"Just Because You Can Doesn't Mean You Should": Practitioner Perceptions of Learning Analytics Ethics

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abstract: Learning analytics involve the process of gathering data about students and using the information to intervene in their lives to improve learning and institutional outcomes. Many academic libraries now participate in learning analytics. However, such practices raise privacy and intellectual freedom issues due to sensitive data practices. But, few research studies address how library practitioners perceive the ethical issues. This article does so by analyzing interviews with library practitioners. The findings suggest that library professionals seek ethical "bright lines"—that is, clearly defined standards—where few exist and that ethical guidance is limited. Though library practitioners recognize that data practices should be scoped and justified, their efforts have come under severe scrutiny—and sometimes harassment—from their professional peers. The article highlights why ethical dissonance has emerged in the profession regarding learning analytics and how library practices might better account for the harms and benefits of learning analytics.

Introduction

Academic librarians, both in the United States and internationally, increasingly examine what role they can and should play in the emerging landscape of learning analytics. Defined, learning analytics is a socio-technical practice concerned with the "measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs."[1] Learning analytics support institutional goals to reduce accountability pressures and hold potential to provide insights into, and support of, student learning outcomes. The outcomes can be defined narrowly (for example, improving a student's

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grade) or broadly (for example, increasing a class's retention rate).[2] With these goals in mind, academic librarians have begun to prioritize learning analytics.

The inclusion of library data in institutional learning analytics initiatives offers a "new hope" that library professionals will discover insights that "can inform, enable, and empower librarians to make decisions and take actions to reinvigorate or even revolutionize the ways in which libraries can support and generate student learning and success."[3] But one's "new hope" requires accessing and analyzing student data in ways that may be another's profound concern. Growing evidence suggests that learning analytics should not be pursued without carefully considering and attending to the ethical quandaries and information policy challenges stemming from the inherent student privacy issues.

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Of interest in this article is how library and information science (LIS) professionals in the context of academic libraries perceive ethical issues associated with learning analytics. The literature suggests that learning analytics present LIS practitioners with significant challenges in professional ethics.[4] Consequently, it is valid and potentially useful to inquire into how such individuals address these moral issues, stated or not, when engaging in learning analytics.

The article begins with a review of the literature that focuses on why learning analytics have emerged in the academic library context, common library practices in learning analytics, and a survey of both general ethical issues and those specific to librarianship. A description of the study's qualitative research methods and the findings follow, detailing four thematic categories on ethics: (1) guidance, (2) checks, (3) data, and (4) resistance. The article ends with a discussion of the ethical dissonance in the library profession regarding learning analytics.

Literature Review

In the past, librarians looked inward, evaluating their work and its value according to professional standards set with peer libraries.[5] But, the data geared toward these standards did little to prove a library's value to its institutional leadership. Such evaluations focused on information access and use, and not necessarily how outcomes aligned with or impacted wider institutional goals around teaching, learning, faculty productivity, and student success.[6] Since the Association of College and Research Libraries (ACRL) 2010 *Value of Academic Libraries* report, conversations and research in academic libraries directly focus on institutional alignment.[7]

ACRL led an extensive, systematic push to plan, support, and distribute findings from small- and large-scale assessment projects throughout academic librarianship. Much of this work was spurred by cascading social, political, and economic pressures on higher education, due in part to the Great Recession beginning in 2007.[8] Nearly all

higher education institutions, but especially publicly funded universities, were forced to perform under difficult austerity measures according to strict accountability regimes. Libraries could no longer point to their historical place in the institution and argue that their intrinsic value warranted the significant resources they consumed.

ACRL received significant grant funding to support its *Value of Academic Libraries* research, including its "Assessment in Action: Academic Libraries and Student Success" program.[9] Results of this work led to four notable ACRL reports, more than 500 articles, many chapters, and other scholarly writings.[10] Because of the significant research in this area, Karen Brown and Kara Malenfant argue that "the higher education community now has compelling assessment findings that tell a strong story about the multiple ways that academic libraries are contributing to student learning and success." These findings include the following:

- Students benefit from library instruction in their initial coursework.
- Library use increases student success.
- Collaborative academic programs and services involving the library enhance student learning.
- Information literacy instruction strengthens general education outcomes.
- Library research consultations boost student learning.[11]

As impactful as these findings are, research is still needed that better highlights the relationship between student retention, learning, and success (for example, academic, professional, or other achievement).[12] To uncover these useful data, libraries pursue learning analytics.

