Are Norwegian academic Librarians ready to share Usage Data for Learning Analytics?

Peer Reviewed

Tore Hoel*, Weiqin Chen, Anne-Berit Gregersen

Oslo Metropolitan University

Abstract

University libraries offer services that generate data about how students and faculty use knowledge sources and engage with teaching and learning. In an era of Big Data there is mounting pressure to use these data, something that challenges the professional ethics of librarians. This paper explores how Norwegian librarians position themselves in relation to the new phenomenon of learning analytics, which would like to process library data to help improve learning and its contexts. A literature review shows that librarians in general are highly skeptical to let any information that is not anonymised out of their hands to be used by other professions. However, library data is increasingly being shared with third parties as part of development of library systems and practices. In a survey presented in this paper Norwegian librarians were asked about their willingness to take part in analytics and data sharing. The findings show that even if librarians in general do not want to share data that reveals personal information, their resistance will depend on the consent of the students, and to which degree librarians themselves are involved in processing and analysis of the data. This study identifies learning analytics as a field the library community should engage with, and the authors give their advice on what should be focused to sustain librarians' professional ethics related to use of library data.

Keywords: library data, learning analytics, data sharing, privacy, data protection

*Contact:
tore.hoel@oslomet.no

Introduction

Smart use of data to give new insights for students and employees; this is a key point in the "strategy for digital transformation" of the new Oslo Metropolitan University (2018). The use of the word *transformation* indicates expectations of deep change that involves all departments of the university, also the library. This notion of *data* (Big Data) as the force behind substantial future change in the public sector has caught momentum in the last few years (Vivento, 2015). Tay (2016) has identified four trends that will make librarians more engaged in data and analytics. First, there is a rising interest in Big Data, data science and artificial intelligence in general. Second, library systems are becoming more open and more capable at analytics. A case in point is the 2015 - 2016 update of library systems in more than hundred Norwegian higher education institutions from a national solution to the multi-national Alma system from the Israeli Ex Libris company. Third, assessment and increasing demand to show value of libraries is a hot trend. And, as the fourth trend, Tay (2016) lists the rising interest in learning analytics.

Learning analytics (LA) is 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 (Long & Siemens, 2011). Since the 1st International Conference on Learning Analytics and Knowledge was organised in 2012, LA has emerged as a research field now influencing educational policy development worldwide. However, at an early stage, privacy was identified as a stumbling block for large-scale implementation (Griffith et al., 2015; Hoel & Chen, 2016a; Hoel, Griffiths, & Chen, 2017). Traditionally, librarians have been the most astute champions of data privacy among all public sector professionals (Library Freedom Project, n.d.). Item 10 of the ethical guidelines of Norwegian Library Association states: "Librarians shall make sure that the users' needs for literature and information and other personal information are handled with confidentiality". To ensure this principle is understood the guidelines reiterate, "if other persons or institutions ask for information about the users' needs for information and literature it shall not be given" (Norsk Bibliotekforening, n.d. Authors' translation). With the advent of Big Data, library analytics, and now learning analytics this principled position of no data sharing may be more difficult to hold. Librarians have always worked on statistics, analysing library loans, usage of their collections, etc. What is new is that the data generated in the libraries are assets that are wanted and exchanged across systems and groups of stakeholders, and that these assets carry values also for other groups than library users, who are the primary beneficiaries in the ethical guidelines of the library association.

It is interesting to note that Tay (2016) suggested that LA would have the strongest impact on analytics use in libraries. He suggested a list of activities "in increasing level of capability and perhaps impact":

Level 1 - Any analysis done is library function specific. Typically, ad-hoc analytics but there might be dashboard systems created for only one specific area (e.g collection dashboard for Alma or web dashboard for Google analytics)
Level 2 - A centralised library wide dashboard is created covering most functional areas in the library
Level 3 - Library "shows value" runs correlation studies etc
Level 4 - Library ventures into predictive analytics or learning analytics (Tay, 2016)

Not many academic libraries are at level 3 or 4 (Oakleaf, Whyte, Lynema, & Brown, 2017). Moving up the ladder silos get broken and collaboration with other professional groups increase. We also see that there are forces outside of the library that approach library data. In a

blog post from the UK Jisc LA architecture initiative it is explained, "we started off with VLEs [another term for LMS - learning management system], moved on to student records, but we're now looking to extend our xAPI VLE approach to library data" (Baylis, 2016). The ICT departments and the teachers who promote online learning in education are turning to the libraries to get data on students' use of the library.

