Learning Analytics

SPEC Survey
Webcast Series
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Introductions

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What Are Learning Analytics (LA)?

“measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs” (Siemens, 2012)

Learning Analytics (LA) vs. Assessment
Topics Covered in the Survey

The survey focused on these main areas:
• LA Initiative Participation
• Library Practices
• Library and Institutional Data Sharing
• Data Protections
• Privacy Policies and Practices
• Procedures and Training
• Partnerships
Survey Response

- 53 of 125 ARL Institutions Replied (42%)
- Questions were not required so response rates for individual questions varied.
- The survey was open from April 30th to June 15, 2018
LA Initiative Participation

- 81% (N=53) of respondents indicated they are participating in LA projects
- Over 75% (N=53) of libraries indicated they had staff allocated to these projects
Library Practices

• All libraries (N=45) said LA data is gathered by staff librarians

• 96% of libraries (N=45) said staff librarians were involved in the analysis of data

• 89% of libraries (N=45) also had non-librarians gathering data

• Only 64% of libraries (N=45) have non-librarians analyzing the data
### Types of Data Collected for Learning Analytics, With and Without Identifiers

<table>
<thead>
<tr>
<th>Data Category</th>
<th>Includes Identifiers</th>
<th>Does not Include Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research consultations</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>Reference service usage</td>
<td>5</td>
<td>37</td>
</tr>
<tr>
<td>Course-integrated instruction attendance</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>Workshop attendance</td>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>Physical collection circulation statistics</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Attendance at other events (e.g., tour, orientations, etc.)</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>E-resources usage (including eBooks)</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Building usage</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Journal usage</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Database usage</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Instruction evaluations</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Library website usage</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>Interlibrary loan requests</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td>Library computer logins</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Single sign-on login portals (e.g., LDAP, Shibboleth)</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Security systems (e.g., security camera recordings)</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Wifi usage</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Other data</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>
Library and Institutional Data Sharing

- Fewer than 50% (N=52) of libraries reported sharing data with other departments on campus or to a central warehouse.
- 20% (N=52) did indicate that they were planning to begin doing so within the next 6–12 months.
- Data most often shared with other departments concerns collections usage rather than data about patron interactions.
Library and Institutional Data Sharing Graph

- Privacy concerns: 21
- Confidentiality concerns: 18
- Resources (time, personnel): 16
- Lack of identifiers: 8
- Cannot collect appropriate data: 7
- Bureaucracy: 7
- Cannot access data from different data sources: 4
- Cannot provide data in formats required: 3
- Other reason: 23
Library Data Collection

- The majority (91%, N=43) of libraries indicated that, in response to institutional LA efforts, they are collecting the same or more data with personal identifiers than they had previously.

- Despite this increase, only about 50% (N=44) felt that library data was important to campus-level initiatives.
Learning Analytics Perceived Importance

The Importance of Library Data to Institutional Learning Analytics

Not important: 20
Important: 18
Very important: 6

The Importance to Library Administration to Participate in Learning Analytics

Not important: 8
Important: 23
Very important: 13
Data Protections

• Only 16 libraries answered a question about library anonymization techniques
  • Several described relying on the Office of Institutional Research to de-identify data

• About 38% (N=47) of the libraries reported having a records-management schedule or policy that controls the retention of LA data

• 9 libraries without a retention schedule or policy report they plan to hold LA data “indefinitely”

• Only two libraries have a learning analytics data management plan
Data Protections

Graph

Protections Applied to Learning Analytics Data

- Limit library staff access to raw data: 39
- Remove direct identifiers from data (e.g., removing student ID number): 34
- Limit scope of data collection: 31
- Technical security protections during data storage (e.g., encrypting data files in a cloud system): 26
- Limit library staff access to analyzed data: 24
- Physical security protections (e.g., locking up paper forms): 24
- Delete data: 20
- Limit data retention: 18
- Suppress data (e.g., removing data for groups smaller than 20): 13
- Technical security protections during data transfer (e.g., encrypting data files sent over email): 13
- Other data protection measure: 5

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Privacy Policies and Practices

• While 90% of libraries (N=50) indicated that their institution has a privacy policy, only 62% (N=50) have a separate library privacy policy.