A Move toward Learning Analytics

Though research into the value of academic libraries has and continues to make an impact, libraries have struggled to "speak the language" of their deans, provosts, and chancellors. Citing Christine Wolff-Eisenberg, Scott Walter states that library leaders "have difficulty articulating the library contributions to student success; and 'feel increasingly less valued by, involved with, and aligned strategically with their supervisors and other senior leadership.'"[13] After interviewing institutional administrators, Lynn Silipigni Connaway, William Harvey, Vanessa Kitzie, and Stephanie Mikitish suggest that libraries need to know how administrators use data and analytics, include library data in institutional analytic systems, and develop assessment analytics that align with administrative interests.[14] A move in this direction better aligns assessment practices with the interests and needs of higher education administrators by, according to Megan Oakleaf, "maximiz[ing a library's] capacity to demonstrate and increase the impact of the library on student learning and success."[15] Whether this alignment is just preemptive or actually required

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is unclear. For instance, there is no known literature suggesting that learning analytics are required for libraries to support institutional accreditation processes. Similarly, no literature suggests that administrators are currently requiring learning analytics for budgetary purposes. Regardless, the alignment signals that the *Value of Academic Libraries* agenda fully supports adopting learning analytics methods—including student surveillance, profiling, prediction, and interventions—and goals, especially student success.[16]

Connaway, Harvey, Kitzie, and Mikitish—and to varying degrees Oakleaf and the team of Oakleaf, Anthony Whyte, Emily Lynema, and Malcolm Brown—argue for quantifying library assessment work.[17] This move away from qualitative studies and emphasis on quantitative research not only shuts down some questions (while opening others) but also redefines the methods by which researchers seek answers. Recent research into library value has opted for correlation studies—"the stuff of action for librarians"—to describe and measure the degree of association between library intervention and student success, supported by data mining practices, which analyze large batches of data to discover useful patterns.[18] Using the Online Computer Library Center (OCLC) Research's visualization tool to depict the value of academic libraries, the data show that, of 304 studies of library value between 2008 and 2017 with qualitative or quantitative data analysis, 109 (34 percent) are quantitative.[19] From the pool of quantitative research, 23 percent used correlation methods, the second most popular method. (The number-one method was the application of descriptive statistics at 48 percent.) Also telling is that the number of studies of library value which focused on student success also increased, jumping 570 percent from 2013 to 2014. This finding contradicts the claim of Connaway and her team that literature linking academic libraries with student success peaked in 2013 due to a "lack of established best practices and standards regarding student privacy."[20] Since 2013, the University of Huddersfield in the United Kingdom, the University of Wollongong in Australia, and the University of Minnesota in the United States have gained an international reputation for correlating student library usage (for example, spaces, resources, and services) with institutional learning success outcomes.[21]

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General Ethical Issues and Learning Analytics

The analytic possibilities created by granular data and information flows raise ethical questions of paramount importance. Scholars in critical data studies, data infrastructure studies, and information ethics and policy have begun to address the mélange of moral, ethical, and structural issues created by data analytics.[22] Following in this vein, researchers and critics have worked to parse an array of concerns associated with learning analytics.

Perhaps the most prominent set of questions related to learning analytics focuses on student privacy rights.[23] Given that students have neither the opportunity to consent to learning analytics nor much (if any) control over how their institutions use identifiable

data about them, concerns have grown that learning analytics might deleteriously affect student autonomy due to paternalistic or institution-centric technological designs or both.[24] Learning analytics practices and algorithms are typically opaque.[25] So, some scholars have argued that more transparency would benefit learning analytics by enabling data and algorithmic auditing, which might shore up the underlying moral justifications.[26]

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While many of the problems do relate to privacy, privacy is not the only problem needing thoughtful consideration in technological design. Given the increasing desire by administrators to capitalize on big data, data sets too large and complex to be easily processed with traditional data management and analytics techniques, other researchers continue to critique the so-called neutrality and objectivity of learning analytics. They argue that these politically motivated socio-technical practices have structural consequences on educational programs and professional labor.[27] Nearly all higher education employees create analyzable digital trails, further emphasizing that the surveillant gaze of learning analytics is not fixed solely on students, nor are its consequences.[28]

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Ethical Issues Involving Library Participation