However, there a few studies that show how librarians will meet the demand for library data and collaboration with professionals that pursue a LA agenda. There are no studies giving voice to Norwegian librarians. Internationally, we see that librarians now raise questions, e.g., the journal *Library Trends* put out a call for papers to a special issue on LA and the academic library (publication scheduled to March 2019), indicating a rather strident position:

> This issue will invite authors to explore and push back against statements that learning analytics will somehow improve academic libraries by addressing questions around political positions and value conflicts inherent to learning analytics, coded in related information systems, and embedded in emerging data infrastructures. (Library Trends, n.d.)

An extensive search of literature, both from the library and the LA related communities, makes us conclude that there is very little research on both political, legal, organisational and technical aspects of exchange of usage data between libraries and other parts of educational institutions for use in LA. This represents a research gap that this paper identifies, and to a small extent starts to address.

In this paper, we explore how Norwegian libraries and librarians are prepared and willing to share library data for use in analytics. The guiding research questions are:

> *1.* Are the library systems used in higher education in Norway prepared for sharing data for use in LA?
>
> *2.* The traditional position of Norwegian librarians is, what takes place between the librarian and the library user stays between the two. Are the librarians willing to leave this position to engage in LA with stakeholders outside their own profession?

We will proceed this paper with reviewing national and international literature to see if these issues are addressed in library and other research. Based on our research questions and the identified research gaps we have designed an mixed method approach of document studies and a survey. This approach is further described in the Methodology section of this paper.

Related work

Data analytics is a new field of research and practice, both for library and learning sciences. So when the library community enters into discussion with learning scientists, computer scientists, university administrators and others it is to be expected that this is from the normative position of protecting patron privacy (Johns, & Lawson, 2005; Bowers, 2006; Hess, LaPorte-Fiori, & Engwall, 2015; Ferguson, Thornley, & Gibb, 2016; Hegna, 2016). We start this review of related work by exploring how this normative position i reflected in recent Norwegian and international discourse.

In Norway, there is no tradition to share library usage data outside of the library, with other departments of the university, or with third parties. The historical roots to this tradition, and why Norwegian librarians value privacy so strongly, can be traced back to the near political history. As Lynch (2017) points out, "[t]here is a long and ugly history of efforts by various authorities to monitor and control what people read". Librarians know about the McCarthy era in USA, but there are examples closer to home. In 1979 in Denmark, a court ordered a library to give police information about the loans of a person (Hegna, 2016). In Norway, many librarians along with other citizens asked for their surveillance files from the tumultuous 1970s, vividly described by Jon Michelet (2013), in his book "Mappa mi (en beretning om ulovlig politisk overvåking)". The authors of this paper do not know if there were examples of information leaking out of libraries; however, the interest of the Norwegian police in the reading habits of the citizens could be compared to McCarthy's, judged from what one of the authors of this paper found in his files. These experiences do not invite librarians to handle exchange of library data lightly. However, these incidents were before the Internet era. Now, there are other concerns, as new library systems, new online practices and new business models will put the tradition of confidentiality and data privacy under pressure.

Hegna (2016) claims that by outsourcing collections, systems and services the libraries abandon their role as an "anonymising broker" between the user and the sources of knowledge, not being able to guarantee privacy any more. When downloading papers the local users are registered by the publisher or distributor, not by the library – and the usage is no longer anonymised. The distributors analyse usage patterns of books. The library systems are hosted on servers outside of Norway. These are only some of Hegna's examples of how the control of the libraries of personal data relating to library use is eroding. When discussing what could be done to counter these trends Hegna touches also upon analytics:

> Data limitation. The library should ask which user data it needs to carry out its tasks. (…) Under no circumstances must the library share personal information about its services to others, whatever good intentions they might have. *This applies for example to requirements for library data to study reading patterns related to learning analytics.* (Hegna, 2016, p. 17. Authors' translation and italics).

Thinking back on 30 - 40 years of technological development, Hegna describes himself as an ambassador for "moving as many library services as possible out to the desktop of the users. Completely without any thought of this development ripping the libraries of their role as anonymising brokers" (p. 6. Authors' translation). In the Norwegian library community, Hegna has been an opinion leader for decades. Now he wants to put on the brakes and guide the libraries back to their core functions to save their professional values, and he wants librarians to have nothing to do with LA.

