

Do researchers take student privacy seriously?

Dr. Brid Lane

The image shows two overlapping news article screenshots. The top article is from ars TECHNICA UK, dated April 6, 2017, by Natasha Lomas (@riptari), titled "EU-US Privacy Shield remains precariously placed". The bottom article is from BBC News, dated 29 March 2017, by Dave Lee, titled "Anger as US internet privacy law scrapped".

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EU-US Privacy Shield remains precariously placed

Posted Apr 6, 2017 by [Natasha Lomas \(@riptari\)](#)

Next Story

NEWS Home Video World UK Business Tech Science Magazine

Anger as US internet privacy law scrapped

Dave Lee
North America technology reporter

29 March 2017 | Technology

The image shows two screenshots of privacy tools. The left screenshot is from Ghostery, displaying '20 Trackers found on techcrunch.com' and '3 Blocked' in 6.03 seconds. It lists categories like Site Analytics (6 Trackers, 2 Blocked), Social media (3 Trackers, 1 Blocked), and Comments (1 Tracker). The right screenshot is from Privacy Badger (version 2017.5.9), showing it detected 43 potential trackers. It lists domains like s3.amazonaws.com (Blocked cookies), b.aol.com, o.aolcdn.com, s.aolcdn.com, s.sa.aol.com, and at.atwola.com, each with a slider to control tracking.

What About Education?

Academia is very quickly catching up with the commercial world

Using learning analytics (LA) to track and trace students and their online activity...

....within college-provided platforms.

Data Protection Law (the new GDPR)

A Data Controller must...

1. Obtain and process the information fairly
2. Keep it only for one or more specified and lawful purposes
3. Process it only in ways compatible with the purposes for which it was given to you initially
4. Keep it **safe and secure**
5. Keep it **accurate and up-to-date**
6. Ensure that it is **adequate, relevant and not excessive**
7. Retain it **no longer than is necessary** for the specified purpose or purposes
8. Give a copy of his/her personal data to any individual, on request.

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What the key privacy issues/challenges

- Siemens (2010) defines Learning Analytics as “the use of intelligent, learner-produced data, and analysis models to discover information and social connections, and to predict and advise on learning
- Dyckhoff, et al., (2012)
 - Protection of students’ identities
 - Prevention of data misuse
 - Preserve confidential user information
 - Protect the identities of the users at all times
- Individualised vs. aggregated collective data

**Are we as educators doing enough
(or doing anything at all)
on ethical grounds to
inform students
that they are being tracked online**

Which of the following are we doing?

- Do students know what educators mean by tracking them online?
- Do they know what PII (personally identifiable information) we are collecting?
- Do they know why we are doing it?
- Are the reasons why we are doing it reasonable?
- Are students given reasonable opportunity to give explicit consent or to opt-out?



Educational institutions should -

“ensure that learning analytics is carried out responsibly, appropriately and effectively, addressing the key legal, ethical and logistical issues which are likely to arise”

(JISC, 2015).

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Methodology

- Searched for publications from academic peer-reviewed journals (key search focus was the EBSCO database)
- Search key term “learning analytics” and variations thereof (metrics, learning metrics, learning prediction).
- Inclusion / exclusion criteria
 - Excluded articles that were not empirical e.g. literature reviews, framework constructions, opinion pieces, etc.
 - Excluded articles that addressed multiple research cases e.g. Clow, (2013) who addressed a very large number of studies but none in any detail, meaning it was not feasible to expect coverage of ethics / privacy therein.
 - Articles on MOOCs were omitted as their massiveness and the nature of student interaction therein is different to groups that are more traditional.
- Limitation - the search could not be exhaustive.
Articles ranged from the years 2012 to 2016 inclusive, with one article from 2010 and one from 2017

