

REFLECTIONS ON PRACTICE

Faculty-Librarian Collaboration for Teaching Digital Information Literacy Online: Case Study of a Large General Education Course

¹Julian AZFAR, ²LIM Siu Chen, and ²CHEN Yanru, Lyndia

¹Saw Swee Hock School of Public Health (SSHSPH), National University of Singapore (NUS)

²NUS Libraries

Correspondences:

Name: Mr. Julian AZFAR

Email: julianosaurus@gmail.com

Name: Ms. LIM Siu Chen

Email: lblsc@nus.edu.sg

Name: Ms. CHEN Yanru, Lyndia

Email: lyndiachen@nus.edu.sg

Recommended Citation:

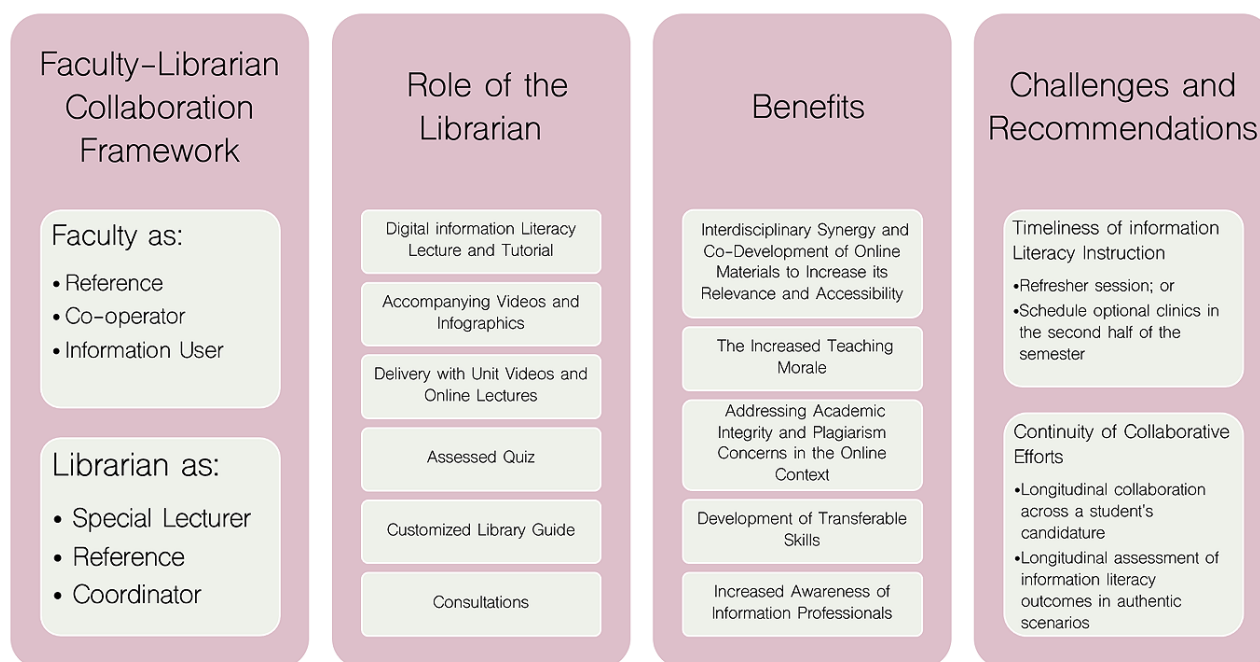
Azfar, J., Lim S. C., & Chen, Y. L. (2023). Faculty-librarian collaboration for teaching digital information literacy online: Case study of a large general education course (Special Issue). *Asian Journal of the Scholarship of Teaching and Learning*, 13(1). 170-181.

<https://doi.org/10.24112/ajsotl.133181>

ABSTRACT

This case study provides insights gained from the faculty-librarian collaboration to embed information literacy in an online General Education module taught at the National University of Singapore (NUS). Following an overview of the module and faculty-librarian collaboration framework, the case study describes the librarians' participation in co-teaching with faculty. Benefits and challenges arising from the collaborative process are assessed, followed by recommendations for future collaborative efforts in the higher education context.