How do these views resonate with international library discourse? In the aftermath of the 9/11 attacks in 2001, US librarians have discussed how "library records are fair game for governmental agencies (…) the library patron will never have the opportunity to know that their library records have been examined" (Bowers, 2006, p. 381). Johns and Lawson (2005) also pointed to concerns among library users about online privacy due to the increased ability new technologies give to capture and retrieve data about library usage patterns and users. Ferguson, Thornley, and Gibb (2016) suggest that librarians' code of ethics are satisfactory on traditional library issues of access and confidentiality, "but do not address the ethical challenges of current and potential digital environments" (p. 550). They want the professional associations to communicate more with their members to provide tools that are more useful in the workplace.

This is in line with Hess, LaPorte-Fiori and Engwall (2015) who discuss how preserving patron privacy in the 21st century academic library is a balancing act, complying with professional ethics while adhering to federal-, state- and institution-level policies regarding student privacy and information security.

When it comes to the specific challenges facing libraries involved in LA initiatives, Jones and Salo (forthcoming) notes that little has yet been written. They point to Showers' (2015) book "Library Analytics and Metrics" as a notable exception. Showers (2015) claims that the boundaries of privacy are redrawn; while libraries traditionally played the role as 'heaven of privacy', now they are, without giving much thought to it, compromising privacy through for example encouraging the use of social-media widgets and sharing buttons. "The difficulty for libraries and cultural heritage institutions is that protecting the privacy of users is no longer responding against a clear and well defined threat. Indeed, it may even be perceived as an improved service or better user experience" (Showers, 2015, p. 154).

Showers' concern is that libraries may be "undermining some of the values they have traditionally held so dear" (Showers, 2015, p. 154). For Jones and Salo (forthcoming) these values, codified in The American Library Association (ALA) Code of Ethics, are the starting point for a strong warning that LA might jeopardise professional ethics. They find LA is at odds with librarians' professional commitments to promote intellectual freedom; protect patron privacy and confidentiality; and balance intellectual property interests between library users, their institution, and content creators and vendors (p. 4). To justify this position, Jones and Salo place LA as a type of Big Data practice, which is driven by an ethos of developing "boundless datasets", "taking an 'n=all' approach" (p. 4), with data scientists conducting "fishing expeditions" to look for patterns (p. 5). LA is understood as a business intelligence strategy; Jones and Salo do not believe the actionable insights of "datafying the learning experience" (p. 6) will help the students themselves. "To date, the level of access a student has to data and analytics about herself is still low, but access by institutional actors is high" (p. 9).

Jones and Salo hold the ALA Code of Ethics as a "fine-tuned code that can directly address issues with LA" (forthcoming, p. 15), and LA is in conflict, they argue, with especially three principles:

> II. We uphold the principles of intellectual freedom and resist all efforts to censor library resources.
> III. We protect each library user's right to privacy and confidentiality with respect to information sought or received and resources consulted, borrowed, acquired or transmitted.
> IV. We respect intellectual property rights and advocate balance between the interests of information users and rights holders. (American Library Association, 2008).

Regarding the 2nd ALA principle, Jones and Salo claim LA compromises intellectual freedom "when institutional actors, system designers, and algorithms limit opportunities to engage in the creation and consumption of intellectual material" (p. 16). It is the "nudging" techniques they have in mind, connecting learning environments to intellectual freedom – "the ability of an instructor to assess and penalise students for *not* responding to the nudge.

Regarding the 3rd principle, privacy and confidentiality, the two authors state that "LA

naturally invokes privacy issues and concerns about confidentiality of personal information". They further note that "[s]tudent use of materials (e.g. books, articles, etc.) may be recorded, analyzed, shared with a variety of actors, and used to intervene in student learning and life choices". On this premise, Jones and Salo interestingly conclude: "These practices in turn damage intellectual freedom" (p.19).

Regarding the 4th principle on intellectual property, it is how informational and algorithmic products derived from student data could become trade secrets or marketable products (p. 22) that gives Jones and Salo the reason to fear LA.

In summary, Jones and Salo find that the library profession face an ethical crossroads, as "LA practices present significant conflicts with the ALA's Code of Ethics" (p. 26). For them, the only answer for librarians, they conclude, is to respond by "strategically embedding their values in LA through actively participating in conversations, governance structures, and policies" (p. 27). Comparing the arguments and sentiment conveyed in the papers by Hegna, and Jones and Salo we find a similarity in the description of LA and associated practices and the position and role of the library profession. The new digital practices are a distraction from the laudable core activities of an academic library defending intellectual freedom. And the librarians armed with their professional ethics should take a moral high ground embedding their values in conversations with other professions in the university.