• There is a general lack of consistency regarding policy review and revision.

• Only 7 libraries indicated privacy policies have been updated for LA.
Privacy Policies and Practices Graph

Library Privacy Policy References Other Documents

- University policies: 19
- State/provincial laws on library records: 18
- ALA Code of Ethics: 16
- Terms of Service for software/application (e.g., Google Analytics): 12
- USA Patriot Act of 2001: 8
- Family Educational Rights and Privacy Act (FERPA): 7
- Canada’s Privacy Act: 0
- Personal Information Protection and Electronic Documents Act (PIPEDA): 0
- Other document: 3

#ARLSPECKit360
Informed Consent and Review

• 42% of libraries (N=43) inform students about library learning analytics initiatives

• Only 4 libraries indicated that there was a mechanism for students to opt in

• The majority of libraries (70%, N=40) obtain Institutional Review Board approval for LA projects

• 60% of libraries (N=40) indicated that they review FERPA with staff members for their LA work
Informed Consent and Review Graph

Are Students Informed About Analytics?

<table>
<thead>
<tr>
<th>Inform students</th>
<th>Do not inform students</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>25</td>
</tr>
</tbody>
</table>

- Opt in: 4
- Opt out: 5
- Neither opt in or opt out: 6

Total: 43
Procedures

- Internal staff guidelines and documentation are only available at 25% of libraries (N=44)

- Only 33% of libraries (N=45) have a process for handling external requests from other campus entities for library data

- Library staff who are involved in learning analytics projects are most likely to receive training on specific tools and IRB and FERPA requirements
Procedures Graph

Types of Training Library Staff Receive

- Training on specific tools: 29
- Institutional Review Board requirements: 27
- Privacy requirements (e.g., FERPA): 22
- Data visualization: 20
- Data management: 17
- Data security: 15
- Anonymization practices: 9
- Data cleaning: 8
- No training: 7
- Other training: 6

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Partnerships

- Almost 40% (N=48) of libraries indicated they participate in LA initiatives alongside campus units.
- Nearly 33% (N=49) of the respondents are working with consortia, such as the Greater Western Library Alliance Student Success Initiative and Unizin.
Recommendations

1. Libraries should put in place a schedule for reviewing and/or developing privacy and data management policies.

2. Libraries should expand training on data handling best practices that goes beyond institutional FERPA and IRB training.

3. Libraries should develop best practices for assessing the ethical and personal privacy risk to students internally, rather than relying on IRBs.

4. Libraries should be more transparent about their student learning analytics projects.
Questions & Discussion

Join the conversation by typing questions in the chat box in the lower left corner of your screen
Thank you!
SPEC Survey Webcast on Learning Analytics

1. Welcome (Lee Anne)

Hello, I am Lee Anne George, coordinator of the SPEC Survey Program at the Association of Research Libraries, and I would like to thank you for joining us for this SPEC Survey Webcast. Today we will hear about the results of the survey on Learning Analytics. These results have been published in SPEC Kit 360, which is freely available at publications.arl.org.

Announcements (Lee Anne)

Before we begin there are a few announcements:
Everyone but the presenters has been muted to cut down on background noise. So, if you are part a group today, feel free to speak among yourselves.

We do want you to join the conversation by typing questions in the chat box in the lower left corner of your screen. I will read the questions aloud before the presenters answer them.

This webcast is being recorded and we will send registrants the slides and a link to the recording in the next week.

