

Library Learning Analytics: Addressing the Relationship between Professional, Research, and Publication Ethics

Kyle M. L. Jones

The advent of and increasing interest in learning analytics among researchers, practitioners, and administrators alike has academic librarians questioning what roles—if any—they can play in this sociotechnical movement. Briefly, learning analytics attempts to use data mining and analysis practices, including statistical algorithms, machine learning, and artificial intelligence, to investigate students' educational, social, and physical behaviors associated with or indicative of successful learning outcomes. Some cutting-edge approaches to learning analytics even use similar data to evaluate and intervene in professional situations (for example, with faculty, librarians, and advisers). Since student behaviors do not exist in a vacuum, learning analytics also examines, *inter alia*, the physical and digital resources, educational experiences, and interventions provided by an institution's faculty and staff to determine what effect, if any, they have on learning.

While learning analytics is a fairly new field of study, the academic literature seems to have taken notable interest. Scopus was used to test if this was true. A phrasal search of "learning analytics" in Scopus targeted on anywhere in the document between the years of 2010 (the inception of the field) and 2020 (the last full year of data) returned 12,690 results. Figure 1 demonstrates that the scholarly attention to learning analytics has significantly increased since the field's birth.

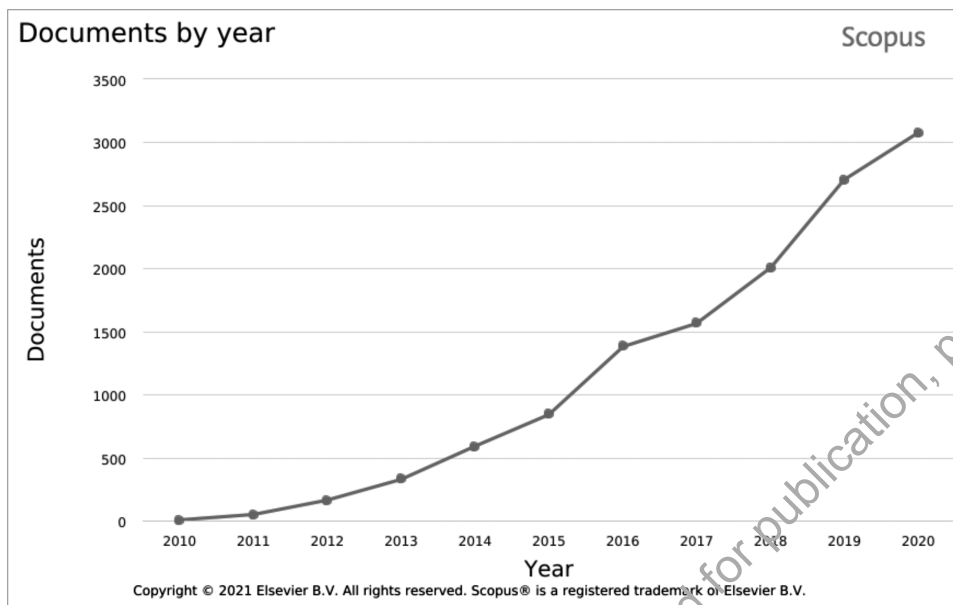


Figure 1. The increase in the number of documents in the Scopus database mentioning “learning analytics” from the field’s beginning in 2010 to 2020.

Academic librarianship has also increased its research on learning analytics. Kyle Jones, the author of this editorial, notes that the seeds of learning analytics were planted in the widely influential *Value of Academic Libraries* report in 2010.¹ Even stronger roots were established by a 2017 white paper by Lynn Silipigni Connaway and her team.² The evidence at the time suggested that so-called library value research had taken a notable turn toward studies of student success—arguably the focus of learning analytics research. Given the increase in learning analytics among academic librarians, a Scopus search was run to establish if a similar trend line existed in the profession. A concatenated phrasal search (“academic librarianship” OR “academic libraries” AND “learning analytics”) was entered into the database, again with a broad scope of anywhere in the document. Figure 2 shows that, like learning analytics generally, there is a notable upward trend in the academic literature with 196 returned results—albeit starting in 2013 instead of 2010. *portal*’s Editorial Board continues to see more submissions addressing learning analytics as a topic of interest, and the journal has published four articles in this area dating back to 2014.³

Contested Ethics

Learning analytics is not a neutral technological practice, and the ethical debate it has triggered has and continues to be intellectually vigorous and, at times, contentious—especially among academic library practitioners and scholars. At the heart of this debate is that learning analytics is predicated on accessing data which potentially reveal highly sensitive student behaviors, both digital and physical, and personal information such

