units outside the libraries. The University of Wyoming Libraries, in addition to the longstanding partnership with the Outreach School, have newer partners in the Center for Teaching and Learning, the Learning Resource Network (LeaRn), and the Writing Center. Librarians hold faculty status at the university and serve on campus-wide committees. Additionally, librarians are now embedding in curricular and instructional support programs beyond the boundaries of the university as part of statewide articulation efforts. Collaborating outside the library walls creates a perception of what Barbara Dewey termed the "pervasive campus librarian" who is never tucked away, out of sight and out of mind (Dewey, 2004). Without campus partnerships and the willingness to collaborate across departments, the embedded initiatives at the UW Libraries would fail. Our partners ensure access to students and the ability to effectively share resources across campus and across the state.

Sustaining a far-reaching program of embedded librarianship can be a balancing act. When adding intensive services like embedding to an already full slate of responsibilities, scalability of services is a concern. We have taken an approach of thoughtful experimentation with a philosophy of keeping what works and changing what doesn't. Our embedded projects include a mix of technology and human intervention, and all of our work aims to meet our users at the point of need and at the developmentally and technologically appropriate level.

## **Literature Review**

Embedded librarian projects take many forms. The most visible of these is a librarian physically embedding in a classroom, whether to teach several distinct instruction sessions or completely co-teaching a course with a disciplinary faculty member. In most cases, librarians work with the collaborating faculty to create activities, assignments, and assessment rubrics that embed information literacy concepts. These can vary in their design and include problem-based learning assignments (Bowler & Street, 2008), a "conversation model" for

writing assignments (Deitering & Jameson, 2008), or librarian-facilitated discussions paired with individual consultations (Hall, 2008), among many others. In some cases, librarians have authored course readings and other materials, such as a research chapter and practice exercises in a biology lab manual (Ferrer-Vinent & Carello, 2008).

Embedding is increasingly widespread in online course environments. In 2009, over 150 librarians responded to a survey about embedded librarianship, reporting varying levels of embedment from simply offering a library link in the course management system to co-teaching courses. (York & Vance, 2009). Librarians have also begun assessing the relative effectiveness of online versus in-person library instruction. Silver & Nickel found that online tutorials were as effective as similar instruction in person, and found no significant difference in student preference for either format (2007).

Some embedded efforts stem from library practices in corporations and the health sciences, in particular from the work of David Shumaker on corporate libraries. Academic librarians have adapted the experiences of their special library counterparts, and are merging reference services with traditional liaison work into a form of customized departmental embedding (Kesselman & Watstein, 2009). Subject librarians offer departments on-site instruction and reference rather than waiting for patrons or course sections to visit the library.

Curricular-level librarian embedding has emerged as a more scalable and perhaps more ideal model than direct, one-shot library instruction. "Course-integrated instruction" (Simmons, Young, & Gibson, 2001) infuses information literacy concepts into the content of a course or a set of courses within a larger program of study. This model can include some direct instruction from a librarian, but may rely on classroom faculty entirely. The key to successfully embedding at the curricular level is constant collaboration with the teaching faculty and other program stakeholders. For true curricular embedment, librarians must participate in campus-wide initiatives and seek leadership roles in strategic planning, campus governance, institutional research, and assessment (Dewey, 2004).

Studies of the effectiveness of embedded librarians in instruction and at the curricular level on student learning have begun to identify some best practices. Bowler & Street (2008) found that embedding information literacy in courses "seamlessly" was less effective than a more "conspicuous" approach, where the librarian was explicitly introduced as an instructor with specialized knowledge. York & Vance (2009) have developed a set of recommendations for embedment in online courses; of these, recruiting help, strategic course selection, active participation, and marketing services are generalizable to all embedded projects. While some librarians have focused on offering librarian-taught credit-bearing courses as a means to "legitimize the library's educational contribution" (Owusu-Ansah, 2007), others are advocating a strong collaboration between librarians and discipline faculty.

