Communicating, Collaboration, and Citing

LMS Embedded Librarianship

Creating a virtual presence, online collaboration, and academic integrity are hallmarks of LMS embedded librarianship. Embedded librarianship necessitates communication and collaboration with faculty who open their LMS courses and with their enrolled students. Online communication and collaboration become all the more important when the embedded librarian works only virtually with stakeholders in the LMS environment due to geographic distance or scheduling conflicts. To be effective as an online research consultant, the LMS embedded librarian relies on a variety of communication tools to fulfill tasks: to identify the faculty member's research assignment learning outcomes and propose relevant research strategies, library resources, and services. Sometimes these conversations lead to assignment redesign or the creation of new tutorials and guides. LMS embedded librarians proactively engage student researchers and respond as called upon by individuals to confer on information literacy challenges throughout the research process. Some hold virtual office hours to meet and consult with students. Others hold synchronous help sessions that are recorded and shared with students who could not otherwise attend. Sometimes chat or e-mail suffices as a communication method. Librarians intentionally build trusted relationships with individual students in order to share their bibliographic and technology expertise. Often embedded librarians carefully select and share tested online collaboration tools that students may use to complete their group research projects and presentations. In addition, academic research requires adhering to academic integrity protocols, the chief one being source citation in a discipline's accepted style.

Thankfully, there are many citation generators and managers available today that simplify citing sources. These citation tools, guides, and tutorials are typically included on the embedded librarian's page and sent to students in other messages. In all these ways, embedded librarians reach out to communicate, collaborate, and teach information literacy within a LMS course.

Communicating with Students

E-mail, which has been in use for fifty years, has replaced physical and voice mail as the primary communication method in academe, business, and government. It is flexible and efficient in that information and messages can be exchanged asynchronously. The ability to attach articles, scanned documents, presentations, and images maximizes the usefulness of the brief e-mail. E-mail has expanded to mobile platforms like smartphones and tablet computers. E-mail service providers like Google, Microsoft, and Yahoo! provide e-mail hosting servers and compete for customers by offering features related to their other product lines. Some paid e-mail services like Microsoft rely on downloaded software and are typically used by large organizations, hosted on their own e-mail hosting servers and equipment. Other, free e-mail services like Gmail rely on web browsers and cloud computing. E-mail has become a low-cost marketing tool, used to reach potential customers or, in academe, to reach students. Spam, unsolicited commercial e-mail filling one's inbox, and attachments that carry computer viruses are two problems associated with e-mail. Spam filters and computer security industries arose to combat these problems and are an added expense for organizations using e-mail. Google and Microsoft are

the leading e-mail service providers and offer a wide range of features.

Faculty and embedded librarians communicate with students regularly to announce, remind, explain, encourage, and update students about upcoming course details and changes. Often instructors choose to mass e-mail all or selected registered students using the LMS course e-mail. At other times, instructors will opt to post and e-mail an announcement so that students receive a personal message in their inbox and also see the message posted as an announcement in the LMS course. The LMS e-mail tool saves time and makes ongoing communication easier. LMS embedded librarians assigned to specific courses also have the means to mass e-mail an entire class in regard to research assignments and to offer strategies and links to electronic resources. Virtual reference services inside the LMS and also based in the library utilize e-mail in addition to text, chat, and web conferencing.

LMS Collaboration Tools

Connectivism is a pedagogical method employing collaboration. "Connectivism focuses on learning that occurs when individuals interact socially using collaborative technologies. The connectivist learner produces knowledge through creating and sharing digital artifacts."[1] LMS collaboration tools improve communication, learning, and teaching among students and between student and instructor. Most LMSs include various collaboration tools such as blogs, wikis, discussions, and groups. Each has its purpose. For added sensory input there are collaborative tools that permit inserting images and recording audio podcasts and videos. Collaborative tools in different LMSs may have somewhat different names, such as forums, discussions, or discussion boards. These collaborative tools may function more or less effectively, from LMS to LMS, based on user and reviewer feedback. The intent of collaborative tools is to allow users to interact, build community, and strengthen collaboration. "Many of the underused LMS features (e.g., those that involve collaboration) have the potential to enhance student learning and engagement."[2]