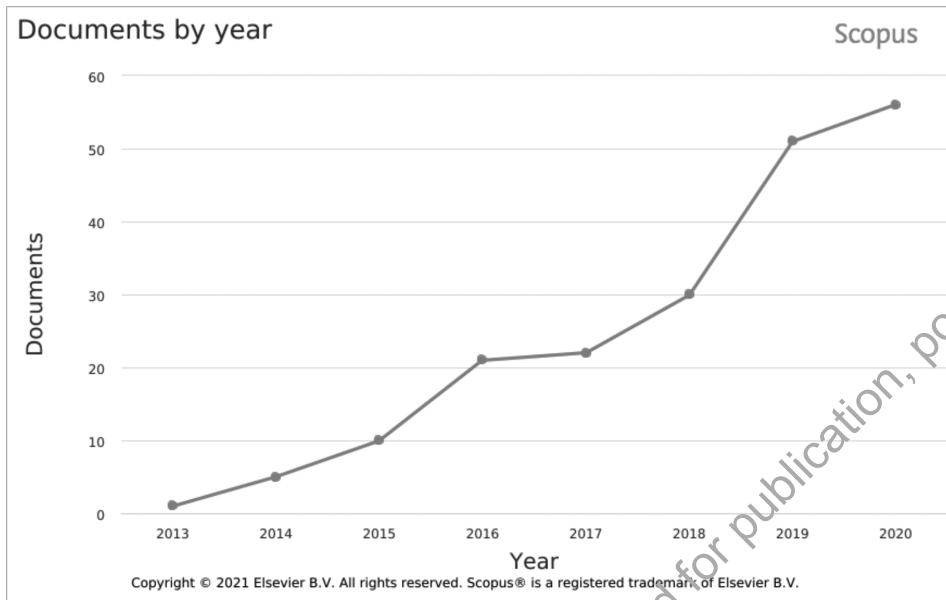


Figure 2. The increase in the number of documents in the Scopus database mentioning “learning analytics” along with “academic librarianship” or “academic libraries” from 2013 to 2020.

as demographics, preferences, and social networks. When interpreted and put into action, these data can lead to the development of student profiles, predictive scores, and targeted interventions by instructors, advisers, and librarians—anyone with access to the information who has power over a student’s life. For advocates of learning analytics in libraries, this paradigm shift to make student experiences more transparent and analyzable provides significant potential. Megan Oakleaf and her coauthors argue that “libraries can round out institutional understanding of student learning and success by enriching a data picture that has thus far omitted student-library interactions.” They also contend that “learning analytics represents a significant evolution in the ways librarians can use assessment approaches to listen to students, make decisions, and take actions to increase library support and dismantle hurdles that can harm students’ ability to persist in and complete their educational journeys.”⁴ For critics of learning analytics, the outlook is more concerning.

Learning analytics raises moral, ethical, and legal issues of the deepest, most confronting kind—especially for academic librarianship. Often, privacy is targeted as a seemingly intractable issue, and it is true that learning analytics can raise *prima facie* concerns about what should be, is, and is not confidential in the sense that rules should be established about the type, source, granularity, and management of data and information. These questions must be dealt with in practice and in policy. Arguably more troublesome about learning analytics is the ethical web related to the gathering and use of student data and the way some—but not all—applications touch on the following:

- individual autonomy and independent choice making,
- justice and fairness,
- beneficence,
- targeted surveillance of over-surveilled minority and at-risk populations,
- intellectual freedom,
- the purpose of higher education: to prepare students to participate in a diverse, liberal democracy.

Academic librarians home in on privacy as a key value at stake vis-à-vis learning analytics, in part because confidentiality is so prominently positioned within the discipline's code of ethics in the United States and abroad.⁵ But privacy is usually invoked because it is subservient to or instrumental in supporting some higher-level value—such as intellectual freedom.

There are no easy answers to the ethical questions, in part because learning analytics is a fledgling field. The research is nascent, and best practices mostly do not exist. There are many promises about educational data mining, but the findings do not bear out its potential—yet. The ethical view might become much clearer in the future as empirical studies are published and benefits are realized. Higher education and academic librarianship, specifically, might reach a consensus on ethical principles or obligations that shut down some pathways for learning analytics while fully enabling others. It is the role of a journal like *portal* to facilitate such conversations through scholarship.

***portal's* Role in Library Learning Analytics**

portal has taken an inclusive, broad approach to studies of academic librarianship, stating that it “focuses on qualitative or quantitative research about the role of libraries and librarianship within higher education. Both basic and applied research papers, including case studies, are welcome, as are essays that explore the more theoretical or philosophical underpinnings of librarianship.”⁶

This journal is perfectly situated to publish, and openly welcomes, research that addresses methodological, practical, ethical, legal, and policy subjects related to library learning analytics using a variety of empirical and other strategies. But in participating in this important scholarly conversation, *portal's* Editorial Board recognizes that it has a role to play as well.