As early as 2014, libraries began to understand the ethical implications of developing infrastructures for analytics and using them to inform practice. The Association of Research Libraries (ARL) argued that "given the implications for privacy, there may be no better institution that [*sic*] the academic library for managing the sharing of data across all systems."[29] Lisa Hinchliffe and Andrew Asher suggest that libraries have been slow, however, to aggregate, manage, and protect data, especially identifiable data, perhaps because of existing professional norms calling for the protection of users' privacy.[30] Asher writes:

> This tension between the ethical imperatives of providing high-quality access and services and protecting the privacy and confidentiality of users is at the core of librarians' relationship with the analysis of user data. Collecting user data for research and analysis purposes rather than the necessity of administering library systems represents a shift in many libraries' stances toward user privacy, and is often a relatively new capability for many libraries and librarians. While libraries' technical capabilities to collect usage

> data have expanded rapidly with new digital systems and analytical tools, these abilities have sometimes seemed to outpace the ethical conversations surrounding this type of data collection.[31]

In response to these problems, Asher argues that libraries must address informed consent before reviewing existing data or collecting new data.

Data, once in hand, should be carefully managed and protected to avert harm from uncontrolled releases and misuse. While this principle is sound, Kristin Briney found in her critical literature review of emerging library research on learning analytics "many examples of inadequate data management practices, including: extended data retention; a broad scope of data collection; insufficient anonymization; lack of informed consent; and sharing of patron-identified data."[32] To drive her evaluation, Briney's study applied the National Information Standards Organization (NISO) Consensus Principles on Users' Digital Privacy in Library, Publisher, and Software-Provider Systems, a set of privacy and data management guidelines that foreground professional library ethics.[33]

Other work has unpacked what, exactly, the library profession means when it talks about its ethical positions in relation to learning analytics. Kyle Jones and Dorothea Salo argue that learning analytics "practices present significant conflicts with the ALA's [American Library Association's] Code of Ethics with respect to intellectual privacy, intellectual freedom, and intellectual property rights." They write that librarians have a responsibility to advocate for and embed their professional values in technological design, policies, and practices.[34] Jones and Ellen LeClere build on this position, stating that "librarians argue that information is a good necessary for all individuals to make rational decisions and participate in a democratic society. The profession comports itself accordingly and it has developed informational norms to respect those values."[35] However, learning analytics violate long-standing informational norms and the contextual integrity of academic librarianship. Clifford Lynch notes that advocates of learning analytics attempt to bypass these value-centric conversations with "sterile and anodyne" rhetoric, assuming that "smart and responsible modern organizations are expected to employ" data-driven tools, which prematurely shifts the "discussion from whether data should be collected to what we can do with it."[36]

The groundswell of ethics research on learning analytics, focused on libraries or elsewhere, highlights an awareness of serious issues to consider. However, at the time of this writing, only three studies had pursued research that provided library and information science professionals an opportunity to speak for themselves about learning analytics and related ethical issues.

The first, a survey of library members of the ARL, sought to "illuminate current practices, policies, and ethical issues around libraries and learning analytics."[37] Fifty-three of 125 ARL libraries responded (a 42 percent response rate). Thirty-four percent of respondents indicated that they did not currently and do not plan to share library data within their institution due to privacy issues. Another 34 percent claimed confidentiality concerns as their reason for withholding data from institutional analytics initiatives. Notably, 25 libraries did not inform their students about their learning analytics initiatives, and only 5 libraries allowed students to opt out of related data practices.

The second study surveyed 90 librarians in Norway, 65 of whom were employed by academic libraries.[38] Similar to findings in a study by Michael Perry, Kristin Briney,

Abigail Goben, Andrew Asher, Kyle Jones, M. Brooke Robertshaw, and Dorothea Salo, higher education respondents indicated that user data should only be shared with institutional actors outside the library when "personal information is deleted and the data anonymised."[39] No other findings are reportable for this study due to the combination of data across library contexts.

The third and final study, while less rigorous than the first two, provides some insight into how liaison librarians view learning analytics using a scenario-based focus group design. Rita Vine observed "persistent values and attitudes that may be out of sync with emerging institutional practices," explaining:

> Liaisons' high regard for strict definitions of user privacy made it difficult for some to understand the malleability of those values from an institutional viewpoint, and harder for liaisons to accept future scenarios that embraced analysis of student or faculty data for academic or reputational objectives.[40]

The literature signals a need for empirical research focused on the ethical issues of learning analytics in practice. With this gap identified, the author designed an exploratory qualitative research project seeking answers to this question: How do library and information science professionals with learning analytics experience characterize the ethical issues? The following section describes the methods employed to structure and ensure the quality of this study.