Sometimes these lofty goals are not reached, however, due either to pedagogical methods employed or to technology obstacles. According to an EDUCAUSE report, the LMS collaborative tools are the least liked. "Today, user satisfaction is highest for basic LMS features and lowest for features designed to foster collaboration and engagement."[3] Although students are using mobile devices more to access LMS course content, their use of educational technologies has remained steady over the past five years. Students admit wanting more peer collaboration technologies; however, "this study reveals a noticeable increase in the demand for more online technologies for assessment, collaboration with peers, administrative purposes and access to resources such as podcasts, lecture recordings and online library resources."[4]

As mentioned above, LMS collaboration tools include blogs, wikis, discussions, and groups.

- **Blogs** are online journals created by individuals or groups to share activities, information, news, opinions, or research. They may include text, hyperlinks, images, audio, and video and solicit comments by others. Blogs build community and allow for collective reflection.
- **Wikis** can be used to organize information by numerous contributors on this "quick" website. Wikis promote interaction and cooperation through shared creation.
- **Discussions** are sometimes called discussion boards or forums. Students respond to the instructor's prompt and often comment on one another's posts, thus mirroring a face-to-face classroom discussion or conversation.
- Instructors often assign students to **groups** within the LMS. Then students work together on projects, presentations, and papers by using those LMS tools that enable groups to chat, e-mail, and share documents and files.

In addition to LMS collaboration tools, there are many third-party vendor products and free sites that offer tools for student collaborations and group work in connection with study and research, teaching and learning, or presenting and publishing. Outside the LMS, instructors may use third-party products that rely on cloud computing and include single sign-on, APIs, and dashboards for sharing data across

Blog Software

Ghost (Paid)
https://ghost.org

LinkedIn (Free)
https://www.linkedin.com

Postach.io (Evernote, Free)
http://postach.io/site

Silvrback (Paid)
https://www.silvrback.com

TinyPress (Github, Free)
https://tinypress.co

Tumblr (Free)
https://www.tumblr.com

Weebly (Free)
www.weebly.com

WordPress (Free)
https://wordpress.com

Hosted Wiki Software

DokuWiki (Free)
https://www.dokuwiki.org/dokuwiki#

EditMe (Paid)
www.editme.com

PBworks (Free)
www.pbworks.com

SharePoint (Paid)
https://products.office.com/en-us/sharepoint/collaboration

Wikispaces Classroom (Free)
https://www.wikispaces.com/content/classroom

WikiSpaces Campus (Paid)
https://www.wikispaces.com

Wikis Needing Web Hosting Provider

Drupal
https://www.drupal.org

Tiki Wiki
https://info.tiki.org

For More Information

WikiMatrix
www.wikimatrix.org

programs.[5] Integration of LMS and cloud computing or cloud services promotes cost-effective, innovative solutions in peer collaboration.

Web Conferencing

Web conferencing offers instructional flexibility for faculty and students who cannot meet at the same time and place for classroom instruction, group work, or consultations. Web conferencing saves travel time and expense by enabling students to meet virtually with peers, librarians, faculty, or academic advisors. Anyone with a computer, webcam, Internet access, and web conferencing app or program may either teach virtually or receive course instruction as a student via video, audio, and virtual collaboration using whiteboards and group chat rooms. Sometimes instruction will be synchronous, while at other times recorded content can be accessed asynchronously when convenient for students who live at a distance, who have competing job or family responsibilities, or who have disabilities that complicate travel.