Big Data and LA may accentuate the challenges of the information age; however, librarians have over the years developed their values. In the early years, ethical issues dealt primarily with librarians' responsibility to the employer or patron. "The focus later shifted to questions of professional identity, organisational environment, and social responsibilities" (Dole, Hurych, & Koehler, 2000). However, international examination of ethical values of information and library professional does not leave any doubt that even if previously accepted values are being challenged, there are some core values that will keep giving strong guidance. "On the whole, library professionals maintain, in the main, similar ethical values. These are, in order of values most frequently classed by professionals: service to the patron, intellectual freedom, preservation of the record, and equality of access" (p. 13). The service to the client or patron is the most important of the values, Koehler, Hurych, Dole, and Wall (2000) observers, identified "without doubt and almost without exception, [by] librarians of all kinds, in all positions, in all regions, and of both genders" (p. 19). Differences in the order of importance of values are on the second and third level, and "[w]here difference occur among library professions, these are probably a function of the different information roles and responsibilities of these information professionals" Koehler et al. (p. 19) assume.

This review of related work points to professional ethics and values as the framing of a the discourse that will come as a result of more focus on data sharing for LA within education. The works of Koehler (2006), Koehler et al. (2000), Dole, Hurych, and Koehler (2000), and Koehler and Pemberton (2000) explore how ethical values and codes of ethics both influence and are influenced by a changing technological landscape. Ayre (2017) underlines that both vendors, libraries, and patrons have a role to play in protecting patron privacy. No doubt the pressure on libraries to share data will mount, and we have to get more knowledge on how academic librarians are prepared for this development (ref our first research question). Related to the expected introduction of LA, this leads to the need to research what role the librarians will play in influencing the conditions under which the sharing of library data with other

professions, departments and third parties, and what positions they have to questions on handling of data. This is the purpose of the empirical part of this research.

Methodology

This study is based on literature review, document studies and an online questionnaire using Google forms. Initially, we wanted the questionnaire to target librarians in Norwegian higher education institutions. However, this group did no longer have a public e-mail list of their own, as they had joined the bibliteknorge@www.nb.no list that covers all 'Library Norway'. By using using this list for a convenience and snowball sampling we got 90 respondents, 72% of them from higher education, 11% from school libraries, and 11% from public libraries. 8% did not work in library. Analysis of the data showed that the different groups of librarians did not differ significantly in their responses.

The sampling method used in this study and the use of descriptive statistics have clear limitations. We are not able describe trends or infer anything about interaction between concerns. Nevertheless, we should be able to glean some information about current opinions and positions among Norwegian librarians related to access to and sharing of library data. We acknowledge that we are approaching a new field of enquiry. "Rapid technological change and the advent of the information age are forcing the library profession to rethink its mission and responsibilities" (Dole et al., 2000, p. 285). The questions were designed based on existing research on privacy and ethics in library and LA (Hoel & Chen, 2016; Mason, Chen, & Hoel, 2016). We particularly wanted to probe librarians' attitudes to sharing and analysis of different library data sources asking the respondents to specify their level of agreement using a Likert scale. We wanted to survey opinions on capture, storage and analysis of library usage patterns, both loans and literature search. We also wanted to know how librarians looked upon sharing data with other departments of the institution and with third parties. Our methods are well chosen for an exploratory study, where the aim is to describe the current state of affairs, identify tensions between current and potential new practices and to inspire further research on how HE libraries will meet the expectations of the sector's 'digital transformation'.

Results

The first question was designed to probe the respondents' attitude to current practices embedded in the Alma library system in use in academic libraries in Norway. Today, the system does not store historic data about loans; when the material is returned to the library the log is deleted. The background is the regulations in the Data protection act (§8a) about user consent (Personopplysningsloven, 2000). Because Alma does not have a possibility of storing loans history based on an active choice of the users such records are not kept. Neither data logs on searches nor hit lists are stored in the current implementation of the Ex Libris system in Norway.

When asked if today's practice of not storing historic data on loans is necessary due to data protection reasons 60% of the respondents agreed, 22.2% disagreed, and 17.8% were neutral (Table 1). The law gives the users the last word about storage of their library loans data, and this is something that the librarians in our survey agree to. When asked if the students themselves should be able to choose if loans history should be made available for analysis, and for how long, a majority agrees. 72.2% agree, while 20% disagree (of them 13.3% strongly), and 7.8% are neutral. When probing into the details of loans history data it becomes clear that there are limits to how far the librarians in our sample are willing to go in letting the users

decide. 45% agree that data about what is borrowed from the library (e.g., what paper or book) should not be stored by the system for later analysis. 25.8% were neutral, and 29.2% agreed that the data could be stored for later analysis.

