LAK Hackathon

About the theme

https://lakhackathon.wordpress.com/

LAK Hackathon

Getting the right information to the right people so they can take the right action

About

Come and join us 13-14 March, 2017, in Vancouver, BC, Canada.

Its Not Just for Techies! Educators Needed.

This workshop is called a data "hackathon" but **its not just for techies**. In fact, it will not be effective if it is just techies attend. Yes, some participants will talk technology but it is also critical that we have a balance of participants willing to be constructively critical and to drive us into our zone of proximal development towards learning analytics technologies which are **more relevant from an educational technology perspective.**

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A look waaaaayyyyyy back…… to 2011

Home | About | Conference | Interviews | Recordings | Syllabus

Learning and Knowledge Analytics

Analyzing what can be c

Welcome to the open online course on Learning & Knowledge Analytics

Posted by George Siemens on December 21, 2010

Learning & Knowledge Analytics 2011 – LAK11 – is an open course that will be offered from January 10 – February 20, 2011. LAK11 serves as an introduction to the growing field of analytics in teaching, learning, training, development, and organizational knowledge.

LAK11 will address the following topics:

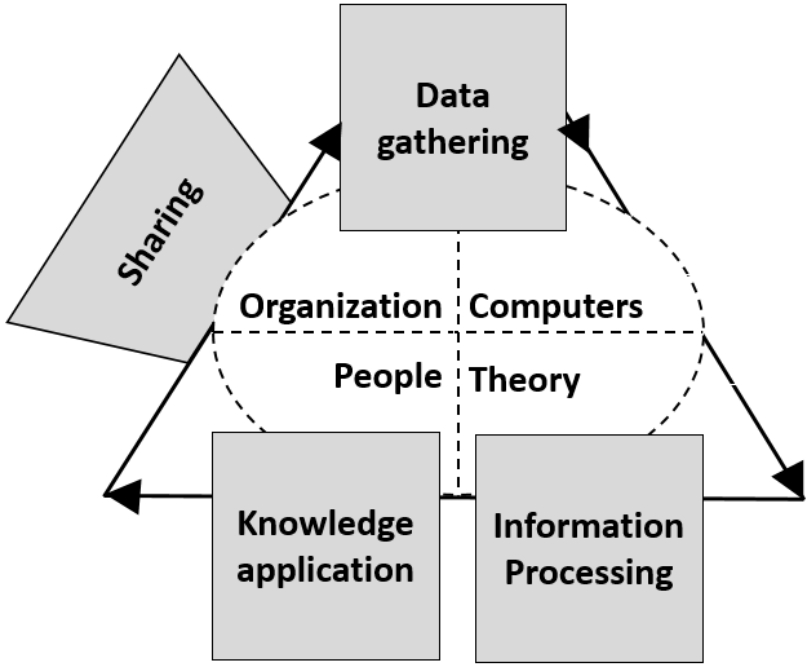
Week 1 (Jan 10-16): Introduction to Learning and Knowledge Analytics
Week 2 (Jan 17-23): Rise of "Big Data" and Data Scientists
Week 3 (Jan 24-30): Semantic Web, Linked Data, & Intelligent Curriculum
Week 4 (Jan 31-Feb 6): Visualization: Tools for, and examples of, Analytics
Week 5 (Feb 7-13): Organizational implementation
Week 6 (Feb 14-20): What's next for Learning & Knowledge Analytics?

There is no fee to participate. The course will include synchronous (Elluminate) and asynchronous (blogs, moodle) interaction.

This course will be facilitated by George Siemens, Jon Dron, Dave Cormier, Tanya Elias, and Sylvia Currie.

To get started:
Please join this group: https://groups.google.com/group/LAK11/. Once the course begins, daily emails of course activity, readings, and other highlights will be sent to this group.
Course Tag: LAK11 (for tagging resources in delicious/diigo, Twitter hashtag, and tagging blog posts)

The course syllabus and reading list will be posted in early January, 2011.



http://www.learninganalytics.net/?p=28

Deciding better, learning better: Different kinds of stories
http://heretothere.trubox.ca/deciding-better-learning-better-different-kinds-of-stories/

Data-driven vs. person-driven stories

Never so much in the past year have I felt as uncomfortable talking about using data among forward-thinking learning folks. In a year when data-driven algorithms influenced the news (propaganda) folks read, the polls got it wrong on critical questions, and both humans and robots spewing hate online became seemingly unstoppable, I don't blame them. At the same time, we have have some recent examples of person-driven narratives whose goal to mislead (or gaslight – More notes on gaslighting by Tressie McMillan Cottom).

[fast forward to the end…]

Learning Better

What if instead of defining our work by information gathering techniques, we define it by the goals of a particular project?