While the term "embedded" is most often applied to information literacy instruction projects, reference is often described as embedded, especially in regard to web-based environments. When serving the reference needs of learners in asynchronous online courses, the line between instructional and reference services is often quite blurry. Reference questions are often asked and answered from within a course management system (Kvenild & Calkins, 2009).

## Reference

In academic libraries, reference services are typically available in-person at reference desks and via telephone and email. In addition to those traditional delivery modes, at UW Libraries we strive to deliver online reference help at the point of need, in innovative and embedded fashion.

One obvious point of need is the library website, where many of our reference services conform to current standards for academic libraries. We offer an “Ask Us” button on every page of the website, which leads to a menu of options for reference assistance: in person, email, telephone, instant message, text message, and a “book a librarian” request form to schedule a one-on-one consultation. All of these points of inquiry, including the toll-free telephone number distributed to distance learners, are answered from the main reference desk by library faculty. All reference and instruction librarians at UW staff the reference desk and are prepared to answer questions related to on- and off-campus access to library resources. Our philosophy of reference is student-centered, and these reference interactions inform our instructional design and collection development practices.

Of the ways in which patrons submit queries, instant messenger has proved a successful and versatile access point. We use Meebo, a free, aggregated instant message platform with embeddable widgets. Because we can create multiple widgets with unique names, we can easily follow the path patrons take to access instant message help. We embedded a widget on the “Ask Us” page as well as in every EBSCO database to which we subscribe and on our library guides via Library ala Carte. Additionally, we leveraged our AOL Instant Messenger account to route text messages into the reference instant message account. Students can send a text message from their mobile phone and librarians can type a reply into Meebo.

More important than our own website, though, are the ways we have distributed reference services to sites outside the Libraries' domain. Reference is, in many ways, the service that has been easiest to embed in the user environment. With the philosophy that reference librarians should be available at the point of need for the user and the understanding that much research happens outside of the physical library and outside of our proprietary sites and pages, reference librarians at UW target several virtual spaces for embedded reference.

Like many universities, Wyoming juggles multiple online portals that handle various aspects of student, staff, and faculty life. Librarians have taken advantage of these online locations to embed library services wherever students do coursework online. The main campus portal, called WyoWeb, is where students and faculty manage courses, grades, and the like, so it made perfect sense for the library to establish a strong presence there. The portal uses tab navigation and the Libraries secured our own tab, labeled “Library/Archives.” There, the Libraries collaborated with University Archives to offer access to the combined catalog, library databases and e-journals, other information resources, and most importantly, a link to the “Ask Us” help page.

The university supports a handful of course management systems, and teachers of on-campus and hybrid classes may choose their platform. The Outreach School, however, supports only one platform for their online distance courses, the Pearson LearningStudio (formerly e-College), branded Online UW. The longstanding relationship between the Libraries and Outreach allowed the Distance Learning Librarian to request a link to library

resources that appears on the introductory page of Online UW as well as a link in every online course. Initially, the link pointed to a page that offered the Libraries' toll-free phone number and email, plus pointers to basic library resources and instructions for accessing them from a distance. The page now points to a library guide for distance learners that includes tutorials, podcasts, a link to the proxy server, and the instant message widget. This guide to using the library from a distance is a popular page, and we know that many distance learners seek IM reference services and telephone reference from there.

In addition to the campus portals, the UW Libraries attempts to meet students on non-affiliated websites for point of need reference. We maintain a presence on the social networking sites most popular with UW students, Facebook, and Twitter, as well as an RSS feed and blog from our website. All feature library and reference hours, as well as news and announcements. As more students and university departments spend time in social networks, librarians continue to see increased contacts with the library from these sites. Librarians participate in a campus-wide eLearning committee where they track trends and developing pedagogies with other tech-savvy campus constituents, always keeping an eye on new delivery methods for reference services.