Methods

The Research Paradigm, Sampling, and Data Collection

This exploratory qualitative study is situated in the naturalistic research paradigm. Naturalistic research accepts that there are multiple, subjective constructions of reality.[41] Realities emerge from contextual factors and the epistemological, ontological, and axiological stances of those embedded within particular contexts. Data analysis procedures enable naturalistic researchers to carefully position findings within a context by raising relevant variables through systematic data interpretations.[42]

Recruitment procedures consisted of a mixture of homogeneous purposive sampling, an effort to recruit participants with similar experiences and backgrounds, and snowball sampling, in which participants suggested other participants for the study. The author posted recruitment e-mails to 15 mailing lists (see the Appendix) seeking participation from academic library professionals who had experience with learning analytics initiatives. He also asked each participant to nominate other individuals who fit the purposive sampling criteria. Most people interviewed were employees of American colleges and universities of various sizes and types; three were employed by international higher education institutions.

Over four months, the author conducted 15 interviews with 14 participants using Zoom, a Web conferencing tool. The interviews averaged 45 minutes. He recorded only interview audio, so the method was equivalent to telephone interviewing. He adopted Zoom because voice over Internet protocol (VoIP) technology often produces clearer audio than phone calls do, which had the positive effect of facilitating accurate tran-

scriptions. Audio-only interviewing is sometimes criticized for lessening the richness of the conversation, but "there is little evidence that data loss or distortion occurs, or that interpretation or quality of findings is compromised when interview data are collected" by voice only.[43]

The Interview Protocol

The Institutional Review Board at Indiana University–Indianapolis examined the recruitment materials and semi-structured interview protocol, exempting them all from further review. The initial protocol addressed the following categories of questions:

- Participation in institutional and library learning analytics practices,
- Motivations, goals, and pressures to participate in learning analytics,
- What participants identify as ethical issues associated with learning analytics, and
- How they respond to the ethical issues associated with learning analytics.

As the project progressed and themes developed, the author dropped questions no longer pertinent to the emerging story.

Data Analysis Strategies and Evaluative Procedures

The author used constructivist grounded theory strategies, which involve forming concepts and theories based on the gathered data as opposed to collecting data after forming a theory, to sample for concepts and analyze the data.[44] After the interviews were recorded and transcribed, the transcriptions were inserted into a spreadsheet. The author analyzed the transcripts using a line-by-line open coding technique, capturing codes in the spreadsheet. Throughout the study, he made reflective memos in the spreadsheets and used mind-mapping software to create diagrams of the relationships among codes and emergent themes. He made selective edits to the interview protocol to drive theoretical sampling and achieve saturation.[45] Focused coding strategies, which search for the most significant codes and categorize coded data based on thematic or conceptual similarity, helped develop a coherent descriptive story and investigate the conceptual findings discussed later.

To ensure insightfulness and rigor in the study, the author targeted originality, dependability, resonance, and credibility standards.[46] This study focuses on ethics as applied by library practitioners of learning analytics, and its originality holds promise to inform the profession and other researchers in unique ways. Individuals familiar with the author's research methods have critically reviewed this work, and in so doing have enhanced the dependability of this article. Finally, the author conducted guided member checks with a sample of the participants, who answered affirmatively that his description of the findings resonated with their lived experience. Participants also reviewed a draft of the "Discussion" section and provided feedback that was integrated into later drafts to enhance the section's usefulness.

Findings

Ethical Guidance: "It's Difficult to Have Bright Lines"

Like other questions surrounding data ethics, participants communicated that pursuing learning analytics means having to deal with "ambiguous, gray areas" where there were no clear ethical boundaries. This uncertainty resulted from the newness of the methods informing learning analytics and the ways in which access to different sources and types of data opened new possibilities and ethical concerns. The ethical ambiguity discomfited some, exacerbated because the profession, to a number of practitioners, seems to want these issues "black and white." In fact, three interviewees—identified by their pseudonymized initials as RM, SP, and SM—argued that the profession's perceived desire for "bright lines" or clearly defined rules for ethical choice, especially around questions of privacy, was unproductive, if not harmful.

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Bright-line rules represented decision heuristics regarding ethical practice, a way to make clear-cut, ethically acceptable choices without interpretation or debate. But even though "people want a bright-line [rule]," SP said, "there is never a bright-line [rule] in questions of ethics." Some participants believed that when their professional peers take up obstinate ethical positions, they shut down conversations that attempt to weigh the potential harm and benefit of learning analytics. Consequently, bright-line rules could dissuade campus leaders from working closely with LIS professionals, who could help protect student privacy and intellectual freedom if consulted.

