Landscape of Learning Analytics and Student/Faculty Data

ETS
RIT Reading Group 1/28/16
Learning Analytics Overview

- Definition
- Ownership
- Access
- Technical Stuff
- Pilot
- Discussion
Definition: Learning Analytics

“The selection, capture and processing of data that will be helpful for students and instructors at the course or individual level.” ¹

“Learning analytics 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.” ²

¹ Learning Analytics: The Definitions, the Processes, and the Potential, Tanya Elias, 2011
² 1st International Conference of Learning Analytics & Knowledge, Banff, Alberta 2011
Learning Analytics - A Definition

User's System Activity Data (Individual)
- Learning Management System
- Student Information System
- Portal

Analysis
- Learning Record Store

Institutional Data (Groups)
- Demographics
- Academic Records
- Financials
Why do we care?

- increase ability to make institutional decisions
- impact student outcomes
- empower students to make changes to their behavior that positively affects their learning
- enable faculty to support students and make changes to their courses based on data
- support educational research
Spectrum of Analytics

**Reporting data**
Summarizing historic and real-time data

**Analyzing trends**
Identifying trends and correlations

**Predictive analytics**
Predict future outcomes and behavior
Someone is collecting A LOT of data!

- What: “Clickstream Data”  “Logfile Data”
- Who: Vendors, the institution, third-parties
Learning Data: Ownership

- **“Old Days”**
  - local hosting meant local logs
  - ad-hoc reporting mainly for systems issues
- **“Cloud SaaS”**
  - logs not local and not accessible
  - vendors use to improve systems and troubleshoot issues
- **Contracts**
  - if we have them -- not always specific about ownership of this kind of data
  - they do have security and privacy language
- **No Contract?**
  - goodluck! - at the whim of the third party provider no security/privacy guarantees
Learning Data: Access

❖ Just the **data** please
  □ even if we have “ownership” we need “access”
  □ logfile ‘dumps” for historic reporting (nightly, monthly, etc.)
  □ realtime for early warning systems, advising, student alerts, etc.

❖ **Standards**
  □ LTI - enables interoperability (it’s why you can plug stuff into bCourses!)
  □ Caliper - defines learner activity to enable analysis across systems
Case Studies

❖ With a contract
  □ bCourses (Canvas) - wanted to charge us extra for our data

❖ Without a contract
  □ Piazza - currently collects a TON of this data and the institution can’t get to it
  □ Pizza’s current revenue model - match students to potential employers
    ■ the employers pay a fee
    ■ the students can opt-out
We're at 1,000 schools in 68 countries
Click a school to see classes and professor stories

Berkeley Classes Using Piazza
473 Instructors and 14797 Students at Berkeley use Piazza in 1285 Classes

**CHEM 135: Chemical Biology**
Ming Hammond
100% of students participated
view class report

**CS 61C: Great Ideas in Computer...**
Michael Franklin, Dan Garcia
There were 16429 contributions in total
view class report

**ARCH 205 & 249: Studio One**
Nicholas de Monchaux
100% of students participated
view class report

**COGSCI 131: Computational Mo...**
Kevin Canini, Zeyu Li
The average response time was 11 minutes
view class report

**EE 122: Introduction to Commun...**
Yahel Ben-David, Scott Shenker
There were 3658 contributions in total
view class report

**CS 61A: The Structure and Interp...**
Richard Lan, Tom Magrino
There were 16030 contributions in total
view class report
Finish setting up your Piazza account:

Account Information (required)

Is this your preferred email address: akstring@ucsc.edu

Full Name

Choose Password

Confirm Password

Contact us at team@piazza.com with any questions.

Academic Information (required)

What degree are you currently pursuing?

Graduate Program
Select current program...

Major
Enter current major...

Anticipated Completion
Month
Year

I'm not pursuing a degree

This information will be used for collaborative features on Piazza. We will never share your information without your permission.

Where Piazza is an aid in your class, Piazza Careers is an aid in your career. Get discovered by companies instantly.

Career opportunities are relevant to me

I've read and accept the terms of service

Continue to Piazza
Case Studies: What are we doing

- **With a contract**
  - bCourses (Canvas) - Successfully leveraged partners to bring the vendor to the table
  - set of guidelines for future contracts

- **Without a contract**
  - We have been trying to negotiate a UC system-wide contract for 9mths
  - Not been successful
  - Next steps:
    - UC branding take down notice
    - Exploring a UC wide process to evaluate apps and site to help provide guidance to instructors and students
The directory below provides a high-level summary of the tools that have been reviewed or are in progress. We recommend reading through the Rating Descriptions for an explanation of the icons used in the table. We also suggest you read the full review for any tool you are interested in using. If the tool you have in mind has not been reviewed yet, check our Planned Reviews for a list of the tools currently in our queue. Better yet, help us prioritize our list by letting us know which tools you are interested in using or what types of functionality you need.

<table>
<thead>
<tr>
<th>Name</th>
<th>Typical Uses</th>
<th>Functional</th>
<th>Privacy</th>
<th>Student Records</th>
<th>Security</th>
<th>Legal</th>
<th>Contract</th>
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<td>Doceri</td>
<td>Conduct your lecture as you interact with the students in the classroom</td>
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<td>Annotate PowerPoint presentations during your in-class session</td>
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<td>Google Apps (UCI)</td>
<td>Have student groups collaboratively create a presentation</td>
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<td>Collaboratively write a research paper or article for publication</td>
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<td>Google Hangouts (UCI)</td>
<td>Conduct online office hours</td>
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<td>Encourage student groups to collaborate synchronously</td>
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<td>Kahoot!</td>
<td>Check for understanding during classroom lectures</td>
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<td>Engage the students in a competitive &quot;quiz&quot;</td>
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<td>Piazza</td>
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<td>Poll Everywhere</td>
<td>Gauge understanding of a topic within a lecture</td>
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<td>Encourage participation in a real-time poll from an audience</td>
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DISCUSSION