VISUAL ABSTRACT



Keywords: Faculty-librarian collaboration, pedagogy, information literacy, online learning, interdisciplinarity, libraries

CONTEXT

As part of a push to integrate digital information literacy (“information literacy”) (Martzoukou, 2020) and interdisciplinary teaching in higher education (Foo & Ng, 2022; McInnis Bowers et al., 2009; Talikka et al., 2018), there have been efforts to incorporate various aspects of information literacy such as information seeking and retrieval (Kobzina, 2010; Weber et al., 2018), information evaluation, citation, and referencing (Dorner et al., 2001; Martzoukou, 2020) as well as the ethical use of information (Kate Kellum et al., 2011; Lomness et al., 2021).

In the Singapore context, information literacy is highlighted as a key citizen competency in the Digital Media and Information Literacy Framework by Singapore’s Ministry of Communications and Information, which is defined as “[an] awareness of when information is required, and the competency to locate, evaluate and apply that information in its appropriate context” (MCI, 2019).

Benefits of integrating information literacy via faculty-librarian collaboration and the associated interdisciplinary synergy have been canvassed in numerous studies (McInnis Bowers et al., 2009; Saines et al., 2019; Yevelson-Shorsher & Bronstein, 2018). Commonly mentioned in the literature are the benefits related to student learning (Kenedy & Monty, 2011; Phelps & Campbell, 2012; Saines et al., 2019). Successful collaboration also results in professional benefits to the faculty and librarians (Tucci, 2011).

This case study provides insights from a faculty-librarian collaboration to embed information literacy into an online General Education module taught at the National University of Singapore (NUS). Following an overview of the module and faculty-librarian collaboration framework, the case study describes the library’s participation in co-teaching with faculty. The benefits and challenges from the collaborative process are then assessed, followed by recommendations for future collaboration.

INTRODUCTION TO THE MODULE

With an enrolment of over six hundred students from all faculties every semester, the course GEH1049 “Public Health in Action” is a General Education module that falls under the “Cultures and Civilizations” pillar of the University’s General Education curriculum. Open to students from all NUS faculties, this course aims at providing students with a broad understanding of the multidisciplinary nature of public health. This paper focuses on the teaching of research skills in this course, with specific reference to digital information literacy. It is envisioned that a firm foundation in information literacy skills taught through this course will help to scaffold higher-order research skills students could acquire in higher-level public health courses.

Information literacy has been a component of the module since 2019. What began as a brief 60-minute lecture grew over the years to have an assessed component, with enhancements such as content covering plagiarism and academic integrity (see Figure 1).