In many colleges and universities, librarians embed themselves in academic departments by holding office hours and answering reference questions on-site, outside of the library buildings. UW librarians tested the departmental embedded reference model, conducting drop-in reference hours in English, Fine and Performing Arts, and the colleges of Health Science and Education. These projects resulted in low attendance, with on-campus students and faculty indicating a preference for visiting the library to work with librarians, or contacting librarians directly for help. While we no longer offer departmental reference hours based on the statistics from the pilot projects, we have formed a partnership with the UW Writing Center to offer reference help within the Writing Center once a week during drop-in hours for composition students. Embedding within the Writing Center (located in the main library building on campus) solved a long-standing problem of students asking librarians for writing help, and asking Writing Center staff for research assistance. By combining writing and research efforts, freshmen composition students receive twice the help on their research papers with each visit to the Writing Center. Many of these students follow up after this initial meeting with additional library consultations. The librarians and writing consultants are continuing to investigate other opportunities to collaborate at point-of-need.

The unique needs of distance learners at Wyoming have created opportunities for cross-departmental collaboration within the libraries to provide interconnected reference and document delivery services. When the needs of distance learners are discussed in our profession, librarians often focus on reference and instruction, but every library department shares responsibility to meet the needs of distance learners at the same level of service offered to on-campus learners. The Access Services department at UW Libraries encompasses circulation, interlibrary loan, and the libraries' compact storage facility. In 2008, Access Services expanded their services to include scanning and document delivery and item retrieval, folding them all into the interlibrary loan request system, called "Request It." Now, when any patron wants an article that is unavailable in full text online, he or she can Request It regardless of whether the library holds a print subscription to the item or not. If held by UW, interlibrary loan staff will scan the article and deliver it to the patron electronically within 48 hours. If the article is not held by UW, the request goes through the interlibrary loan system and is fulfilled when available from another library. The Request It service is

linked from the libraries open-URL link resolver, the library OPAC, the citation matcher, and other electronic library resources.

The evolution of our document delivery service increased access to the collections for distance learners and instructors, and it also serves on-campus patrons. Expansion of interlibrary loan services positively impacts the level of service reference librarians can offer when helping patrons locate materials efficiently. By delivering materials at the same level to all patrons, regardless of their distance learner status, the Access Entitlement Principle set forth by ACRL is met.

## Curriculum and Instruction

As at most academic libraries, traditional reference statistics represent a recent downward trend at the University of Wyoming. Requests for individual consultations with subject librarians are on the rise, as are other non-traditional reference interactions. Requests for library instruction have been steadily increasing over the past several years: librarians taught 325 sessions in the 2009-2010 academic year, a 58.5% increase in number from just five years ago. The instruction numbers in Table 1 represent face-to-face or synchronous distance instruction only; it is noteworthy that asynchronous online instruction has also been rapidly increasing at the Libraries.

Table 1: Changes in number of reference transactions and instruction sessions at UW Libraries

Reference transactions	16,433	16,604	20,746	15,229	14,556	N/A
Instruction sessions	205	211	266	287	319	325
Academic year	2004-05	2005-06	2006-07	20 07-08	2008-09	2009-10

One key factor in the increased demand for instruction is the university's information literacy requirement for graduation. The core curriculum at the university, called the University Studies Program (USP), was redesigned in 2003. One of the new requirements was information literacy, designated in the system as “L” courses. The USP committee always includes a librarian in its membership, aiding the reference and instruction department in staying abreast of curricular changes and new courses and providing a chance for the library to advocate for an information literacy requirement during the redesign. L courses are designed to be at the first-year level and part of an academic major. Many departments developed L courses with assistance from their subject librarians who then teach the information literacy components. Now that the L courses are requesting library sessions in addition to the freshmen composition and public speaking classes and upper-division research courses that make up the bulk of our instruction efforts, instruction demand continues to rise within the library.