What if we made a practice of seeking out conflicting sources of information that challenge us to accept ambiguity? How might that change our opinions of stories, data, educational research and learning analytics? What types of conversation might we need to have to move such an approach forward?

Kate Bowles

February 20, 2017 | Reply | (Edit)

I'm trained in narrative practices following a therapeutic model (the model derived from the work of Michael White) and this has taught me that stories are individual and community practices of decision-making, and they are essentially projects of the reflective self, or group.

Business storytelling takes a different line: that with enough data and processing power, businesses can claim to be able to tell the stories of others.

This is what worries me about both health analytics and learning analytics: autogenerated storytelling of the other. So whoever we are, and whoever we think our audience might be, our stories are not our own — they are stories of others, and very often we want to use them to reform the behaviour of others. And we do this because analytics introduce a presumption of rigour that underestimates (or actively undermined) the other's fitness to tell their own story.

I really want to resist this presumption: I want to see what conversation can emerge that's prompted by data, but not finalised by it.

Jim Luke

March 1, 2017 | Reply | (Edit)

And that leads me to my last main observation. Unlike Kate, my background is in social science & business. I'm an economist. I spent 30+ yrs using data to help formulate stories in business. We called them "strategies", "plans", "market analyses", and "performance/financial statements" – but they were always based on data. We, both business people and economists, always make a big deal about the data and claiming that's what we do. We do facts. We do data. But there really isn't such a thing as data. It's all just stories. Period. The data doesn't exist without a story that uses it. And the data doesn't exist without a story, a story usually unstated or implied, about how that data could be captured or measured.

What might we trying to achieve with our stories?

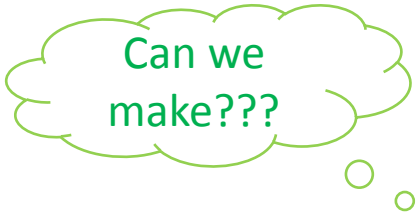
- Increased graduation rates and completion rates
- Revenue generation
- Efficient transmission of content and use of LMS
- Alignment of course content with prescribed learning outcomes
- Assess efficacy of new content (like open textbooks) and educational technology
- Improve learning design
- Teach skills to meet market demand
- Increase student engagement
- Innovate approaches to learning
- Improved access to educational opportunities
- Reduced reliance on the LMS
- Increased digital and data literacy
- Evidence of knowledge generation
- Better decision-making skills
- Empowering marginalized groups
- Challenging societal assumptions and remedying inequalities
- Increasing our ability to empathize with others
- (What else??)

Who might want to be our listeners?

- Institutional leadership
- Institutional operations
- Teaching faculty
- Research faculty
- Prospective students
- Current students
- Industry partners
- Accreditation organizations
- Government organizations
- Training organizations and trainers
- (Who else ??)

Lightening talks & challenges

Challenge 1
Making Predictive Analytics Safe for Student Consumption



Challenge!