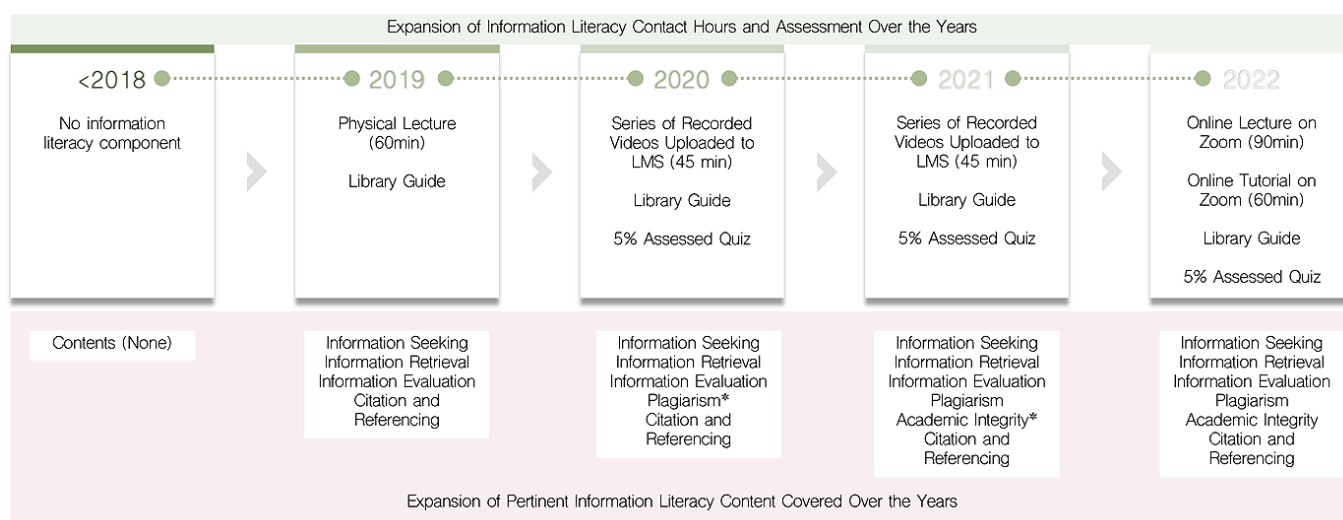


Figure 1. Timeline of information literacy content, contact hours, and assessment over the years.

FACULTY-LIBRARIAN COLLABORATION FRAMEWORK

Background

Digital information literacy lies at the heart of many General Education courses at NUS. Specifically, as public health is inherently a research-intensive field, one key pedagogical objective of this module is to underscore the importance of information literacy which would be crucial to students excelling in group and individual assignments, which comprise 70% of the course. The faculty-librarian collaboration is thus conceptualised as an effective and efficient means of dovetailing information literacy with course content and assessment, where librarians provide professional support aimed specifically at preparing students to address research-oriented assessments. It is envisioned that this synergy would foreground the equal importance of both course content and digital information literacy while increasing quality of work.

Framework

Our faculty-librarian collaboration is guided by Nguyen and Tuamsuk’s (2020) description of the collaborative relationship in the university context. Table 1 outlines the teaching, reference and collaboration activity undertaken in embedding information literacy, adapted from the framework by Nguyen and Tuamsuk (2020) to suit our specific context.

Table 1

Roles of collaborators in the collaborative partnership, adapted from Nguyen, L. T., and Tuamsuk, K. (2020), licensed [CC-BY](#)

Roles of Collaborators in the Collaborative Partnership	
Roles of Faculty	Roles of the Librarian
Reference <ul style="list-style-type: none"> • Suggesting useful information resources for the librarian relating to the module contents • Disseminating library and information services to students 	Special Lecturer <ul style="list-style-type: none"> • Teaching digital information literacy (DIL) • Guiding the use of library and access to the information resources and databases • Locating materials in the library • Evaluation of information sources • Assessing students on a graded quiz
Co-operator <ul style="list-style-type: none"> • Faculty partnered with the librarian in developing information literacy lecture and tutorial contents 	Reference <ul style="list-style-type: none"> • Providing materials and information resources • Searching for and providing information resources based on research topics of faculty
Information User	Coordinator <ul style="list-style-type: none"> • Planning, guiding and managing of collaborative activities

LIBRARIAN'S ROLE IN THE MODULE

Nguyen and Tuamsuk's (2020) adapted approach in Table 1 serves as a reference for this section.

Librarians developed and delivered the module's digital information literacy content based on their expertise relating to identifying, finding, evaluating, referencing, and use of academic and other forms of information. Specifically, by Semester 2 of AY2022/23, librarians were co-developing content for a 1.5-hour lecture in Week 2 of the semester, a 1.5-hour tutorial in Week 4, and a 5% quiz in Week 9. The digital information literacy learning objectives are outlined in Table 2.

Table 2

Information literacy learning objectives in GEH1049 "Public Health in Action"

Component	Learning Objectives
Research (find)	Identify and find common types of public health information sources, specifically scholarly sources Know how to find full-text articles using library tools such as FindIt!@NUS and Proxy Bookmarklet Describe the subject coverage of FindMore, Scopus and PubMed
Resource (evaluate)	Use the CRAAP test to critically evaluate sources that are credible and relevant to the research assignment
Reference (use and cite)	Identify common acts of academic dishonesty Know how to avoid plagiarism and collusion in academic output Describe how citation works and know the general characteristics of APA citation style

Components delivered by the librarians

The librarians were responsible for all collaborative activities and components relating to digital information literacy. These learning materials enable the imparting of digital information literacy amongst students, support the lecturers' teaching objectives, and improve the learning experience.

A significant increase in the overall quality of the students' assignment research outputs was also observed. The co-development of the online material saw an increase in use of module files through mid-term feedback and statistics, a significant reduction in the overall similarity index of final assignments, and better usage and citation of reference sources.