One unexpected instruction challenge from the USP redesign was that librarians began offering credit courses as well as traditional bibliographic instruction. The information literacy requirement must be met before a student can graduate, and many departments have closed their L courses to non-majors to protect enrollment for their students only. As a consequence, some students struggle to find an L course before graduation. Distance learners,



especially transfer students from the state's community colleges, find it extra challenging to enroll in an appropriate L course. Librarians have assisted in the effort to increase access to L classes in two ways. First, in partnership with the Center for Teaching and Learning, librarians offered a workshop for faculty interested in designing a new course or adapting an existing course for an L endorsement; subject librarians continue this work one-on-one with faculty in their liaison areas. Second, the Libraries collaborated with the Outreach School to design and offer a one-credit online L course, taught by librarians. In many ways this is a positive development, allowing more librarians to learn about online pedagogy and to interact more deeply with students. The addition of the credit course to the already burgeoning instruction load does increase demands on librarians and their time.

Another area of increased instruction is embedded online instruction for distance classes. As early as 2004, librarians at the University of Wyoming referred to their work with online distance courses as "embedded" (Kearley & Philips 2004). In 2006, the Distance Learning Librarian was invited to embed in the threaded discussions of a course through the Outreach School for one week. This experiment offered a chance to participate in asynchronous threaded discussion with students as they initiated the research process for their final projects in the course. After the success of this pilot project, the Distance Learning Librarian embedded in the same course the next semester, this time adding an extra week of discussion and a tailored video podcast offering instruction on library resources. When other distance instructors heard of the embedded option for their online courses, demand increased each year following the pilot project. Since the original project, the Distance Learning Librarian has embedded in online course sections in departments ranging from Nursing and Education to Botany and Religious Studies, visiting 19 individual course sections in the 2009-2010 academic year. The librarian also visited supplemental instruction sessions through Online UW, both through asynchronous discussion threads and through synchronous webcast via Elluminate. Through the libraries' partnership with the Outreach School, the Distance Learning Librarian was given a permanent login for Online UW allowing access to all courses offered online. Most faculty at UW see this level of access to their courses as a benefit: the librarian can attend the discussion with no added effort on the part of the instructor to add the librarian to the course.

While scalability is always a concern when committing blocks of time to a course, whether online or in-person, the Distance Learning Librarian has developed two key strategies for managing time spent in online classes. First, after experimenting with different time commitments in different courses, from spending one-week in threaded discussions to a semester-long presence in the course, it was determined through feedback from both students and instructors that a two-week commitment is most effective for most courses. This reflects the findings of other librarians who offer embedded instruction online, including at the Community College of Vermont where librarians found that embedding in an online course only when their presence was directly linked to an assignment, rather than being a persistent presence, was the best practice (Matthews & Schroeder 2006). Two weeks allows students enough time to create a research plan and revise it based on their findings. In addition, at the University of Wyoming, embedding in threaded discussions proves most beneficial when students are required to interact with the librarian for course credit as well as for assistance in completing a larger research assignment.

The second strategy for future scalability is to carefully target which courses are the best candidates for embedding. This strategy mirrors the best practice identified by a 2009 survey of embedded academic librarians, to "be strategic with course selection and time"

(York & Vance 2009). Currently at the University of Wyoming the Distance Learning Librarian embeds in every online course that fulfills the university's information literacy requirement for graduation. Because information literacy is an integral part of these courses, library instruction is vital. The syllabus for any L course must be designed with library resources in mind, creating a natural fit for embedding a librarian into the discussion. The other group of courses currently targeted for embedded instruction are those which contain a heavy research focus, requiring a great deal of discipline-specific library research. Students in these upper-division courses respond with enthusiasm to a librarian's presence, and they typically engage the librarian in extended questions even when not required to do so for credit. Many of these students follow up with either the Distance Learning Librarian or subject specialists after the two weeks of embedment end. At the University of Wyoming, the increase in embedded instruction online correlates to an increase in student-initiated research consultations with the distance librarian and with subject liaisons in Health Sciences and Education, two departments with an embedded librarian presence in research capstone courses.