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To interpret the ethical gray areas of learning analytics, participants looked for guidance from an array of different sources, but especially from professional codes of ethics. Many interviewees (but not those from outside the United States) commented on the ALA Code of Ethics, arguing that it represented a "general framework" of "good ethical principles" for working through relevant issues and encapsulated a cultural ethos among LIS professionals to protect user data. In conversations, they suggested an apparent incompatibility between the Code of Ethics and learning analytics practices because of privacy and intellectual freedom issues. When questioned, however, no one claimed an outright conflict.

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The consensus was that the principles in ALA's Code of Ethics still had relevance, but how they were interpreted and applied depended on the socio-technical context of the institution and on practical considerations. For instance, JW stated that he was "informed by [ALA's] Code of Ethics, [but] I don't work for ALA: I work for [my university]. So, I need to put the priorities of the institution ahead of the priorities of ALA." Others argued that carefully thought-out data governance could resolve many of the ethical quandaries. Even when expressing support for the Code of Ethics, some participants quickly qualified their remarks.

In years past, American and international LIS professionals clearly accepted values embedded in ALA's Code of Ethics.[47] But the digital landscape of librarianship has changed. Libraries rely on networked systems for the provision of information resources, and third-party vendors often provide the tools necessary to access and make use of information. Participants suggested that reliance on information and communication technology within and outside the library, along with the privacy losses that often come with the use of such technology, indicate that user privacy preferences have become less stringent, and the need for libraries to provide strong privacy protections has become less compelling. Reflecting on these changes, DS said: "The world around us is changing, and, you know, there's a loosening in terms of what your average individual is willing to put out there. I think that probably in the last decade or 15 years we have begun to embrace [ALA's Code of Ethics] more loosely."

User privacy preferences have become less stringent, and the need for libraries to provide strong privacy protections has become less compelling.

With changing norms among users, participants suggested an open dialogue to review the Code of Ethics against the backdrop of "what the world is like today." As one put it, "The environment has so significantly altered that it feels, you know, it feels like it would be an opportune time to have a serious go at talking about whether they should be changed or not."

Ethical Checks: "Setting the Research Boundaries"

While professional codes of ethics provide guiding principles for learning analytics work, participants argued that the most important ethical check came from their respective Institutional Review Boards, or IRBs. As IRBs must attend to federal regulations (at least in the United States), they provide legal guidance for research on human subjects. IRBs are also informed by the principles put forth in the Belmont report, a U.S. government statement of guidelines for the protection of human subjects of research, along with contextually relevant institutional policies and an understanding of potential social effects. About this point, RM said:

While professional codes of ethics provide guiding principles for learning analytics work, participants argued that the most important ethical check came from their respective Institutional Review Boards.

> I think if you are working within the context of your local IRB and they're okay with the work that you're doing, I think that that's another indication that the work that you're doing fits within a broader sort of ethical criteria or ethical sort of framework that's, you know, very well established and very well respected.

So, to many participants, IRBs are the "starting point" for learning analytics work because they help with "setting the research boundaries" and green-light the ethical choices driving the projects. To get IRB approval, as SM put it, learning analytics researchers need to "make a case" regarding data access, management, security, and analysis purposes. They also must "demonstrate justifications" regarding those choices. At JC's institution, IRB review was followed with an examination by data stewards, who decided what data the library could gain access to and what library data other institutional faculty and staff could use for their own research purposes.

Even with the broad agreement among participants that IRBs have a role in learning analytics, questions emerged as to whether IRBs simply "rubber-stamped" learning analytics projects without fully understanding the potential ramifications. Interviewees reported that their projects were often exempted from more thorough IRB review because the work was considered common educational research done to improve teaching and learning methods and tools. To SE, this was disconcerting:

> If you perform research, you have to demonstrate justification, theory research, like, you know, in terms of have you considered the implications of the research on the participants? You have to have a hypothesis for your research, as well . . . There is this caveat that anything you do for the purpose of learning and teaching is fine. You don't need any sort of ethical oversight.

VK questioned whether his IRB was familiar with some of the emerging data ethics issues: "The whole idea of big data, I mean, it's moving so fast . . . I think they need to be maybe more on the cutting edge." To fill in the perceived blind spots in his IRB's reviews, he and his learning analytics team took it upon themselves to "self-impose boundaries" when they perceived that certain data practices might produce unacceptable risks.

