

Supporting Library Instruction with Learning Tools Interoperability (LTI)

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Overview and Definition

If you work with instructional technologies at your library, you've probably come across the initials LTI (Learning Tools Interoperability) and LMS (learning management system). A learning management system like Canvas or Moodle is typically adopted by a school district or institution as a platform to host courses. Using this platform, instructors and students can access course materials online and interact with each other and the course content. LTI enables an external tool or application to connect to a learning management system without the extra programming that would otherwise be needed to develop the application within the LMS itself. LTI is a standard developed by [1EdTech](#) (formerly IMS Global Learning Consortium).

system. In some cases, the librarian would do all the customizing within a research guide, for instance, to make the resource appear "automatically" in the course. In other instances, the instructor would choose the resource from a list in their course settings.

Current Applications in Libraries and Higher Education

A common example of academic librarians' usage of LTI is the integration of research guides – Springshare's LibGuides in many cases – into courses. With LTI, the librarian can add some code related to the course to the metadata fields within a guide in order to create the link in the course. LTI also makes it possible to add a guide to multiple classes or multiple course sections using the metadata of one guide. For general research guides or subject guides, this can be invaluable in reaching students at their point of need. Without LTI facilitating this connection, a link to a course's research guide would need to be added to the navigation manually by the librarian (if they had course access) or the instructor. For assessment purposes, librarians can use guide statistics to determine how much traffic enters through the LMS. Anecdotally, page views for a course guide at my institution have increased by more than double since connecting the guide to multiple course sections in the LMS via LTI.

Assessment and engagement tools like Top Hat have also developed LTI applications for LMSs. Instructors using Top Hat can develop quizzes, presentations and other interactive content to assess students' progress and attendance. They can also add a librarian to the course as a co-instructor, and the librarian could create activities for their class session(s). LTI facilitates Top Hat grade export to Canvas, so that student participation during a library session can be

Why Do You Need to Know?

LTI is of interest to librarians because it facilitates a mostly seamless way to embed library resources into specific courses. As we've seen over the past few years, instructors' comfort levels with their LMS can vary, and depending on their proficiency and on the platform used, setting up courses each semester can be time consuming.

Given these circumstances, librarians' requests that instructors manually add links to research guides to course navigation may not get enthusiastic responses. LTI takes out this manual step, securely connecting tools or resources that are outside the

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documented in the course gradebook without additional data entry.

Additional library and higher education vendors, such as those who specialize in course reserves, discovery platforms, and textbook or journal publishing, have also developed LTI applications for LMSs. Companies like Microsoft, Google and Zoom also support integrations that allow instructors and students to access material within a course, without having to leave the LMS.

Examples are too numerous to list here, but more possibilities and use cases are available in online collections like [Edu App Center](#) and on vendor websites. An institution's LMS documentation or IT knowledgebase likely also includes LTI options for instructors.

Specific case studies about libraries' usage of LTI are detailed in the chapter "Embracing Embeddedness with Learning Tools Interoperability (LTI)" by Lauren Magnuson, from the book *New Top Technologies Every Librarian Needs to Know: A LITA Guide* (2019). This chapter also includes a general overview of LTI, including basic technical aspects, and a bibliography for further reading.

In-depth documentation about implementing and migrating to LTI is available on the [1EdTech website](#).

Potential Hurdles

Support on the technical side of LTI applications is key. This means consistent buy-in from administration, those managing the LMS, and others involved in setup and technical troubleshooting. Potential hurdles vary, but are generally similar to considerations with any third-party vendor or new technology: privacy, security, licensing, copyright, cost, accessibility, buy-in and maintenance. Librarians will need to make faculty aware of integrated resources, and provide opportunities for feedback, as part of their outreach. Maintenance can range from LMS managers installing updates to librarians checking and adding metadata each semester to ensure guides or other resources appear in the correct courses.

Conclusion

In conversations with library colleagues about the usage and benefits of LTI, a common result was

increased traffic to research guides, along with more overall awareness of the guides among students and faculty. This connection gives students a built-in access point within their courses for research tips, library resources and the librarians themselves. Whether students engage with the resource is up to them, but it is more visible at a moment of need when students review assignments or the syllabus in the LMS.

From a librarian standpoint, this interoperability does not replace outreach and instruction efforts to engage campus communities. However, it can supplement instruction and provide time for outreach that may otherwise be limited, especially if budgets and staffing are in flux. For assessment, librarians can review statistics like page views and clicks within each guide to get a better idea of overall usage, including traffic entering the guide from the LMS. This can also be a companion or introduction to embedded librarianship in a particular course, discipline, or department. As long as technical support is available, LTI integration is another way librarians can share resources at students' point of need.

Tools Discussed (if appropriate)

- [LTI Resources](#)
- [7 Things You Should Know About LTI Advantage](#)
- [Top Hat](#)

References

Magnuson, Lauren. 2019. "Embracing Embeddedness with Learning Tools Interoperability (LTI)." In *New Top Technologies Every Librarian Needs to Know: A LITA Guide*, edited by Kenneth J. Varnum, 197-210. Chicago: ALA Neal-Schuman.

Further Readings

Clossen, Amanda, ed. 2018. *Integrating the Library in the Learning Management System*. Chicago: ALA TechSource.

Farkas, Meredith. 2015. "Libraries in the Learning Management System." *Instructional Technologies Tips and Trends*, Summer

2015. <https://acrl.ala.org/IS/wp-content/uploads/2014/05/summer2015.pdf>

Li, Cindy. 2021. "Integration of Library Systems into LMS to Enhance E-Resources Accessibility." *Journal of Electronic Resources Librarianship* 33, no. 4: 305-309. doi:10.1080/1941126X.2021.1988490.