Figure 2 illustrates the synchronous and asynchronous information literacy components embedded into the module:

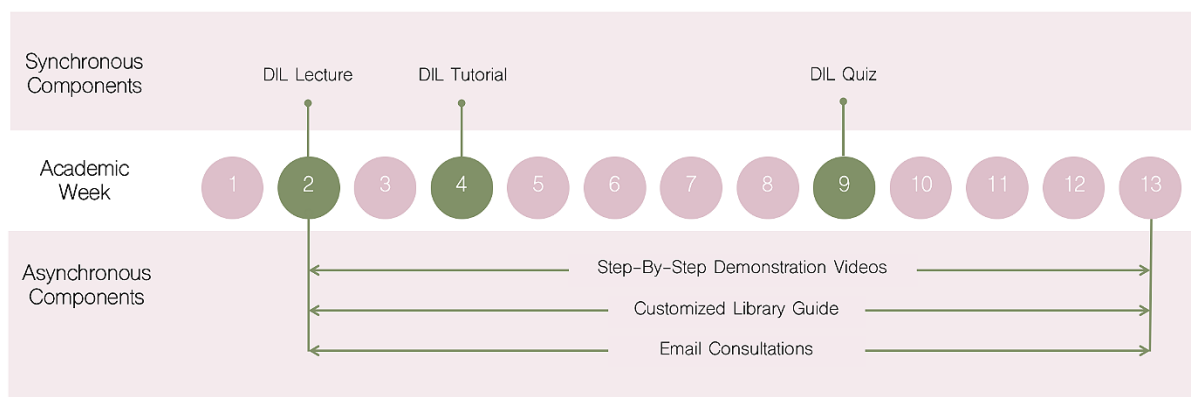


Figure 2. Timeline mapping integration of information literacy components in Semester 2, AY2021/22.

Digital information literacy content for lecture and tutorial

Based on the three 'R's learning objectives outlined in Table 2, digital information literacy content customised to the module objectives was developed for the lecture and tutorial:

- Lecture content covered the required information assessable in the semestral quiz.
- Tutorial content aimed to allow students to apply the concepts learnt during the lecture that may be useful for their assignment.

Accompanying videos and infographics

Other than lecture material, short videos and infographics were created to facilitate the learning experience, where some of its contents were curated through active feedback provided by faculty and other librarians e.g., ideas related to academic integrity.

Delivery with unit videos and online lectures

Unit videos were created to deliver lecture content at the onset of online learning in NUS. The lecture delivery was changed to online lectures in 2022 following the proliferation of digital tools in the learning landscape, where synchronous learning became an increasing preference among the students, faculty, and librarians.

Quiz component

Librarians also developed a graded online semestral quiz based on their prepared material. To test higher order thinking skills, librarians took guidance from Bloom's Taxonomy (Sosniak, 1994) and created analysis and application questions where students must apply information literacy concepts taught to a specific context. A post-quiz review was done to address common conceptual mistakes made by students. A sample question is provided in Figure 3.

Question 15 Multiple Choice

The below screenshot shows a journal article. Which section A, B, C or D is the **most relevant** when evaluating "Currency" in the CRAAP test?

The screenshot shows a journal article page with the following sections labeled A, B, C, and D:

- A:** Title: "A multilevel analysis of the impact of transitioning to grandparenthood on individuals' depression in England, Europe and China"
- B:** Author: "Yazhen Yang^{a,b}"
- C:** Article History: "Received 17 May 2021, Accepted 30 July 2021"
- D:** Keywords: "Grandparent; depression; England; Europe; China; ELSA; CHARLS; SHARE"

The article also includes an abstract, introduction, and a section titled "Grandparenthood and depression".

Yazhen Yang (2021) A multilevel analysis of the impact of transitioning to grandparenthood on individuals' depression in England, Europe and China, *Aging & Mental Health*, DOI: 10.1080/13607863.2021.1963952

- A
 B
 C
 D

Figure 3. Sample assessment question. Screenshot adapted from "A Multilevel Analysis of the Impact of Transitioning to Grandparenthood on Individuals' Depression in England, Europe and China." by Yang, Y., 2022, *Aging & Mental Health*, 26(11), 2291–99 (<https://doi.org/10.1080/13607863.2021.1963952>) under the terms of the [Creative Commons Attribution License](#).