Universities employ web conferencing solutions for different scenarios. Sometimes universities with multiple campuses offer a traditional course on one campus and register students from its other branch campuses who attend virtually via WebEx, Interactive Video Distance Learning (IVDL), and so on. This blended synchronous learning maximizes the instructional reach of a university's faculty by enrolling students who typically take courses on other campuses. Web conferencing is essential for distance education for both web and hybrid courses. Web conferencing also strengthens teaching and learning in traditional courses as the instructor may hold virtual office hours, provide recorded course content reviews, or flip the classroom, which involves students listening to recorded lectures, demonstrations, and presentations outside class. Classroom time is then reserved for problem solving, discussions, and experiential learning that emphasizes interactive, engaged activities.

Web conferencing enlarges the reach of universities that exclusively offer online courses as well as established institutions that desire to expand course offerings virtually. "Through William & Mary's virtual learning world, students can listen to pre-recorded lectures, attend live interactive sessions led by the professors and engage with other students in small group projects. Professors hold weekly office hours in AvayaLive Engage that provide the personal connection and help eliminate many scheduling issues tied to time and place."[6]

There are numerous web conferencing software programs available, some proprietary and others free. Blackboard Collaborate offers typical features:

> Blackboard Collaborate is a web-based collaboration platform that is available through Blackboard, Inc. (Blackboard Collaborate, n.d.). It offers the capabilities of hosting real-time sessions, has a whiteboard feature, allows desktop sharing, and

Web Conferencing Platforms

Adobe Connect (Paid)
www.adobe.com/products/adobeconnect.html

AvayaLive Engage (Paid)
https://engage.avayalive.com/Engage

Blackboard Collaborate (Paid)
www.blackboard.com/online-collaborative-learning/index.aspx

Cisco WebEx (Free for 3 otherwise Paid)
www.webex.com

FaceTime for Mac (Free)
www.apple.com/mac/facetime

Google Hangouts (Free)
https://hangouts.google.com

Join.Me (Free)
https://www.join.me

Onstream (Free)
www.onstreammedia.com

Skype (Free)
www.skype.com/en

Free Document Sharing

Bitrix24
https://www.bitrix24.com

Google Docs
https://www.google.com/docs/about

Jumpshare
https://jumpshare.com

Microsoft Office 365
https://products.office.com/en-US/student/office-in-education

Zoho Docs
https://www.zoho.com/docs

Cloud Storage Solutions

Amazon Cloud Drive (Paid)
https://www.amazon.com/clouddrive/home

Apple iCloud (Free)
https://www.icloud.com

Box (Paid)
https://www.box.com

Copy (Paid)
https://www.copy.com/page/home;section:landing

Dropbox (Free)
https://www.dropbox.com/en

Google Drive (Free)
https://www.google.com/drive

Mega (Free)
https://mega.nz/#

Microsoft OneDrive (Free)
https://onedrive.live.com/about/en-us

SugarSync (Paid)
https://www.sugarsync.com

Wikipedia: Comparison of file hosting services
https://en.wikipedia.org/wiki/Comparison_of_file_hosting_services

is an engagement as well as a communication tool. The software has video, audio, and phone conferencing capabilities, as well as a chat feature. Collaborate sessions can be recorded and the link to a recorded session can be emailed out to students or posted as podcasts on iTunes or other web-based sites.[7]

Web conferencing applications such as Skype and Adobe Connect enable Australian universities to utilize effective synchronous and asynchronous sessions to supervise teaching practicums, where the university professor, supervising teacher, and trainee student-teacher may meet without the need for travel.[8]

Faculty assign students to research, write, present, and problem solve as a group. Students today work in collaborative learning environments as team members as they will in the workforce. They typically employ productivity tools to collaborate electronically. It does not matter whether they live on the same campus, in the same city, or in different time zones. Students may create technology projects, write papers, build presentations, and analyze cases in groups. They share drafts of text, spreadsheets, slides, surveys, podcasts, video tutorials, code, and so on. Each student contributes his portion to the larger group. Collaborative learning necessitates access to shared documents and spaces. Cloud computing has become the most affordable and convenient solution because data is stored on remote servers that can be accessed anytime from anywhere. Those invited to

access, view, and edit these shared documents can start the project on campus and continue working on the current version at home.