Journals are not—or at least should not be—disinterested publishers. They have a responsibility in curating conversations on particular topics, and they also set expectations for structure, inclusive language, quality standards, and research ethics. The guidelines a publication establishes for potential authors signal its values and beliefs, and contributors must adhere to those principles should they choose to publish with a particular journal.

portal recognizes that learning analytics poses data, research, legal, and professional ethics concerns, and to publish library learning analytics research that does not explicitly and purposefully address these issues would be equivalent to publisher malfeasance. Moreover, publishing works that are silent or underdeveloped on the significant ethical challenges would, in the long run, harm the development of library learning analytics practices and scholarship—and possibly academic librarianship more broadly. To be



a constructive, ethical participant in the library learning analytics literature, *portal*'s Editorial Board is committed to setting new standards to ensure ethics is built into the writing, reviewing, and publishing of such research.

New Standards

There is a tripartite relationship among interested parties when a work begins the publication life cycle. First, the researchers themselves hold the responsibility to conduct rigorous investigations according to the standards of their discipline. Second, the reviewers must ensure—again, according to disciplinary standards and those of the publication—that the piece is of high quality and worthy of dissemination. Finally, the editor's responsibility remains to hold the former and latter parties to the standards of the journal, while constructively shepherding the work. These obligations must be kept in mind when discussing any new standards around library learning analytics, because ethics is neither the researcher's, the reviewer's, nor the editor's responsibility—instead, these principles are jointly held.

portal encourages authors to strive for responsible decision-making and sensitivity to ethical principles when they write about learning analytics research and practice. As with other journals, researchers must identify that their work has received the appropriate institutional review board (IRB) clearances. But more needs to be done, especially since IRBs may find themselves ill-equipped to deal with the ethical issues associated with data mining and analytic practices. Authors need to clearly detail their data management strategies to show awareness of the inherent risk associated with handling student information. Similarly, they must be transparent about deidentification practices, including what steps they took to protect data and information from potential reidentification and why they did so. Student data are rarely anonymous but most likely only deidentified—that is, stripped of details that could link the information to an individual. Authors should understand this distinction and discuss their research practices accordingly. Further, they must clearly describe and justify why certain analytics were applied to the data, must report the strengths and weaknesses of those techniques compared to similar methods, and must discuss how the analytics create or minimize potential bias against particular demographics of students, either in the analytic itself or when implemented in practice. While not every library learning analytics study will focus on ethical issues, such as privacy, all library learning analytics researchers should show awareness of how their practices raise such concerns. Literature reviews, methods sections, or both should include relevant discussions as a serious, authentic demonstration of ethical understanding. *portal* will update its author guidelines to clearly communicate these expectations to prospective authors.

The reviewer's responsibility is to hold the author to the standards outlined in this editorial. At *portal*, reviewers rate a submitted work using a standard assessment rubric, in addition to providing more qualitative comments and constructive feedback. The Editorial Board has begun the process of evaluating and adjusting the rubric. These changes will be twofold. First, the rubric will clearly identify if the submission falls into the category of library learning analytics research. Second, if it does, an additional set of values and criteria will be used to assess the study and ensure that the author has

with purpose addressed library learning analytics ethics. Reviewers will need to attend to this rubric addition and express any concerns they might have about reviewing the scholarship accurately and comprehensively.

As with most journals, the editor sees the submitted work first as it “comes across their desk” upon submission. It is the editor’s responsibility to ascertain, either through communications with the author or the Editorial Board, if the study falls under the library learning analytics umbrella. Once this decision occurs, the editor must carefully select reviewers who can read and respond to the work in its entirety. The editor will determine in consultation with the selected reviewers if they feel comfortable and able to assess the ethics of the research in question and understand the additional rubric values. At the editor’s discretion, the journal will seek the advice of particular peer reviewers or external experts who have expressed an understanding of or advanced expertise in data ethics generally and library learning analytics specifically. Naturally, the editor will evaluate all completed reviews to ensure that the ethical standard has been met, along with other usual criteria.

Conclusion

As a responsible publisher in the area of library and information science, *portal*’s board believes that now is the appropriate time to raise the standards around library learning analytics research to expect more sensitivity from researchers working in this area. Yes, learning analytics holds potential to inform academic librarianship, but the possibilities and the doing of that work should not be divorced from the real and consequential ethical issues—especially given the profession’s commitment to intellectual privacy and freedom of speech. It is *portal*’s hope that authors seeking an outlet for their library learning analytics research will be inspired by these principles and that expressing these standards will encourage peer publishers to respond in a similar fashion.

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Notes

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6. *portal: Libraries and the Academy*, "Publication Ethics," 2020, <https://www.press.jhu.edu/journals/portal-libraries-and-academy/publication-ethics>.

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