Customised library guide

On top of developing content, librarians provided reference services through the curation of an online list of recommended texts, databases, information sources, and reference guides for the module. This served as a self-help reference source for students who needed asynchronous guidance outside of the lecture.

Consultations

Librarians also provided tailored reference consultations via email for students who needed specific help with topics and referencing guidelines not covered in the lecture, tutorial, or library guide. For example, providing search tips to students who needed help finding government sources, or providing guidance on citing websites in the APA style. The development of tutorial content was guided by questions raised by students when working on their assignments.

BENEFITS TO STUDENTS, FACULTY, AND LIBRARIANS

Interdisciplinary synergy and co-development of online materials to increase its relevance and accessibility

Lecturers provided insight into the modes of assessment, problematic informational practices of students and subject areas to cover. Librarians suggested subject-specialised databases, search strategies, and content pertaining to academic integrity. The extensive discussions on the lesson plans and interdisciplinary cooperation ensured the information literacy learning outcomes mapped directly to skills students would require for assignments.

Students were taught subject-specialised information sources and useful searching techniques to increase precision and relevance of their search results. Whereas students may have been tempted to rely exclusively on Google, the introduction of the learning outcomes on searching and information sources increased their ability to seek out and use higher quality scholarly information.

Increased teaching morale

Despite a lack of physical team-teaching, the authors experienced increased teaching morale working as a collaborative team. The faculty would attend lectures conducted by the librarians and vice versa. Through this collective online presence, lecturers addressed concerns relating to the assignment specifically, while librarians handled queries relating to the information sources and citing.

With the support from librarians as guest lecturers, faculty colleagues feel more confident and adept at emphasising critical information literacy and source evaluation skills required for student assignments. Likewise, librarian expertise was validated with substantial lecture time allocated to share information literacy content, as well as with opportunities to contribute to the curation of resources customised to the modules' assignments. During webinars, lecturers "modelled a high level of collegial respect that encouraged students to extend the same courtesy to the librarians, and further toward the library and its services" (Hawes & Mason Adamson, 2016).

Addressing academic integrity and plagiarism concerns in the online context

One significance of the collaboration was addressing the increasing concern of academic integrity and plagiarism in the online context. Evidence supports the use of educational interventions such as online tutorials to change students' knowledge and attitudes towards academic integrity (Stoesz & Yuditseva, 2018). Through lectures and tutorials, librarians were able to introduce university regulations and guidelines around plagiarism and academic integrity, and recommend best practices to help combat plagiarism such as using reference

management tools. At the same time, lecturers were able to provide a practical perspective on the common academic integrity issues faced in the course.

Development of transferable skills

The information skills taught at the beginning of the course like searching, retrieval, plagiarism, and citing are universal skills that form the foundation for higher-level courses as well as lifelong learning.

Increased awareness of information professionals

As a result of embedment of information literacy contact-time with librarians, student awareness of the librarians' role in search, retrieval, evaluation, and referencing of information grew. This was evinced by:

- Students taking a more proactive role in reaching out to librarians on informational issues both synchronously (Zoom chats) and asynchronously (emails). Our experience is akin to that of Bielema et al. (2005), who found that faculty-librarian collaboration in online learning environments resulted in students being “more willing to ask complex and detailed questions”.
- High visibility of a library-curated guide: Between June 2020 and April 2022, a “GEH1049 Library Guide”, containing curated information resources for the module, accumulated over 15,000 views.

Collaboration allowed the direct application of information expertise and the witness of information literacy improvements in the curriculum. It also helped debunk the stereotype of librarians as supportive actors, confined to a physical library, taking a passive on-demand roles to information literacy education (Jennings, 2016).

CHALLENGES AND RECOMMENDATIONS

Timeliness of information literacy instruction

Most of the information literacy instruction is frontloaded early in the semester. However, students are more likely to apply these skills in the latter weeks of the module, such as during their final assignment. As such, it might be ideal to consider offering optional clinics or a ‘refresher’ information literacy session in the second half of the semester.