Commonly students use Google Drive to share documents, sheets, slides, and forms because it is free. Zoho is another popular, free productivity tool. Sometimes proprietary products like Office 365 are used to share work.

Large files and documents can be saved and retrieved from shared spaces using installed software and apps. Once Dropbox is installed on one's computers and mobile computing devices, it can be used to save and retrieve files as needed.

Citation Tools

Citing sources is an essential practice in research and signals adherence to academic integrity. Embedded librarians regularly provide information literacy instruction on citing sources, often at the request of instructors. Today, citation tools, featuring many style formats, are built into proprietary databases, library discovery services, and search engines like Google Scholar. Experienced researchers take advantage of these efficient, convenient tools to cite sources as they search for needed information.

The chosen citation style often depends on the subject discipline. Generally Modern Language Association style is used in the humanities while American Psychological Association style is used in the social sciences. Chicago or Turabian style is used in history. The sciences use a variety of styles: National Library of Medicine style in biology, American Chemical Society style in chemistry, American Society of Civil Engineers style for civil engineering, Institute of Electrical and Electronics Engineers for those engineering subsets, LaTex for mathematics and statistics. For more information, see the "Complete Discipline Listing" at Purdue University's Online Writing Lab.

> *Complete Discipline Listing, Online Writing Lab, Purdue University*
> https://owl.english.purdue.edu/owl/resource/585/2

Beyond the finding tools themselves, students may avail themselves of citation generators and citation managers to get help citing sources. Often students who need to cite only several sources will turn to citation generators to produce automatically a correct citation for that source type, in a specific citation style. There are both free and proprietary citation generators available online. Many college and university libraries build their own citation generators, such as CitationBuilder by North Carolina State University Libraries or KnightCite by Calvin College Library. Online citation generators may be partially free for certain citation styles, charge users for other citation styles; accept ads so that users are not charged, or they may be entirely free.

Reference managers are intended to provide more bibliographic, sophisticated functions. They are used to store many source citations and create extensive bibliographies in a wide array of styles as needed.

Notes

1. Neena Thota and Joao G. M. Negreiros, "Introducing Educational Technologies to Teachers: Experience Report," *Journal of University Teaching and Learning Practice* 12, no. 1 (2015): 2, Education Research Complete, EBSCOhost.
2. Eden Dahlstrom, D. Christopher Brooks, and Jacqueline Bichsel, *The Current Ecosystem of Learning Management Systems in Higher Education: Student, Faculty, and IT Perspectives,* research report (Louisville, CO: EDUCAUSE Center for Analysis and Research, September 2014), 4, https://net.educause.edu/ir/library/pdf/ers1414.pdf.
3. Ibid., 23.
4. Negin Mirriahi and Dennis Alonzo, "Shedding Light

on Students' Technology Preferences: Implications for Academic Development," *Journal of University Teaching and Learning Practice* 12, no. 1 (2015): 11, Education Research Complete, EBSCOhost.

5. Dian Schaffhauser, "10 Tech Tools That Inspire PBL in High School," *T H E Journal* 41, no. 5 (May 2014): 10, MasterFILE Premier, EBSCOhost.

6. Avaya, "Avaya Helps Higher Education Institutions Create Innovative Learning Environments for Greater Student Engagement," news release, September 29, 2014, Points of View Reference Center, EBSCOhost, www.avaya.com/usa/about-avaya/newsroom/news-releases/2014/pr-140929.

7. Stephanie J. Jones and Kinsey Hansen, "Technology Review: Virtual Intrusive Advising—Supporting Community College Students through Web-Based Synchronous Technologies," *Community College Enterprise* 20, no. 1 (2014): 91, Education Research Complete, EBSCOhost.

8. Yiong Hwee Teo, Sue McNamara, Geoff Romeo, and Donna Gronn, "Enhancing Practicum Supervision with Asynchronous and Synchronous Technologies," *Universal Journal of Educational Research* 3, no. 5 (2015): 322–27, ERIC, EBSCOhost.