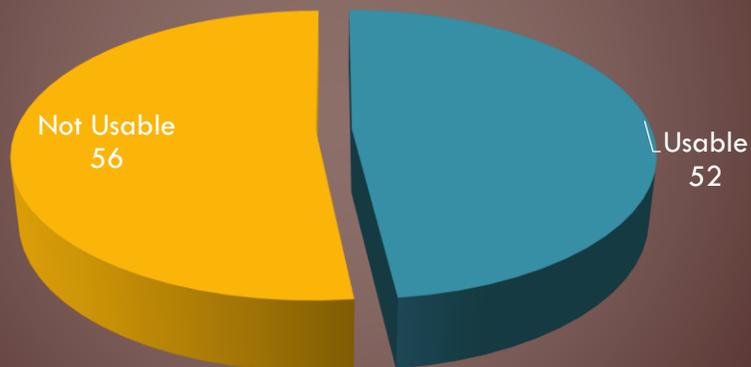
| Name | Date modified | Size | Type |
|--|------------------|----------|--------------------|
| Agudo-Peregrina et al 2014 - predict from VLEs | 18/12/2016 15:03 | 602 KB | Adobe Acrobat D... |
| Ali et al 2012 - qual eval of a LA tool | 17/12/2016 18:21 | 1,837 KB | Adobe Acrobat D... |
| Arnold & Pistilli 2012 - course signals | 09/04/2017 07:41 | 324 KB | Adobe Acrobat D... |
| Bollenbach 2015 - acadmeic paradigm assessment | 30/06/2016 13:59 | 674 KB | Adobe Acrobat D... |
| Cerezo et al 2016 - LMS interaction patens | 14/03/2016 17:50 | 556 KB | Adobe Acrobat D... |
| Chen 2014 - learning experiences | 19/12/2016 13:13 | 1,609 KB | Adobe Acrobat D... |
| deFreitas et al 2015 - dynamic to increase retention | 09/04/2017 11:28 | 540 KB | Adobe Acrobat D... |
| Dyckhoff Et Al 2012 - eLA Toolkit | 21/07/2015 13:32 | 916 KB | Adobe Acrobat D... |
| Fidalgo-Blanco et al 2015 - teamwork assessment | 30/06/2016 14:50 | 469 KB | Adobe Acrobat D... |
| Gasevic et al 2013 - social ties | 30/06/2016 19:47 | 772 KB | Adobe Acrobat D... |
| Gasevic et al 2016 - not one size | 30/06/2016 14:08 | 430 KB | Adobe Acrobat D... |
| Gunawardena et al 2016 - social construction of knowledge | 09/04/2017 11:35 | 3,405 KB | Adobe Acrobat D... |
| Gunnerson & Alterman 2014 - peer promotion | 09/04/2017 12:18 | 406 KB | Adobe Acrobat D... |
| Harrati et al 2016 - user satisfaction | 18/12/2016 12:50 | 1,481 KB | Adobe Acrobat D... |
| Haya et al 2015 - networked learning envirs | 09/04/2017 12:30 | 808 KB | Adobe Acrobat D... |
| Hernandez-Garcia 2015 - social | 30/06/2016 14:05 | 2,938 KB | Adobe Acrobat D... |
| Hong et al 2015 - sustained idea improvement | 17/12/2016 16:46 | 2,118 KB | Adobe Acrobat D... |
| Hu et al 2014 - early warning | 18/12/2016 14:44 | 1,328 KB | Adobe Acrobat D... |
| Huang & Fang 2013 - 4 types pf engineering predictive | 17/12/2016 18:12 | 451 KB | Adobe Acrobat D... |
| Iglesias Pradas e t al 2015 - Suitability-student-interactions-Moodle-prediction | 08/04/2017 17:07 | 967 KB | Adobe Acrobat D... |
| Jayaprakash et al 2014 - at risks tudents | 19/03/2016 08:46 | 1,803 KB | Adobe Acrobat D... |
| Junco 2014 - iSpy seeing what students really do online | 19/12/2016 11:34 | 472 KB | Adobe Acrobat D... |
| Kellv et al 2015 - theorv led deian of instruments | 11/12/2015 13:32 | 2,681 KB | Adobe Acrobat D... |

Methodology

Each article was perused with the view to identifying what (if anything) was said about participant ethics and privacy.

Findings

Of 108 empirical articles,
based on the in/exclusion criteria



Findings – The Prominent Journals

| Journal | Count |
|---|-------|
| Computers in Human Behaviour | 12 |
| Computers & Education | 8 |
| Journal of Learning Analytics | 6 |
| Internet & Higher Education | 4 |
| Educational Technology & Society | 3 |
| British Journal of Educational Technologies | 3 |
| Online Learning | 2 |
| | |

Findings

- Of 52 articles, 39 **did not mention** the ethical process undertaken with respondents, or privacy of their data.
- 3/4 did not deem privacy important enough to discuss in their methodology.
- While this is not to suggest that ethical considerations were not taken, it is a surprisingly high proportion.

Findings

The remaining 13 varied in their coverage.

- At the lowest level → those who merely mentioned privacy as being important but didn't actually say what they did.
- The most impressive → Dyckhoff, et al., (2012) -
 - Drew on data protection law
 - Recognised that research involves a trade-off of "data privacy" versus "pedagogical useful indicators".
 - Curtailed some aspects of their research because of privacy considerations.
- Others carried out tasks such as anonymising the data but it was not always clear if the students had been asked for their permission to be part of the study.

Conclusion

- Ultimately, personal data is becoming the life force of any aspect of education that moves online.
- There is a large-scale task involved in ensuring that we as educators are sufficiently responsive to and cognisant of student rights to data privacy.
- We do not want a situation where students are overly willing to give up privacy, and educators overly willing to take it from them.
- But where is metaphorical line and how do we know if we've crossed it?

THANKS!

Any questions?

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"I'm not just a dot
On a big scatter plot
or a cell in Excel
or a simplified thought
I'm a human in action —
irreducible fraction —
and the day-to-day data can't say
what I've got."

References

- Clow, D. 2013. An overview of learning analytics. *Teaching in Higher Education*, 18(6), pp 683-695,
- Dyckhoff, A. L. et al., 2012. Design and Implementation of a Learning Analytics Toolkit for Teachers. *Educational Technology & Society*, 15(3), pp. 58-76.
- JISC, 2015. Code of practice for learning analytics. pp. 1-4.
- Siemens, G. 2010. What are Learning Analytics?
<http://www.elearnspace.org/blog/2010/08/25/what-are-learning-analytics>