Table 1.
Attitudes to data sharing in libraries

	Disagreement	**Agreement**
Today's practice	22.2%	60%
Students' choice should decide	20%	72.2%

When should logs showing loans of library materials be deleted? In our sample, 47.8% of the librarians were willing to reconsider today's practice and allow storage for as long as the course lasts or as long as the student has decided in the user profile. 35.6% would like to keep the practice of deletion after the material is handed in; 8.9% after one month; and 7.8% after 3 months.

Should a higher education institution be allowed to analyse library search history (Table 2)? 26.7% of our sample say no; 37.8% say yes, but only if the library itself does the analysis and it happens after consent from the user. 27.8% say yes, any Higher Educational (HE) department could do analysis if the users consent; while 7.8% did not have any opinion. This question gives an idea of how far the respondents in our study are willing to go in taking part in analysis with colleagues from other departments. We asked if they set as a condition for making library data more available for analysis, that the data are analysed within the confinement of the library (i.e. the data are not shared with other departments of the HE institution). 35.6% said yes, there should be such a condition; 21.1% said no; while 43.3% had no opinion. If library data should be shared with the whole institution, our respondents strongly advocates a solution where personal information is deleted and the data anonymised.

Table 2.
Attitudes to make search history available for analytics

	No	**Only by the library**	**By others with active consent**
Institution should be able to analyse students' search history	26.7%	37.8%	27.8%

In the survey the librarians were also asked about possible data sources for LA. While around 80% of the respondents pointed to data related to the library object or to the course offering (Table 3), less, around half of the respondents, pointed to data sources related to persons. When asked what they thought about collecting data on use of key cards to library facilities, the answers were evenly distributed between the alternatives between 'wanted' and 'not wanted': 24.4% was strongly against, 8.1% against, 26.7% neutral, 19.8% for, and 20.9% strongly for such data collection.

Table 3.
Potential data sources for learning analytics

Data source	Seen as important for LA
Library loans (object, medium, distribution channel)	81.8%
Use of library premises (person information)	51.1%
Search history (person information)	47.7%
Loan history (person information)	46.6%
Loans (subject area, courses, institutes, etc.)	78.4%
Search activity (subject area, courses, institutes, etc.)	79.5%

With the debate on third party access to library data referred to in the literature review, we wanted to learn more about the librarians' thoughts about the current academic library practice. 51,6% of the respondents thought that third party organisations had little or very little access to reading patterns of HE library users. 30.3% took a middle position, and 18% thought it happened in some or large degree.

Discussion

In the user agreement between the institutions and Bibsys, the provider of the library system Alma, it is stated, "if Alma later offers functionality for [storing logs on loans and usage history of returned items based on user profiles] such storage will be offered according to the user's choice" (Standard Norway, 2017. Authors' translation). While the library system provider is preparing for a future where more responsibility and choice are handed over to the individual our study shows that the Norwegian librarians are not there yet. However, our results could be interpreted in the direction that the librarians are willing to discuss new solutions where the students have more to say on sharing and analysing their library usage history. When asked if current practice is necessary out of data protection reasons one should expect a strong positive answer. 40 percent did not agree. And when asked if the students should have the final say if their library data should be analysed or stored a large majority agreed. This could be interpreted as an indication that Norwegian librarians have a student-centred focus with a willingness to respect the choices of the individual. We see this in the question of whether the student's search history should be available for analysis by the institution.

To analyse library search history could be seen as a much more intrusive and problematic activity than analysing loan history. The loans are actual student actions that may be traced in what the student delivers in essays, tests and conversations with teachers and fellow students. Searches represent ideas, dreams, and interests that may or may not be related to activities that the student wants to share with the institution. Nevertheless, only a quarter of the

librarians in our sample said no to analysis of search history; 65.6% said yes, provided the students consented.

It seems that students' will trumps professional instincts. In our study, we do not have data to say anything about whether this willingness to let the students decide rests on a moral principle of respecting the individual's right to self-determination, or whether the librarians trust that students know what they are doing and will not be harmed. This question of trust versus the prerogatives of the role is raised again when we look at how the librarians in our sample relate to their colleagues in other departments and the institution as a whole. Yes, with consent by the users the search history could be analysed, but only by the library (37,8%). Only 27,8% were willing to give colleague from other departments access to the data.

