Learning analytics with EventFlow and CoCo: Exploring course enrollment pathways to inform curriculum planning

Leah P. Macfadyen, PhD
Program Director, Evaluation and Learning Analytics
Faculty of Arts, The University of British Columbia
Vancouver, Canada
leah.macfadyen@ubc.ca
http://www.slideshare.net/leahmac1
http://isit.arts.ubc.ca/learning-analytics/

Learning analytics:

the measurement, collection, analysis and reporting of data about learners and their contexts for purposes of understanding and optimizing learning and the environments in which learning occurs.

http://www.solaresearch.org
Big data in UBC Arts...

- Student information (demographics, origins, academic history...)
- Enrollment information (enrollments, withdrawals, grades, program specializations)
- Course evaluations (scores, comments)
- LMS activity data ('clickstream' data)
- MOOC data
- Activity data from other technologies (lecture annotation systems, blogs, wikis)
- All kinds of student writing (online, offline)
- Open data (LinkedIn data, geographic data...)

Challenges of temporal data: Enrollment patterns

- Are some enrollment pathways more common than others?
- Are some course sequences more frequently associated with success in a given degree program or specialization?
- Do certain course combinations or sequences seem to channel students towards or away from Majors or Honours programs?
- Which course sequences have the highest rates of attrition?
Case Study #1: Asian Studies
To simplify the overview, try looking at only 2 event categories.

We suggest:
- CHIN 101 (1254 Records)
- CHIN 104 (227 Records)
(Covered 1489 of 1970 records)

based on this selection method:
Case Study #2: iSchool

Question: Does completion of a Professional course influence subsequent student course enrollment choices?

- Ten years of enrollment data
- 326 MLIS students who have completed at least the core LIBR course requirements
- Enrollments in 241 different courses
- Demographic data includes:
  - Grad Group’ (1 = bottom 50% by graduation average grade, 2 = top 50% by graduation average grade)
  - International/Domestic status
  - Student citizenship
  - Student gender
Gender differences?

![Graph showing gender differences](image1)

![Graph showing another gender differences](image2)
### ‘Professional’ courses and related patterns

**Cohort Comparison**
Human Computer Interaction Lab, University of Maryland, College Park

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<tr>
<th>Event Types</th>
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<th>Yes</th>
<th>% Off</th>
<th>% Diff</th>
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**Progression**

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**Eventflow**
Eventflow v2.0 - Eventflow.jam, complete (2012)

- **Distribution Options**
  - Align
- **Eventflow**
  - Eventflow.png

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**Eventflow x2**
Eventflow_view.png

- **Eventflow**
  - Eventflow.png

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