Currently one librarian is primarily responsible for embedded services to distance courses. Future goals for managing the workload include developing a knowledge base of common responses to threaded discussion questions and creating more re-usable video podcasts. The Distance Learning Librarian is also working with subject liaison librarians to create library guides through Library ala Carte for courses that request an embedded librarian every semester. It is likely that subject librarians will become more involved in designing instruction for online courses in their subject areas in the near future.

In addition to embedding in online courses, librarians at UW are experimenting with long-term embedded relationships with traditional face to face courses and embedding in curriculum design. The English Composition program proved a cooperative partner for embedded efforts on-campus. After a pilot project embedding in a section of the first-year composition course, the English Librarian learned the curriculum was going to be drastically revised. After realizing that the existing embedded project would not be repeatable, the librarian decided to be involved in the redesign with the hope of more closely aligning library instruction with the course outcomes. The director of the program enthusiastically included the librarian on the committee to create a custom reader for the course. The librarian also worked closely with the lecturer who rewrote the curriculum, helping revise assignment descriptions and organizing the pace of the course. The two worked together to design a completely new lesson plan for the library instruction session, mapping it to both course learning outcomes and ACRL Information Literacy Standards. This facilitates the many librarians who teach sessions for the more than fifty class sections offered each year in aligning their instruction with curriculum-specific learning outcomes.

Another approach to embedment is through hybrid courses. The English Librarian has worked with technical writing instructors to combine traditional one-shot or two-shot information literacy instruction with more sustained interaction using the course management system. Depending on the course objectives, the librarian can embed in the course discussions or interact in spaces set up for group projects. In one 2000-level course, the librarian worked closely with the instructor in designing the unit's discussion questions, in addition to participating in the general discussion boards for a group project unit. In this case, the student assignment was related to social media and did not require library research. Because of an existing relationship, the faculty member recognized the librarian's interest and expertise in social media and asked for assistance. The result of the project was an increased

willingness by the instructor to incorporate information literacy instruction in a different, upper-division course she teaches completely online. The two have plans to revise assignments for upcoming sections of that course.

Librarian embedment in curriculum and instruction at the university has raised the profile of librarians on campus, leading to invitations for inclusion in large-scale educational efforts. One of these is state-wide articulation. Because UW is the only public university in Wyoming, most college-bound high school students in the state intend to enroll here, whether directly following high school graduation or by transferring from one of the six community colleges in the state. Articulation between high school and college curricula is always a concern for universities; a state like Wyoming with relatively few options for college offers a great opportunity to work on simplifying the transition for students. Because her earlier efforts at embedding caught the notice of various faculty and staff across campus, the English Librarian was invited to participate in several efforts of the Wyoming School-University Partnership, particularly the groups working on teaching reading and writing at the junior high, high school, and college levels. This work has been conducted in a variety of locations around the state, and included presentations about her research on first-year college readers, a workshop on writing effective writing prompts, and a workshop on social media in the classroom. Working with teachers at a variety of academic levels on teaching strategies and learning activities has truly embedded the English Librarian into educational efforts state-wide, moving beyond the boundaries of the university and its library and connecting with colleagues in schools.

## **Assessment**

Assessment is a critical component of any instruction program, and embedment is no exception. Hernon and Dugan offer a succinct rationale for the increasing interest in assessment in libraries: "those engaged in teaching students-be they teaching faculty or librarians-need to agree on learning goals for all students in a program, how to gather relevant evidence of learning, and apply that evidence to any part of the program in need of improvement (2009). University of Wyoming librarians have long used student evaluations for individual class sessions, but have recently begun implementing more programmatic assessment. Assessment has also created new opportunities for librarian embedment.

