

## **Library Engagement with Systems Thinking via Map the System**

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### **Intro**

In the Winter of 2024, I had the unique experience (and pleasure) of serving as an embedded librarian in a new undergraduate course, *Introduction to Systems Thinking*, which was offered as part of the Technology, Management and Entrepreneurship (TME) program on the Fredericton campus of the University of New Brunswick. The TME program is based in the Faculty of Engineering, but a core feature is its interdisciplinary nature, appealing to a cross section of students, many possessing backgrounds in related STEM fields. At the undergraduate level, engineering students can earn a diploma in TME in addition to their degree, and, at the graduate level, a Master of Technology Management and Entrepreneurship (MTME) degree is offered.

My role, as Liaison Librarian to the Faculty of Management and Renaissance College (Leadership Studies), also encompasses supporting entrepreneurial activities and relevant course curricula on campus through outreach and instruction. Entrepreneurship is increasingly seen as a functional area that spans across disciplines other than business, particularly engineering, but also disciplines like computer science, kinesiology and health sciences.

Initially, I anticipated that my involvement with the course would involve the usual one-shot sessions on business and industry/market research databases and other useful resources, such as the citation management tool, Zotero. However, it soon became apparent that a huge part of the course, developing a project to potentially compete in the global *Map the System* competition, is well-aligned with information literacy instructional goals, particularly its emphasis on the utilization of primary and secondary resources and a required bibliography component. Seeing the potential for greater library involvement, I seized the opportunity to move beyond the one-shot and embed myself in the classroom for the term, with the support and enthusiasm of the professor, Dr. Kush Bubbar, who designed and teaches the course.

### **What Is Systems Thinking?**

Before I became involved with the course, I did not have much knowledge of the concept of “systems thinking”, which can be defined as “a system of thinking about systems” that contain elements, interconnections and a goal or function (Arnold & Wade, 2015, pp. 670-671). However, the more I learned about systems thinking, the more it seemed like a helpful framework for looking holistically at libraries in general and how to approach organizational challenges. A key component of systems thinking is being able to take a deep dive into what are called “wicked problems” — complex and challenging problems that often lack definition and solutions (Rittel & Webber, 1973). Some examples of wicked problems are the housing crisis,

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antimicrobial resistance and distributed energy resource implementation in a region with deep ties to fossil fuel production, just to name a few issues tackled by students in the course.

Often, in the workplace, there is an inclination to jump directly to finding solutions before thoroughly understanding issues and their roots. With systems thinking, the exploration of problems and the interconnectedness of related issues **are** the focal points, which can make for more informed decision-making and better outcomes. In the article “An Introduction to Systems Thinking for Librarians”, it is posited that systems thinking and seeing the big picture can prevent siloing and lead to healthier organizations (Peters, 2022).

*Map the System* is a global competition, supported by the Skoll Centre for Social Entrepreneurship at the Saïd Business School, University of Oxford, that encourages students to use systems thinking concepts and principles to tackle social or environmental issues they are passionate about, with a focus on understanding vs. solving. Each team submission includes: 1. a visual systems map; 2. a summary of research findings and detailed bibliography; and 3. a 10-minute verbal presentation followed by Q&A with the judges. The program has run since 2015, and is open to current and recent graduates of higher educational institutions from around the world who compete for top billing in the global final.

With the new *Introduction to Systems Thinking* course, it seemed like a natural collaboration to partner with the *Map the System* program to apply the theory students were learning in the classroom via an opportunity to compete at the Canadian Finals. The course culminated in a research poster session that was judged by faculty members, industry and community leaders and others, such as myself, who were involved with the course in various roles.

### **Library Engagement and Systems Thinking**

Using the *Map the System* event as a springboard to explore systems thinking, students, educators and librarians can embrace this mindset and apply it to just about any problem when engaging in decision-making. Libraries, in particular, are composed of various units or elements (cataloging, acquisitions, library systems, user services, etc.), and it is useful to think holistically about how changes made in one area can have a rippling effect upon other parts of the organization.

If your university is currently a *Map the System* partner, there is much potential for meaningful library collaboration to help support students, such as:

- Provide instruction on library eResources, including key disciplinary databases, government and economic indicator data sites, market/industry research sources, and more, to help students gather credible information on the “wicked problems” being examined.
- Promote and demo your supported citation management tool to organize references and to assist with the required bibliography component.
- Dedicate library space for student teamwork, and host events such as a research poster session.

## Academic BRASS

- Share sources of relevant primary research and explain the differences between primary and secondary sources.
- Create, as some university partners like Vanderbilt University have done, dedicated LibGuides on *Map the System* with detailed information on helpful library resources for students.

If your university is not currently a partner, the competition is definitely worth bringing to the attention of your faculty library representative (or equivalent), especially in business or related disciplines such as sociology, political science, economics, etc.

### Conclusion

For business librarians looking for new opportunities to collaborate with faculty and students on campus, the global *Map the System* program provides excellent integration with library services such as instruction and scholarly communication. Its bibliography component, in particular, lends itself well to library expertise and support. Additionally, the lens of systems thinking provides a new tool for librarians to use to explore issues and challenges in their own organizations.

### References

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