In general, considering the data available in the library, one third of our sample would reserve the analysis to the library profession itself. The big group that did not have an opinion (43.3%) gives an indication that this is new territory for Norwegian academic libraries. For centuries, libraries have done academic analytics, using library data to manage collections, allocate resources, plan for new library space, etc. When more data becomes available, the first questions libraries seem to ask themselves are how library use links to student learning and success (Tay, 2016). As Oakleaf et al. (2018) observes, there are limitations to this approach, the key limitation being "a pattern of difficulties evolving from the limited data available to conduct this research". The solution Oalkleaf et al. offer as a way "to combat the challenges of too little, too siloed, and too imprecise data is to investigate and employ interoperability standards to enable integration of library data into institutional learning analytics systems". In Norway, learning analytics is just about to be introduced, mainly as a result of introduction of new library and learning management systems (LMS) across the HE sector (Standard Norway, 2017). Together with a newly established LA research centre in Bergen (slate.uib.no), and new national policies on digitalisation of education (Kunnskapsdepartementet, 2017) this will put issues of data sharing for LA on the agenda for academic libraries. The librarians will have to come to terms with how to collaborate with other professions in the institution, academics and administrators that value a variety of professional codes of ethics. It will certainly take more than an investigation into interoperability standards and technical challenges to achieve the integration.

The survey reported in this study could give a lead to a possible path that could make it easier to harmonise library analytics and learning analytics. The answers given to possible data sources for LA tell that librarians in our sample value the difference between data that exposes the individual versus data that refers to objects, subject areas, courses, activity types, etc. Data anonymisation is seen as a way out of this conundrum. With Big Data, however, anonymisation is an ideal that easily can be broken by re-identification made possible by combining different data sets (Hoel & Chen, 2016b). The way around this dilemma may be to put more emphasis on the users' control of their own data. The results of this study could indicate this as an approach which could appeal to librarians. We have seen that student choice and consent make it easier to accept exchange of information beyond the library user and librarian relationship. With the strong professional ethics that focuses on user agency librarians have a good position to promote a student-centred approach to analytics. It is not only the case that libraries need learning data to do library analytics; the pedagogical side of the aisle also needs library data not to be stuck in their siloed world of mainly LMS data. Kitto, Lupton, Davis, and Waters (2017) have voiced the need for a design for student-facing learning analytics.

LA has placed surprisingly little emphasis upon providing the learner with tools that they can access to understand their own learning processes. This leads to a lack of

learner agency and control over the data they generate while learning, which in turn may lead to privacy and ethical concerns. (Kitto et al., 2017, p. 153)

There are also other reasons for the librarian profession to engage in the question how library data are managed and shared. This research has revealed that Norwegian academic librarians do not have a unified view on how data on usage patterns of their users are available for third parties, e.g., publishers and distributors. The technical report recently published by Standards Norway (2017) gives a clear warning:

A situation where third parties may have easier access to activity data from education than the sector's own professions is not only a library problem but a general problem that could have paradoxical effects. In a not too distant future one could foresee that a department or an institute will be offered to buy external services based on data from their own library – data they will not have access to because of the library guarantee of applying a confidential loans policy that is handled by not storing loans and search history data. (Standards Norway, 2017, p. 12. Authors' translation).

Norwegian academic libraries now implement new tools that connect their library system (Ex Libris) via APIs to other systems, e.g., the reading list system Leganto and the Learning Management System Canvas. This will most likely trigger both librarians' awareness and interest in LA as well as in privacy issues.

Conclusions

Librarians are well-versed in library analytics, but have still to engage in the design of new strategies and practices now being introduced as a result of educational Big Data. Libraries have important data that are needed by the institutions but guarded by strong professional ethics and therefore not easily shared outside of the library. Some of the library discourse related to Big Data discussed in this paper gives an impression that the library could continue to exist as a "safe harbour" (Hegna, 2016) or a moral high ground, busy embedding their values in the more questionable practices of their colleagues (Jones & Salo, forthcoming). However, the survey reported in this paper shows that Norwegian librarians have a position that balances principled views with what is practically possible and in the self-interest of the students. This is the main research contribution of this paper.

From the very limited scholarly discourse on data sharing for analytics in a Norwegian context one could get the impression that library data has no place in institutional LA (Hegna, 2016). The sample of librarians we have studied gives, however, a rather mixed view on how library data can be used in different analytics settings. Interpreted on the background of international research on ethical values and code of ethics this finding is not surprising. Koehler (2006) found that "while most library and information professionals share similar values, as reflected in their codes of ethics, the application of those codes varies widely" (p. 83). Differences are according to Koehler a function of information roles and responsibilities. Library research has established service to the patron as the librarians' core value. If the patron's interests are maintained and served by new solutions, our research may indicate that librarians may be willing to renegotiate their traditional positions related to preservation of the library record. We have to stress, however, that the survey conducted in this study is exploratory and we should not draw too far-reaching conclusions about representative view of the Norwegian library profession. However, we also see that recent international library discourse is contrasting the common view of intellectual freedom, "to show how libraries may be able to participate in learning analytics practices while upholding intellectual freedom as a lodestar

guiding practice and policy" (Jones, 2017).