Assessment is conducted by each academic college and the Libraries, but there are central efforts underway. One of these is the University Assessment Committee, which includes the Assessment Coordinator from each college. Until 2009, the Libraries were not represented on this committee. That year, the Libraries created a new position and hired an Instruction and Assessment Librarian; this librarian serves as the Libraries' Assessment Coordinator. Previously, a group of reference and instruction librarians helped shape the university-wide assessment rubric for all L courses, but the addition of a dedicated Assessment Librarian on the campus Assessment Committee will help the library map its assessment efforts with wide-ranging assessment projects in all disciplines and with all University Studies requirements.

In early 2010 the Distance Learning Librarian partnered with the Instruction and Assessment Librarian to complete a needs assessment of distance faculty. The needs assessment revealed that although online library instruction to distance courses is at its highest point historically, there are still many distance instructors who remain unaware of library services and instruction opportunities. A plan for marketing library services to

distance faculty is in the works, and a plan for managing the scale of embedded efforts online will accompany any efforts to increase online embedded instruction.

The Assessment Librarian also partnered with the English Librarian to conduct a small-scale citation analysis of first-year composition students' research papers. They were awarded a small assessment grant from the Center for Teaching and Learning to fund the project; a requirement of the funding is a presentation of the findings to the campus community, which will take place in fall 2010. The librarians saw the grant as an opportunity to market assessment as part of embedment to potential new faculty collaborators. The citation analysis project was designed to begin assessing the effectiveness of the curricular embedment in and library instruction for the composition program. The study found qualitative differences in the bibliographies from sections that did not have library instruction and those that did. An additional finding showed that students in general each used sources from only one library database in their bibliographies, suggesting to the librarians that instruction should emphasize the importance of a diversity of sources. This and other findings influenced the updated lesson plan for the class.

With the shift to embedded instruction comes a shift in perspective on assessment. By spending more time in the learner's environment, librarians are less focused on what kind of fifty-minute instructional experience we create and more focused on student learning and meeting learning objectives. Traditional evaluation systems "evaluate the performance of faculty in teaching terms, not learning terms." (Barr & Tagg 2005). We now need to create authentic assessments of student learning from embedded library interaction and instruction. Use of citation analysis and pre-and post-test measures, already in place on a small scale, will be expanded as our instruction program moves away from fifty-minute one-shot sessions.

## **Conclusion**

Traditional library instruction still has a place at the University of Wyoming Libraries, but it is now augmented with an increased focus on programmatic approaches to information literacy instruction. While embedding in individual courses is a seemingly effective teaching strategy with the potential to align more closely with course-level learning objectives, we recognize limitations in terms of time and energy. Growth in this area must be undertaken cautiously. Potential risks of too-rapid growth include instruction librarian burnout and overpromising services we can't deliver effectively. Curriculum-level embedment has the potential to improve information literacy learning while remaining scalable and sustainable at our current librarian staffing levels.

Embedding works at UW because librarians value sustained interaction with faculty and learners, both on campus and in distance environments. Our mission of parity of services for all patrons also compels us to embed in asynchronous settings where traditional instruction is not an option. Reference and instruction librarians have created a culture of continuous improvement and departmental strategic planning. UW librarians are active in continuing education activities and keep abreast of developing pedagogy and learning theories to support our practice and foster student learning. Through twice-annual instruction retreats, librarians share instructional strategies and assignments and plan instruction and assessment projects. It is through this cycle of planning and improvement that the department remains nimble, improving successful services and replacing those that are not well-received.

For academic libraries pursuing embedded initiatives, it is important to remember the importance of creating campus-wide awareness of both information literacy and library services. Collaboration and partnerships form the cornerstone of any embedded program. Success in embedding reference and instruction will be bolstered if curriculum-level participation is in place and information literacy is an integral value of the academy. To do this, librarians must be willing to leave the four walls of the library and become full participants in student learning and in university planning.

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