Continuity of collaborative efforts

It is uncertain when the library will next teach and assess the students again, and librarians therefore cannot observe the fruit of the information literacy instruction at the end of students' university education. It might be useful to implement, at the university level a longitudinal assessment of students' information literacy outcomes. This would involve assessing the exercise of students' skills in ‘authentic’ scenarios, such as their ability to retrieve relevant information and reference in dissertations and theses (Mery et al., 2017).

CONCLUDING REMARKS

The programme presented in this paper is more than just a single library workshop. It serves as a workable model for future faculty-librarian partners who wish to incorporate transferable information literacy skills, such as searching, retrieval, evaluating and referencing, which will be useful not only during their time at university but in their lifelong learning journeys.

ACKNOWLEDGEMENTS

The authors would also like to acknowledge the librarians at NUS Libraries who have played a part in improving the information literacy programme such as Sukanya Naidu, Wong Kah Wei, Magdeline Ng Tao Tao, Han Ming Guang, Hayati Abdul, and Jamila Osman.

ABOUT THE CORRESPONDING AUTHORS

Mr. Julian AZFAR was formerly a lecturer at the NUS Saw Swee Hock School of Public Health where he coordinated and taught the School's General Education courses. His research interests are in the areas of interdisciplinary curriculum development and pedagogical innovations related to the management of large classes and the embedding of academic skills. He is exploring his new-found curiosity in online and distance learning that has been sparked by the need to re-think teaching and learning strategies since the recent pandemic.

Julian can be reached at julianosaurus@gmail.com.

Ms. LIM Siu Chen is a research librarian at NUS Libraries. Her interests relate to copyright and digital information literacy and their applications to teaching, learning and research. She has experience providing information literacy instruction as part of the Law Resource and Humanities & Social Sciences Teams. She has an LLB (Hons) from the National University of Singapore and an MSc (Library Science) from Nanyang Technological University.

Siu Chen can be reached at llblsc@nus.edu.sg.

Ms. CHEN Yanru, Lyndia is a research librarian at NUS Libraries. Her interests relate to learning engagement strategies, information literacy, and digital technologies. She actively organises these elements into the library programmes that she develops and runs for her teams in Humanities & Social Sciences resources and the TEL Imaginarium that work with immersive technology.

Lyndia can be reached at lyndiachen@nus.edu.sg.