2. Introductions (Lee Anne)

Now let me introduce the seven survey authors:

Michael R. Perry is Head of Assessment & Planning at Northwestern University Library,

Kristin A. Briney is the Data Services Librarian at the Golda Meir Library at the University of Wisconsin-Milwaukee,

Abigail Goben is Assistant Professor, Information Services and Liaison Librarian at the Library of the Health Sciences at the University of Illinois at Chicago,

3. Introductions Cont. (Lee Anne)
Andrew Asher is the Assessment Librarian at the Indiana University Bloomington Libraries,

Kyle M. L. Jones is an Assistant Professor in the School of Informatics and Computing at Indiana University-Indianapolis,

M. Brooke Robertshaw is an Assistant Professor & Assessment Librarian at Oregon State University Libraries & Press, and

Dorothea Salo is a Faculty Associate in the Information School in the College of Letters and Science at the University of Wisconsin-Madison.

Use the hashtag ARLSPECKit360 to continue the conversation with them on Twitter.

Now, let me turn the presentation over to Mike.

4. What Are Learning Analytics (LA)? (Mike)

Thank you, Lee Anne.

What are learning analytics?

For this project we used the common Siemens definition above.

How does LA differ from Assessment?

LA is the aggregation and analysis of student data for the purposes of better understanding learning and the contexts in which learning occurs to improve instructional and institutional practices.

Assessment is the evaluation of student learning outcomes using educational designs.

LA is different from assessment because 1) the data is primarily quantitative and 2) does not, at the present time, focus on strategic educational designs, but instead the observation of student behaviors—learning or otherwise—and their relationship to a variety of outcomes.

5. Topics Covered in the Survey [Mike]

The survey focused on these main areas:

• LA Initiative Participation
• Library Practices
• Library and Institutional Data Sharing
• Data Protections
• Privacy Policies and Practices
• Procedures and Training
• Partnerships

6. Survey Response [Mike]

53 of the 125 ARL Institutions replied (42%).

The survey was open from April 30th to June 15, 2018.

7. LA Initiative Participation [Mike]

Of the 53 responding libraries, 81% (43) indicated that their institutions were participating in learning analytics projects, suggesting broad uptake across ARL institutions.

Nearly three-quarters of respondents indicated that they had staff allocated to these types of projects.

Now Kristin will describe the findings on library data practices.

8. Library Practices [Kristin]

Thank you, Mike.

Forty-five respondents answered questions about who collects and analyzes data for library LA. All of them reported that the gathering of LA data is done by staff librarians, which corresponds with the regular collection of reference and instruction data.

There was also nearly universal agreement that staff librarians are engaged with analyzing the data (43 responses, or 96%).

Non-librarian staff also frequently gather LA data (40 or 89%), though fewer are engaged in analyzing the data (29 or 64%).

This generally aligns with data being gathered around library instruction.
9. Types of Data Collected (Kristin)

This chart outlines the type of data collected and if it is done so with or without an identifier for the individual.

Most common data collected revolved around research and reference consultations or instruction.

10. Library and Institutional Data Sharing (Kristin)

Fewer than half of the respondents (20 of 52) reported sharing data with other departments on campus or to a central warehouse.

20% (11 of 52) did indicate that they were planning to begin doing so within the next 6–12 months.

Data most often shared with other departments concerns collections usage—circulation and e-resource usage—rather than data about patron interaction with library staff.

11. Library and Institutional Data Sharing Graph (Kristin)

The respondents who indicated that they are not sharing data beyond the library cited privacy and confidentiality as the primary concerns.

Privacy = Kept to themselves  (unknown)

Confidentiality = Know but kept to the library

12. Library Data Collection (Kristin)

The majority of respondents (39 of 43) indicated that, in response to institutional LA efforts, they are collecting the same or more data with personal identifiers than they had previously.

Despite this increase, only about half (24 of 44 or 55%) felt that library data was important to campus-level initiatives.

13. Learning Analytics Perceived Importance (Kristin)

The difference between the perceived importance of library data/participation in LA:

How important is library data to learning analytics initiatives at your institution?
How important is it to your library’s administration to participate in learning analytics initiatives?

14. Data Protections (Kristin)

Only 16 respondents answered a question about library anonymization techniques; of those, several described relying on the office of institutional research to de-identify the data.

Only a few more than a third of the responding institutions (18 of 47 or 38%) reported having a records-management schedule or policy that controls the retention of learning analytics data.