Ethical Data: "The Correct Data Points"

The ethos of big data advocates and of many learning analytics proponents is to maximize data retrieval to increase the likelihood of interesting, possibly actionable results. Some participants reflected on this approach but expressed reservations. CA said he wanted "as much data as [he] can get" but added that he wants only high-quality data that inform a specific project. He did not support so-called data fishing: "I'm not in favor of collecting everything in the hopes that we can potentially use it. For me, it's very much about what are the correct data points." As VK put it, "Just because you can [gather data] doesn't mean you should."

The ethos of big data advocates and of many learning analytics proponents is to maximize data retrieval to increase the likelihood of interesting, possibly actionable results.

The idea that data-driven projects should match "narrow" and "topical" research questions resonated with many participants. "We start with research questions we have or service quality questions," said SP, who did not "feel that it was worth attempting to build kind of a big data learning analytics infrastructure." VK explained, "Just because the data is there doesn't mean we need it. So, what data do we really truly need in order to do our job or to answer the question that we're charged with answering?" SM, who was under pressure from an administrator to participate in large-scale data mining, justified deleting data, such as usage logs, after archiving whatever could answer assessment and evaluation questions. Most, but not all, participants reflected CA's dictum that "Until you have a plan to analyze and use data, you shouldn't be collecting it."

Ethical Resistance: "People Just Don't Think This Work Should Be Done"

Participation in learning analytics initiatives garnered negative attention for some of the interviewees. While they argued that their work is meant to "contribute to the success" of the students whom they serve, their professional peers sometimes did not see their activities as aboveboard. In some cases, participants' efforts came under severe scrutiny from their peers, even receiving verbal and online harassment at times.

The interprofessional attacks stem from professional sensitivities vis-à-vis user privacy. Participants were clearly aware of the privacy issues associated with learning analytics and commented on them often. They knew that professional commitments to protect user privacy are challenged by data mining practices that surface potentially sensitive, identifiable data. Because of this friction, as RM stated, "Some people just don't think this work should be done at all . . . that this type of work is just completely off the table." Library learning analytics, therefore, has become a "very divisive issue" where the profession has a "hard time finding middle ground." It has pitted professionals pursuing learning analytics against privacy advocates who want optimal protections against privacy intrusions and related harms.

Professional commitments to protect user privacy are challenged by data mining practices that surface potentially sensitive, identifiable data.

Participants reflected on their experiences at conferences and on social media sites where their communications about library learning analytics initiatives were countered with vitriol. One interviewee said that she had been "privacy shamed" in person because of her projects. About her online experiences, she added:

> We've had people basically say the same thing to us on Twitter. I would say relatively well-known people as well . . . who have sort of questioned us publicly on the work and been very dismissive and disrespectful about it. We've also had people threaten to identify our students through our [data] dashboards . . . we were a little surprised by how angry some people seemed to us.

Another participant stated that he had been "the brunt of many attacks" and publicly scorned as not "a real librarian." While not the recipient of attacks, JC had observed them and reflected that professional peers should not be berated for evolving "with what users expect, what systems you're dealing with, and [the] need to engage with those times to make sure that we can do the best we can with the resources that we have."

Even though some would rather not see their peers engage in learning analytics, interviewees discussed how involving LIS professionals in learning analytics may benefit students' privacy. Participants reflected that they might lack the option to abstain from institution-wide learning analytics projects, but that was not necessarily a negative outcome. Given that learning analytics initiatives often have multiple stakeholders and serve an array of interests, interviewees argued that participating was necessary "to have a seat at the table" and make their voice heard in discussions about data ethics. Active engagement in learning analytics, as one stated, provides the opportunity "to be part of the conversation" and to infuse data practices with an LIS perspective. But if professional conversations continue to degrade into name-calling and fail to fully consider the benefits and harms, campus initiatives will not be informed by the profession's ethical principles and values. As SP said, the "window in time in which libraries will engage and become players in this environment is closing."

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Discussion

Ethical Dissonance

The findings illustrate the complex nature of ethical decisions in this new era of learning analytics. The data practice is wrapped up in political and economic tensions; because of these factors, the degree to which libraries may maintain the autonomy necessary to pull back from data gathering and analysis is diminishing. Previous data ethics concerns, namely privacy, centered on third-party access to user information by way of contracts with vendors for necessary technologies and services.[48] Via contractual negotiations, homegrown solutions, or abstaining from particular practices, libraries could attempt to use their resources and—to an extent—their power to bring about the ethical resolutions they wanted. The frame of reference has changed. Now, libraries increasingly must work with institutional stakeholders who use their political influence and administrative power to pursue learning analytics strategies that will in part determine how and to whom resources are allocated. As a result, the ethical choices are limited, and pulling out of learning analytics may not be an option.