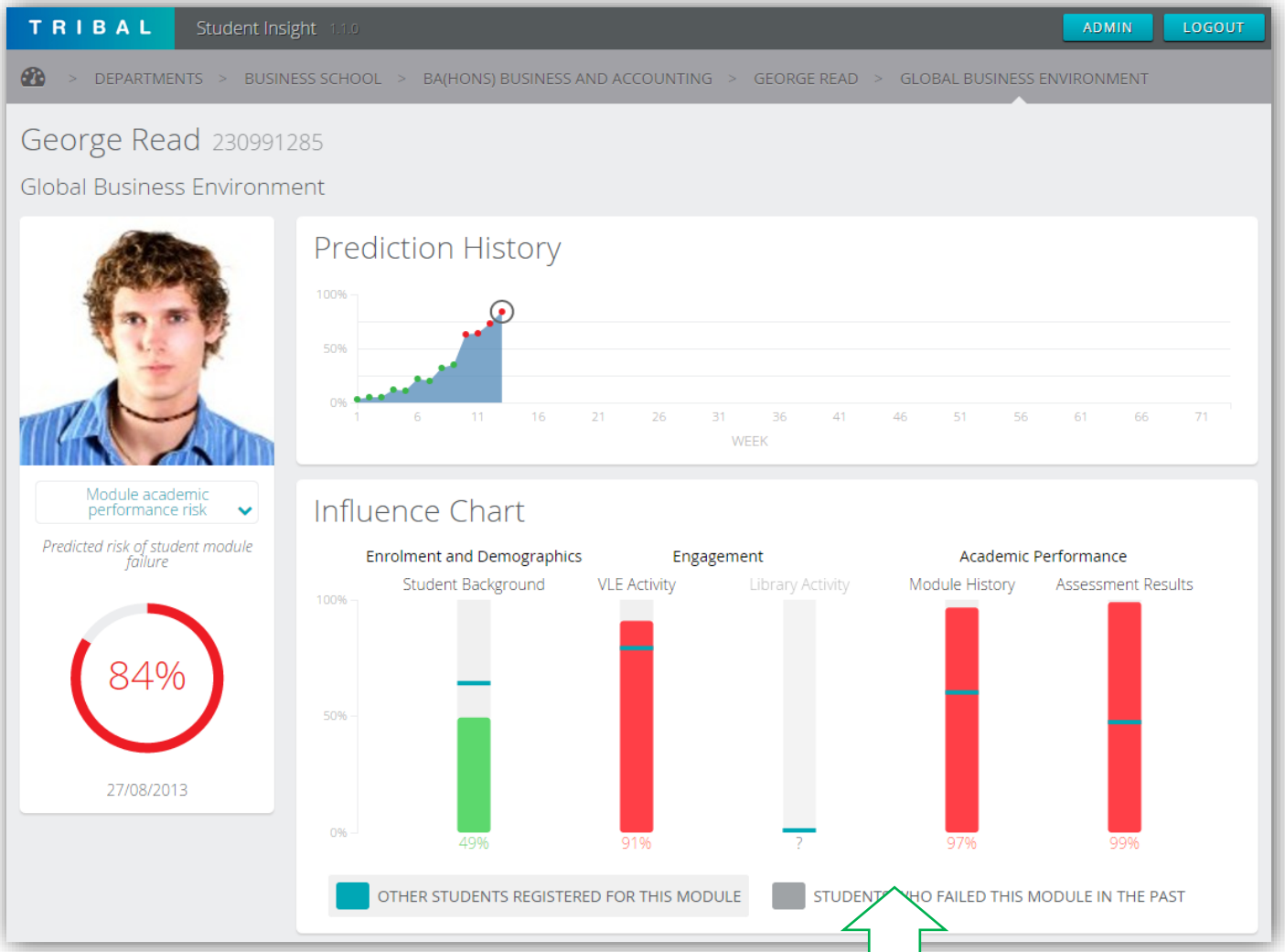
Making Predictive Analytics Safe for Student Consumption

Which ways of communicating the results of learning analytics to students* – without intermediation through a professional – are desirable, effective, and free from unacceptable side-effects?

* - scope = counterpart to staff dashboards of predictive analytics

Adam Cooper, Tribal Group, LAK Hackathon 2017

Unmediated Staff Dashboards = Danger



Student Insight API available for Hackathon

- Emotional
  - Self-fulfilling prophecies
  - …
- Behavioural
  - Chasing proxies
  - Gaming
  - …
- Epistemological
  - LA != truth
  - …
- Interpretational
  - So what should I DO???
  - Numerical/statistical literacy
  - …

Presented by Adam Cooper, Tribal, on March 17th 2017 at the 7th International Learning Analytics and Knowledge Conference in Vancouver, Canada.

Challenge: Making Predictive Analytics Safe for Student Consumption

Overview: We are now becoming accustomed to the idea that predictions of various kinds of outcome being presented to staff to help them to provide guidance to students is one of the main applications of Learning Analytics in the period to 2020. Staff expertise and conversational skills help to interpret and contextualize what the data indicates and to formulate a plan of action with the student.

Challenge: design ways of communicating the results of predictive learning analytics to students – without intermediation through a professional – that are desirable, effective, and free from unacceptable side-effects?

This should consider a range of dangers including:

1. Emotional responses to predictions of failure and the variety of psychological tendencies/states.
2. Gaming the system
3. Students chasing proxies for learning
4. Belief that the numbers don't lie
5. Not everything that matters is counted and not everything that is counted matters
6. Difficulty in translating "I have a problem" to "this is what I can do about it"
7. Numerical/statistical illiteracy and jumping to the wrong conclusion

Challenge 2
System Level Ed Tech dashboard

Challenge - Ed Tech dashboard: System Level

Overview: Usually there is a learning technology group that is responsible to provide support to end users, guide pedagogical uses of the system and making recommendations about plugins/ enhancements to recommend or decommission. Currently most of these folks have little other than anecdotal evidence what systems users are doing, need and want.