The contribution of this paper is to raise questions about the role of library data in the rapidly growing field of LA aimed at understanding and optimising learning, and the environments in which it occurs (Long & Siemens, 2011). There is a need for the library community to engage. This paper has pointed to a direction for the Norwegian academic librarians to make a contribution. LA is not primarily to let institutions identify student engagement patterns or let the library prove that library use is correlated to good exam results; LA is about improving learning, in which librarians can play an integral role. If the library community in Norway would go in this direction they need to focus on the needs of the students as library users and support their learner agency and control over their data.

This paper is one of the first to focus on learning analytics and the library in a Norwegian, and even in a global, context. There is a need to expand the study to include more aspects of the challenges the libraries face in the age of Big Data, and there is a need to conduct a representative study to see if the results reported in this paper hold up to scrutiny.

References

American Library Association. (2008). Code of ethics of the American Library Association. Retrieved from http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/proethics/codeofethics/Code%20of%20Ethics%20of%20the%20American%20Library%20Association.pdf.

Ayre, L. B. (2017) Protecting Patron Privacy: Vendors, Libraries, and Patrons Each Have a Role to Play. *Collaborative Librarianship, 9*(1), 1-5 Retrieved from http://digitalcommons.du.edu/collaborativelibrarianship/vol9/iss1/2

Bowers, S. L. (2006). Privacy and Library Records. *The Journal of Academic Librarianship, 32*(4), 377–383. http://doi.org/10.1016/j.acalib.2006.03.005

Baylis, L. (2016, June 28). A Technical Look into Learning Analytics Data and Visualisations. [Blog post] Retrieved from https://analytics.jiscinvolve.org/wp/2016/06/28/a-technical-look-into-learning-analytics-data-and-visualisations.

Dole, W. V., Hurych, J. M., & Koehler, W. C. (2000). Values for librarians in the information age: an expanded examination. *Library Management, 21*(6), 285–297. http://doi.org/10.1108/01435120010327597

Ferguson, S., Thornily, C., & Gibb, F. (2016). Beyond codes of ethics: how library and information professionals navigate ethical dilemmas in a complex and dynamic information environment. *International Journal of Information Management, 36*(4), 543–556. http://doi.org/10.1016/j.ijinfomgt.2016.02.012

Griffiths, D., Drachsler,H., Kickmeier-Rust, M., Steiner, C., Hoel, T., Greller, W. (2016) Is Privacy a Show-stopper for Learning Analytics? A Review of Current Issues and Solutions. *Learning Analytics Review, 6* Retrieved from http://www.laceproject.eu/learning-analytics-review/files/2016/04/LACE-review-6_privacy-show-stopper.pdf

Hegna, K. (2016). "Vi garanterer deg konfidensiell behandling" – Om biblioteket, forskningen og overvåkningen. Retrieved from http://folk.uio.no/knuthe/konfidensiell/lang.pdf

Hess, A. N., LaPorte-Fiori, R., & Engwall, K. (2015). Preserving Patron Privacy in the 21st Century Academic Library. *The Journal of Academic Librarianship, 41*(1), 105–114. http://doi.org/10.1016/j.acalib.2014.10.010

Hoel, T., Griffiths, D., & Chen, W. (2017). The influence of data protection and privacy

frameworks on the design of learning analytics systems. *Proceedings of the Seventh International Learning Analytics & Knowledge Conference*, New York, New York, USA: ACM Press. http://doi.org/10.1145/3027385.3027414

Hoel, T., & Chen, W. (2016a). Privacy-Driven Design of Learning Analytics Applications: Exploring the Design Space of Solutions for Data sharing and Interoperability. *Journal of Learning Analytics, 3*(1), 139–158. http://dx.doi.org/10.18608/jla.2016.31.9

Hoel, T. & Chen, W. (2016b). The Principle of Data Protection by Design and Default as a lever for bringing Pedagogy into the Discourse on Learning Analytics. Workshop paper In Chen, W. et al. (Eds.) (2016). *Proceedings of the 24th International Conference on Computers in Education. India: Asia-Pacific Society for Computers in Education* Retrieved from http://www.et.iitb.ac.in/icce2016/files/proceedings/ICCE%202016%20Workshop%20Proceedings%20Part%202.pdf

Johns, S., & Lawson, K. (2005). University undergraduate students and library-related privacy issues. *Library & Information Science Research, 27*(4), 485–495. http://doi.org/10.1016/j.lisr.2005.08.006

Jones, K. M. L., & Salo, D. (forthcoming). *Learning Analytics and the Academic Library: Professional Ethics Commitments at a Crossroads*, 1–48. Retrieved from http://crl.acrl.org/index.php/crl/article/download/16603/18049.