Pursuing socio-technical practices that collect, aggregate, analyze, and act on data revealing students' intellectual behaviors and interests is antithetical to the library profession's commitments to user privacy and intellectual freedom, within the United States and in many international contexts.

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As a result, it should not be surprising that learning analytics are ethically challenging for LIS professionals. This ethical dissonance can make it difficult to perceive the potential benefits learning analytics may create for libraries and students. Instead of seeing how participation in learning analytics may, among other things, change how librarians conduct instruction and make more transparent the connection between reference librarians and educational achievement, librarians often focus on the potential harm.[49] The search for ethical guides and checks on their work, as participants discussed, is both a philosophical and a practical need.

Philosophical Divides

If the LIS profession's foundational position is that privacy is inviolable, then the profession has an ineffective ethical heuristic for dealing with learning analytics. As a result, when a practice weakens privacy, some professionals are bound to consider it immoral even if it plausibly or actually creates benefits, regardless of what they are and to whom they redound. Surely, privacy has intrinsic and extrinsic value worth defending: It is a human right (intrinsic) and is instrumental to the development of other goods, such as intellectual property and intimate relationships (extrinsic). But privacy does not exist in a moral vacuum; it must be calculated with and against other benefits. Here, the profession's unwavering position on privacy denies due consideration of other moral options. Analyzing identifiable student data, for instance, may help universities create just systems of financial aid or support students who struggle with food insecurity. With aggregate, deidentified data, universities may develop practices that reduce the increasingly prohibitive cost of higher education, which causes lasting financial harm to many students.[50] These initiatives could lead to student success, albeit in indirect ways. Some will quickly discard this argument, however.

Learning analytics detractors argue that upholding student privacy is the last bastion against neoliberal advancements in higher education. In stark terms, April Hathcock argues that learning analytics "is a colonialist, slave-owning, corporatizing, capitalist practice that enacts violence, yes violence, against the sanctity of a learner's privacy, body and mind."[51] Therefore, minimizing how institutions gain access to student data reduces their ability to extract value for use in competitive markets in ways that benefit the institution, but not necessarily the students. Until institutions prove to these critics—LIS professionals among them—that their data mining efforts directly aid learners, the detractors are unlikely to give up their defensive position.[52]

Practical Considerations

A bridge must be built between practitioners engaged in learning analytics and those who wish to see such practices disappear. In an environment where ethical questioning devolves into attacks on one's identity rather than a discussion of means and ends, sifting and winnowing will never win out. The profession needs to engage with two primary questions to build this bridge: What are the justifiable ends learning analytics can achieve, and how does the profession work toward those goals using ethically defensible methods? The answer or answers demand constructive debates that address conflicting values, powerful interests, and real struggles for finite resources. The first question is the hardest to tackle, but the second is relatively tractable.

Moving toward fruitful dialogue also requires the profession to acknowledge and resolve its weaknesses, including rigorously evaluating its abilities before participating in learning analytics research or assessment. LIS professionals need to be introspective about their methodological training (or lack thereof). Few professionals trained in the LIS tradition receive more than basic qualitative and quantitative methodological instruction, if that.[53] LIS programs may not require their students to enroll in research methods courses, and a majority of programs offer only one methods course; few have their own course dedicated to statistics.[54] Unless teamed with individuals who have received an advanced methodological education, most LIS professionals will be under-skilled and unprepared to lead quantitatively rigorous learning analytics projects. Therefore, methods must be chosen carefully to limit the creation of misleading findings and, consequently, harmful downstream actions.[55] After a program of study has been designed, it should undergo rigorous methodological scrutiny as part of its ethics review.

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As the findings show, LIS professionals may not be able to rely on Institutional Review Boards (IRBs) for useful and insightful ethical checks. IRB judgments matter not where assessment is concerned, and they may lack awareness of data ethics issues in the library context. Librarians who understand this reality but seek IRB review only to have a checkbox marked, without participating in a stringent ethical review process, do no more than participate in an internal version of IRB laundering.[56] Instead of relying on an ineffective system, librarians have an opportunity, if not an obligation, to raise their own ethical sensitivities and those of their institutional peers.