Question	Measures	Follow up question	Why it's important
Are people using Moodle help?	% of users accessing help Top issues	Built in? External linked to system? Why aren't they accessing help?	Help determine if we need to start with using faculty to use help or improving help docs. Identify common areas of confusion for improved documentation and training
What tools are being used within Moodle?	# of users using each tool	Drill-down to list of users	Decide which tools to turn off/ replace – Have easy contact list of impacted users
What types of activities are faculty inserting into their courses?	Top types of activities % of faculty using each type	Filter by faculty & compare	Better understand how faculty are using the system
Are students accessing learning resources/ activities?	Highest used Not used in last x months	In Moodle, linked content, external videos, wordpress, articulate & H5P	Better allocate resources/ consider removing content (stop updating) content no one is using
How much time are faculty spending in Moodle?	Time spent on "set up" activities Time spent in discussions	Time/ specific set up activity Change in the time spent over time with ability to filter	Improve documentation/ support/ training to minimize time faculty are spending on system set up – Measure efficacy of efforts

Challenge 3
Measuring Engagement

The Every Student Succeeds Act (SSA) has a multiple-measures requirement that has opened the door in some states to looking at measurements of social and emotional learning (see http://edwp.educ.msu.edu/green-and-write/2016/social-emotional-learning-states-consider-new-accountability-indicator/). According to Carini, Kuh, and Klein (2006), "Student engagement is generally considered to be among the better predictors of learning and personal development."[1] How do we quantitatively measure student engagement (e.g. for educators, administrators, etc.) and get the measurements to the right people in a way that helps improve (directly or indirectly) the student learning experience?

[1] Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. Research in higher education, 47(1), 1-32.

Challenge 4

Hierarchy of visualizations/ templates

Design a hierarchy of visualizations based on Learning Sciences covering all teaching styles aligned with proxy variables

Method

1.Document which styles and variables
2.xAPI statements in templates with example tsv files
3.Mock up visualizations

https://docs.google.com/presentation/d/1HwghKv2gbx8grh15r43cnpTO3nNnsulqbI1ORKcuJ1I/edit?usp=sharing

Challenge 5

Video xAPI statement/ template/ profiles

Challenge 6
Online Faculty/Course level dashboard

Challenge Online Faculty/Course level dashboard

At course level, there are two issues : interaction with students (opt-in faculty dashboard) – need student info and course design – anonymous data preferred.

Question	Measures	Follow up question	Why it's important/ Notes
Student login	Students who haven't logged in in last x weeks Students who have logged in regularly but have submitted 0 assignments		To enable instructor intervention, especially in online courses
Are students accessing learning resources within the course?	Name of students who completed Highest used Not used in last x months	In Moodle, linked content, external videos, wordpress, articulate & H5P	Student struggling – point to resource & Course design
Are students doing optional assignments?	Names of students who completed % of students completing assignments Never used	In moodle? Accessing content video/ h5p/ Wordpress outside of Moodle	Student struggling – point to resource & Course design
Do students feel the activities are helpful	Thumbs up/ down and Short (144 character) why?		Approx. 5-10/ course Course design
Social network analysis (SNAPP-like tool)	Who is talking to who? When? About what?		Improve structure of discussion forums
How long are they watching videos?	Time/video % of video		Student struggling – point to resource & Course design
What questions did students get wrong?	Anonymous roll-up of answers/ question on quiz		Allows faculty to the decide: -Hard question? -Question flawed? -Didn't teach it right?
How are students navigating through the course? (Pattern to	Map to complete/ incomplete (P/F)	Are there any key differences between successful & not successful students?	Course design

Challenge 7
Data literacy playground

Challenge Data literacy playground: Student level

Overview: We live in a world of data. Students are often asked to sign consent forms, but their privacy rights are really not ever explained to them. They have been using Google, Facebook etc since grade school but have likely never seen the type of data these systems are gathering and how it is changing what information is displayed back to them.

Universities also gather a lot of data about students in LMSs, student information systems, via Eduroam, mobile apps…

In many industries, we create training environments that mimic the real world but with anonymized data.

Challenge: Create a training environment for university students in which a small subset of anonymized data collected about students via all of the university systems are made available to faculty and students.

This system could be used for a variety of purposes including:

1. Illustrating privacy impact during privacy conversations (ideally) whenever consent forms are signed
2. Learning about privacy law
3. Allow students to find out what types of information are being gathered about them
4. Enable conversations about data that are complicated and as a result tend to be avoided
5. Support discussions about: Trust, ethics, terms of use in Moodle, uncertainty and fear
6. Discussing the potential of data as a “permanent learning record”
7. Transparent development of ethical norms
8. Students to develop apps & participate in learning analytics
9. Discussing assumptions around of data. Tracking time in system. Value of students contribution? Faculty?

Challenge 8

???

Challenges

1. Making Predictive Analytics Safe for Student Consumption & Student facing analytics
2. Measuring engagement
3. Hierarchy of visualizations/ templates & Video profile/ statemensts xAP
4. Online Faculty/Course level dashboard & System Level Ed Tech dashboard
5. Data literacy playground
6. Assessment & competency framework

Links

https://lakhackathon.wordpress.com/tech-data/

https://lak17hackathon.slack.com/

- What do students want from their experience
- Some good research, but not a lot
- Still can’t break - tracking scores - How do we open up