Jones, K. (2017). Learning Analytics, the Academic Library, and Positive Intellectual Freedom. *Journal of Intellectual Freedom & Privacy*. Retrieved from https://journals.ala.org/index.php/jifp/article/view/6305

Kitto, K., Lupton, M., Davis, K., & Waters, Z. (2017). Designing for student-facing learning analytics. *Australasian Journal of Educational Technology, 33*(5), 1–17. http://doi.org/10.14742/ajet.3607

Koehler, W. (2006). National library associations as reflected in their codes of ethics: Four codes examined. *Library Management, 27*(1-2), 83-100. http://doi.org/10.1108/01435120610647974

Koehler, W. C., Hurych, J. M., Dole, W. V., & Wall, J. (2000). *Ethical Values of Information and Library Professionals — An Expanded Analysis*. The International Information & Library Review, 32(3-4), 485–507. http://doi.org/10.1006/iilr.2000.0141

Koehler, W. C., & Pemberton, J. M. (2000). *A search for core values: Towards a model code of ethics for information professionals. Journal of Information Ethics, 9*(1), 26-54

Kunnskapsdepartementet. (2017). Framtid, fornyelse og digitalisering. Digitaliseringsstrategi for grunnopplæringen 2017 - 2021. Retrieved from https://www.regjeringen.no/no/dokumenter/framtid-fornyelse-og-digitalisering/id2568347/

Library Freedom Project. (n.d.). Retrieved from https://libraryfreedomproject.org

Library Trends (n.d.). *Call for papers.* Retrieved from https://www.press.jhu.edu/journals/library-trends/call-papers-0

Long, P., & Siemens, G. (2011). Penetrating the Fog: Analytics in Learning and Education. *Educause Review, 46*(5), 31–40.

Lynch, C. (2017). The rise of reading analytics and the emerging calculus of reader privacy in the digital world. *First Monday, 22*(4), 1–21. http://doi.org/10.5210/fm.v22i4.7414

Mason, J., Chen, W., & Hoel, T. (2016). Questions as data: illuminating the potential of learning analytics through questioning an emergent field. *Research and Practice in Technology Enhanced Learning*, 1–14. http://doi.org/10.1186/s41039-016-0037-1

Michelet, J. (2013). *Mappa mi (en beretning om ulovlig politisk overvåking).* Oslo: Oktober forlag.

Norsk Bibliotekforening. (n.d.). *Veiledende etiske retningslinjer for bibliotekansatte.*

Retrieved from http://norskbibliotekforening.no/etikk/

Oakleaf, M., Whyte, A., Lynema, E., & Brown, M. (2017). Academic libraries & institutional learning analytics: One path to integration. *The Journal of Academic Librarianship, 45*(5). 454-461. https://doi.org/10.1016/j.acalib.2017.08.008

Oslo Metropolitan University. (2018). Fremtidens digitale universitet. Strategi for digital transformasjon 2018 - 2024. Retrieved from https://www.scribd.com/book/369963276/OsloMet-Strategi-for-Digital-Transformasjon

Personopplysningsloven. (2000). *Lov om behandling av personopplysninger.* Retrieved from https://lovdata.no/dokument/NL/lov/2000-04-14-31?q=Personopplysningsloven

Showers, B. (2015*).* Understanding and managing the risk of analytics. In Showers, B. **(**Ed.) *Library analytics and metrics : using data to drive decisions and services*. London: Facet Publishing.

Standard Norway. (2017). *Datakilder og betingelser for deling av data for læringsanalyse*. Teknisk Rapport SN/TR 4183:2017

Tay, A. (18-11-2016). 5 reasons why library analytics is on the rise. [Blog post]. Retrieved from http://musingsaboutlibrarianship.blogspot.no/2016/11/5-reasons-why-library-analytics-is-on.html .

Vivento. (2015). Kartlegging og vurdering av stordata i offentlig sektor. Rapport til Kommunal- og moderniseringsdepartementet. Retrieved from https://www.regjeringen.no/contentassets/7a30f56668634d8c96ad660f92ffd508/bruk_av_stordata_i_offentlig_sektor.pdf