REFERENCES

- Bielema, C., Crocker, D., Miller, J., Reynolds-Moehrle, J., & Shaw, H. (2005). Faculty and librarian collaborations: A case study and proposal for online learning environments. *Research Strategies*, 20(4), 334–345. <https://doi.org/10.1016/j.resstr.2006.12.008>
- Dorner, J. L., Taylor, S. E., & Hodson-Carlton, K. (2001). Faculty-librarian collaboration for nursing information literacy: A tiered approach. *Reference Services Review*, 29(2), 132–141. <https://doi.org/10.1108/00907320110394173>
- Foo, M. L., & Ng, T. T. M. (2022). Incorporating cost–benefit analysis and business databases as part of an interdisciplinary course on energy resources. *Journal of Chemical Education*, 99(4), 1808–1815. <https://doi.org/10.1021/acs.jchemed.1c01058>
- Hawes, S. L., & Mason Adamson, J. (2016). Flipping out over online library instruction: A case study in faculty-librarian collaboration. *Journal of Library & Information Services in Distance Learning*, 10(3–4), 254–267. <https://doi.org/10.1080/1533290X.2016.1219202>
- Jennings, E. (2016). The librarian stereotype: How librarians are damaging their image and profession. *College & Undergraduate Libraries*, 23(1), 93–100. <https://doi.org/10.1080/10691316.2016.1134241>
- Kate Kellum, K., Mark, A. E., & Riley-Huff, D. A. (2011). Development, assessment and use of an on-line plagiarism tutorial. *Library Hi Tech*, 29(4), 641–654. <https://doi.org/10.1108/07378831111189741>
- Kenedy, R., & Monty, V. (2011). Faculty-librarian collaboration and the development of critical skills through dynamic purposeful learning. *Libri: International Journal of Libraries & Information Services*, 61(2), 116–124. <https://doi.org/10.1515/libr.2011.010>
- Kobzina, N. G. (2010). A faculty–librarian partnership: A unique opportunity for course integration. *Journal of Library Administration*, 50(4), 293–314. <https://doi.org/10.1080/01930821003666965>
- Lomness, A., Lacey, S., Brobbel, A., & Freeman, T. (2021). Seizing the opportunity: Collaborative creation of academic integrity and information literacy LMS modules for undergraduate Chemistry. *The Journal of Academic Librarianship*, 47(3), 102328. <https://doi.org/10.1016/j.acalib.2021.102328>
- Martoukou, K. (2020). Academic libraries in COVID-19: A renewed mission for digital literacy. *Library Management*, 42(4/5), 266–276. <https://doi.org/10.1108/LM-09-2020-0131>
- McInnis Bowers, C. V., Chew, B., Bowers, M. R., Ford, C. E., Smith, C., & Herrington, C. (2009). Interdisciplinary synergy: A partnership between business and library faculty and its effects on students' information literacy. *Journal of Business & Finance Librarianship*, 14(2), 110–127. <https://doi.org/10.1080/08963560802362179>
- Mery, Y., Newby, J., & Peng, K. (2017). Why one-shot information literacy sessions are not the future of instruction: A case for online credit courses. *College & Research Libraries*. <https://doi.org/https://doi.org/10.5860/crl-271>
- Ministry of Communications and Information (MCI). (2019). *Digital media and information literacy framework*. <https://www.mci.gov.sg/literacy/-/media/literacy/library/topic/mci-dmilframework.ashx>
- Nguyen, L. T., & Tuamsuk, K. (2020). Roles of the faculty and librarian in the collaborative relationships at Vietnamese universities: A qualitative methodology. *Journal of Information Science Theory and Practice*, 8(1), 33–44. [www.koreascience.or.kr, https://doi.org/10.1633/JISTaP.2020.8.1.3](https://doi.org/10.1633/JISTaP.2020.8.1.3).
- Phelps, S. F., & Campbell, N. (2012). Commitment and trust in librarian–faculty relationships: A systematic review of the literature. *The Journal of Academic Librarianship*, 38(1), 13–19. <https://doi.org/10.1016/j.acalib.2011.11.003>
- Saines, S., Harrington, S., Boeninger, C., Campbell, P., Canter, J., & McGeary, B. (2019). Reimagining the research assignment: Faculty-librarian collaborations that increase student learning. *College & Research Libraries News*, 80(1), 14–41. <https://doi.org/10.5860/crln.80.1.14>
- Sosniak, L. A. (1994). *Bloom's taxonomy*. L. W. Anderson (Ed.). Univ. Chicago Press.

- Stoesz, B. M., & Yuditseva, A. (2018). Effectiveness of tutorials for promoting educational integrity: A synthesis paper. *International Journal for Educational Integrity*, 14(1), 1–22. <https://doi.org/10.1007/s40979-018-0030-0>
- Talikka, M., Soukka, R., & Eskelinen, H. (2018). Effects of brief integrated information literacy education sessions on undergraduate engineering students' interdisciplinary research. *New Review of Academic Librarianship*, 24(1), 48–62. <https://doi.org/10.1080/13614533.2017.1365735>
- Tucci, V. K. (2011). Faculty/librarian collaboration: Catalyst for student learning and librarian growth. *Science & Technology Libraries*, 30(3), 292–305. <https://doi.org/10.1080/0194262X.2011.596792>
- Weber, H., Hillmert, S., & Rott, K. J. (2018). Can digital information literacy among undergraduates be improved? Evidence from an experimental study. *Teaching in Higher Education*, 23(8), 909–926. <https://doi.org/10.1080/13562517.2018.1449740>
- Yang, Y. (20220). A multilevel analysis of the impact of transitioning to grandparenthood on individuals' depression in England, Europe, and China. *Aging & Mental Health*, 26(11), 2291–99. <https://doi.org/10.1080/13607863.2021.1963952>
- Yevelson-Shorsher, A., & Bronstein, J. (2018). Three perspectives on information literacy in academia: Talking to librarians, faculty, and students. *College & Research Libraries*, 79(4), 535-553. <https://doi.org/10.5860/crl.79.4.535> ■