Nine libraries without a retention schedule or policy report they plan to hold LA data “indefinitely”.

Only two respondents have a learning analytics data management plan.

15. Data Protections Graph (Kristin)

This graph shows what kinds of protections libraries apply to learning analytics data.

Most common is limiting staff access to raw data and removing identifiers.

Next, Abigail will discuss privacy policies and practices.


Thank you, Kristin.

While 45 respondents (90%) indicated that their institution has a privacy policy, only 62% of those (31) have a separate library privacy policy.

Most of those library policies link to the university policy, state laws on library records, and to the ALA Code of Ethics.

There is a general lack of consistency regarding policy review and revision.

Most respondents indicated that LA has not caused changes in their privacy policies.
17. Privacy Policies and Practices Graph [Abigail]
This graph outlines the most common outside policies and documents that are referenced in privacy policies.
Most common are university policies and state laws.

18. Informed Consent and Review [Abigail]
42% of libraries (18 of 43) inform students about library learning analytics initiatives.
Only 4 libraries indicated that there was a mechanism for students to opt in.
The majority of libraries (70%, 28 of 40) obtain Institutional Review Board approval for LA projects.
60% of libraries (24 of 40) indicated that they review FERPA with staff members for their LA work.

19. Informed Consent and Review Graph [Abigail]
This breakout chart shows how institutions handle informing students about learning analytics and if students can opt out.

20. Procedures [Abigail]
Internal staff guidelines and documentation for processes are only available at 1/4 of 44 (n=11) responding institutions.
Only 1/3 of 45 (n=15) responding libraries have a process for handling external requests from other campus entities for library data.
Library staff who are involved in learning analytics projects are most likely to receive training on specific tools and IRB and FERPA requirements.

21. Procedures Graph [Abigail]
This chart outlines the types of training staff receive.
Most training is based around specific tools or IRB/FRPA.

22. Partnerships [Abigail]
Almost 40% of respondents (18 of 48) indicated they participate in LA initiatives alongside campus units.

One third of the respondents (16 of 49) are working with consortia, such as the Greater Western Library Alliance Student Success Initiative and Unizin.

Now back to Mike.

23. Recommendations [Mike]

Thank you, Abigail.

1. Libraries should put in place a schedule for reviewing and/or developing privacy and data management policies. This process should be handled by an informed and dedicated committee, office, or individual. Policies should be written in clear, concise, and understandable language. Wherever possible, actual systems or data types should be identified. Policies should include a revision history, approval process, and last reviewed date, as well as contact information for questions. Policies should link, as appropriate, to other governing documents, such as university policies, state and federal laws, and the ALA Code of Ethics.

2. Libraries should expand training on data handling best practices that go beyond institutional FERPA and IRB training. Library staff would most benefit from training on underutilized data protection practices identified in the survey results, including: technical protections, like encryption, for both storage and transit; processes for data minimization, including limiting data collection and retention times; and anonymization strategies. Libraries commit to protecting the privacy of the information about their users and their information habits; such commitments should also be applied to user data they keep and share.

3. As many projects are perceived to be for internal use only, the Institutional Review Board may not be contacted, even when the data are subsequently used for research. Similarly, many IRBs do not see data already collected as carrying potential for harm. Libraries should develop best practices for assessing the ethical and personal privacy risks to students internally, rather than
relying on IRBs, regardless of whether they have immediate plans to disseminate findings from their work.

4. Libraries should be more transparent with their students about learning analytics projects. Only one respondent provided a document outlining learning analytics projects, and it is unclear whether the document was ever publicly available. This transparency includes engaging with students to inform them about what data is collected about them and how it is used.

24. Questions & Discussion (Lee Anne George)

Thank you, Mike, Kristin, and Abigail. And now we welcome your questions. Please join the conversation by typing questions in the chat box in the lower left corner of your screen. I will read the questions aloud before the presenters answer them.

25. Thank You! (Lee Anne George)

Thank you all for joining us today to discuss the results of the learning analytics SPEC survey. You will receive the slides and a link to the recording in the next week.