Library faculty and staff need to develop ethical awareness through purposeful continuing education and with support from professional organizations to fill in knowledge gaps regarding data ethics. After this work, librarians have an opportunity to collaborate with IRBs and other institutional peers to shore up review processes and develop community norms. These advancements would work toward creating more just and beneficent research that respects the autonomy of its participants—the students whose lives are captured in the data. Moreover, a library could develop its own in-house review board attuned to the specific ethical considerations of learning analytics projects. Such a board would plausibly provide another layer of comprehensive and insightful review of data-driven library projects and develop the nuanced decision heuristics and research guidelines that professionals often need in ethically gray situations. Sharing these heuristics and guidelines at professional conferences and on as-

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sociation websites—for example, EDUCAUSE, ACRL, or the ARL—would assist other libraries struggling with ethical guidance.

Conclusion

Learning analytics initiatives raise significant ethical issues, and many are more complicated in the context of academic librarianship. The lack of ethical guidance and heuristics has practitioners attempting to navigate the moral ambiguity and seek support for their decision-making and justifications for doing the work. A complication is that practitioners have faced social pressure—if not harassment—by their peers for participating in learning analytics. The findings suggest that the profession is at a critical juncture. It needs to document and address the potential harms and benefits of learning analytics to work through the ethical unknowns. Furthermore, practitioners would benefit from negotiating and developing ethical "road maps" that reflect evolving norms, values, and interests.[57]

Like all science, this study has limitations that open doors for future research. First, the final thematic findings homed in on perspectives of ethics in practice, but not specific ethical issues (for example, student autonomy or privacy). However, data unreported due to space limitations suggest that such issues exist, notably that informed consent is a major concern. Second, findings may be biased by participants who view learning analytics as a beneficial practice, whereas perspectives from other practitioners might perceive more possible harms. Future research would benefit from targeting participants with these stated dispositions so that the data might enable comparative type-building.

At times, socio-technical change is imperceptible, and its momentum goes unchecked. This is not the case with learning analytics, especially in the context of academic librarianship. Practitioners and scholars alike recognize the moral significance and consequent challenges raised by learning analytics. How skillfully practitioners will navigate such issues is yet to be determined.

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Appendix

E-Mail Lists Contacted for Participant Recruitment

List name	E-mail address	Subscription URL
American Library Association (ALA) College Libraries Section	collib-l@lists.ala.org	http://lists.ala.org/sympa/info/collib-l
ALA DIG (Data Interest Group)—ACRL Numeric Data Interest Group	acr-igngdsal@lists.ala.org	http://lists.ala.org/sympa/info/acr-igngdsal
ALA Intellectual Freedom Forum	ifforum@lists.ala.org	http://lists.ala.org/sympa/info/ifforum
ALA Intellectual Freedom Round Table	ifrt-members@lists.ala.org	http://lists.ala.org/sympa/info/ifrt-members
ALA Patron Privacy Interest Group	patronprivacy@lists.ala.org	http://lists.ala.org/sympa/info/patronprivacy
ALA Privacy Project	library-privacy-project@lists.ala.org	http://lists.ala.org/sympa/info/library-privacy-project
ALA University Libraries List	uls-l@lists.ala.org	http://lists.ala.org/sympa/info/uls-l
Association of College and Research Libraries (ACRL) Assessment Discussion Group	acrlassessdg@lists.ala.org	http://lists.ala.org/sympa/info/acrlassessdg
Association of Research Libraries-Assess	arl-assess@arl.org	http://www.arl.org/focus-areas/arl-academy/communities-of-practice/assessment
Learning analytics	learninganalytics@googlegroups.com	https://groups.google.com/forum/#!forum/learninganalytics
Library and Information Technology Association (LITA) Instructional Technologies Interest Group	lita-insttechig@lists.ala.org	http://lists.ala.org/sympa/info/lita-insttechig
LITA List	lita-l@lists.ala.org	http://lists.ala.org/sympa/info/lita-l
Library Leadership & Management Association (LLAMA) Assessment Discussion List	assessment@lists.ala.org	http://lists.ala.org/sympa/info/assessment
Reference & User Services Association (RUSA) Emerging Technologies Section List	ets-l@lists.ala.org	http://lists.ala.org/sympa/info/ets-l
University of Kentucky higher education assessment	ASSESS@LSV.UKY.EDU	http://lsv.uky.edu/scripts/wa.exe?SUBED1=ASSESS&A=1

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