

Learning Analytics and Knowledge 2011, Banff



The Open University

Learning Analytics and Exploratory Dialogue

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SocialLearn Project

The Open University, UK

www.open.ac.uk/sociallearn

Context of this research



www.open.ac.uk/sociallearn

Learning space tuned for enquiry and sensemaking:

- **Social networking**
- **Google gadgets**
- **Mentoring**
- **Open educational resource pathways**
- **Analytics**
- **Recommendation engine**

Where is the quality learner discourse?...

Home About Conference Interviews Recordings Syllabus

Learning and Knowledge Analytics

Recordings

WEEK 1: Introduction to Learning Analytics

January 7:
LAK11 Overview: in [Elluminate...](#) and [presentation slides](#) on sli
Presenter: LAK11 Facilitators

January 10:
EDUCAUSE ELI Webinar: Recording: [Learning Analytics: A four](#)
[Presentation Slides](#)
Presenter: George Siemens

January 11:
Elluminate Recording: [Learning Analytics](#)
Presenter: John Fritz, UMBC

January 14:
Elluminate Recording: [Facilitator Chat & LAK11 Week 1 Review](#)

January 18:
Elluminate Recording: [Educational Data mining](#)
Presenter: Ryan S.J.d. Baker

January 21:
Elluminate Recording: [Facilitator Review of Week2](#)

January 25:
Elluminate Recording: [Semantic Technologies in Learning Environments](#)

Learning forums			
Week	Forum	Description	Discussions
1	Week 1: Introduction to Learning and Knowledge Analytics	Week 1: Introduction to Learning and Knowledge Analytics	22
2	Week 2: Rise of "Big Data" and Data Scientists	Week 2: Rise of "Big Data" and Data Scientists	23
3	Week 3: Semantic Web, Linked Data, & Intelligent Curriculum	Week 3: Semantic Web , Linked Data , & Intelligent Curriculum	9
4	Week 4: Visualization: Tools for, and examples of, Analytics	Week 4: Visualization: Tools for, and examples of, Analytics	8
5	Week 5: Organizational Implementation	Week 5: Organizational Implementation	4
6	Week 6: What's next for Learning & Knowledge Analytics?	Week 6: What's next for Learning & Knowledge Analytics?	2

How many points in the webinar triggered learning/knowledge-building?

The screenshot displays a webinar interface with three main sections:

- Participants:** A list of names including Navy, Nick Freear (Away), Nigel Pigott, Non, Olga_Semenova, Pat Grace, Paul Mundin (Away), Paul Richardson, Peter Wilson, Richenda Power, RJI, RoughBounds, russell gurbutt, S Sparrius, santy 1, Steve B 1, Steve Swithenby, svyukn, Teemum, Teresa Connolly, Thanh Le, Tim Hunt, Tina, Tony Hirst, TULLmann, vjkh, Walter Patterson, Wendy Maples, Will laptop, and Will Stewart.
- Chat:** A window showing a conversation. A red circle highlights the chat area. The text includes: "Michelle 'Eingang' Hoyle: Juliette: I guess that goes back to Non saying that content creators need to tie into semantic web ideas. Unfortunately a lot of Little OER people are doing these projects on little resources and self-learned skills, so they don't have the expertise or even know that semantic web would be useful or how to go about it." and "Will Stewart: Yes, I agree. Using technology to maintain".
- Whiteboard - Main Room (Scaled 94%):** A whiteboard titled "Useful Links" containing a list of links:
 - The Course Wiki
<http://climatechangecourse.wetpaint.com>
 - sideCAP wiki (with resources)
<http://sidecap.wetpaint.com>
 - The course on OpenLearn
<http://openlearn.open.ac.uk>
 - The sideCAP report
<http://www.blurb.com/bookstore/detail/1267854>

At the bottom, there is a timeline showing "2:21:50" and "In session for 4 hours, 2 minutes."

Data source: OU online conference



The screenshot shows a web page from Cloudworks. At the top left is the 'cloudworks' logo with a cloud icon. To the right are navigation links for 'Home' and 'Clouds'. The main content area features a title: 'Open University annual Learning and Technology conference: Learning in an open world'. Below the title, it shows '3310 views' and '12 favourites'. The dates '20 June 2010 - 22 June 2010' and the location 'Online in illuminate' are listed. A short description reads 'The OU's annual learning and technology conference'. Below this is a photo of a modern building with a sign that says 'Open University'. To the right of the photo are three dropdown menus labeled 'Content', 'Cloudstream', and 'Clouds'.

Data in this study taken from a 2 day OU conference in Elluminate & Cloudworks: <http://cloudworks.ac.uk/cloudscape/view/2012>

Disputational/Cumulative/Exploratory talk

Disputational talk

characterised by disagreement and individualised decision making. Few attempts to pool resources, to offer constructive criticism or make suggestions. Disputational talk also has some characteristic discourse features - short exchanges consisting of assertions and challenges or counter assertions ('Yes, it is.' 'No it's not!').

Cumulative talk

in which speakers build positively but uncritically on what the others have said. Partners use talk to construct a 'common knowledge' by accumulation. Cumulative discourse is characterised by repetitions, confirmations and elaborations.

Mercer, N. (2004). Sociocultural discourse analysis: analysing classroom talk as a social mode of thinking. *Journal of Applied Linguistics*, 1(2), 137-168.

Disputational/Cumulative/Exploratory talk

Exploratory talk

- *Partners engage critically but constructively with each other's ideas.*
- *Statements and suggestions are offered for joint consideration.*
- *These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered.*
- *Partners all actively participate and opinions are sought and considered before decisions are jointly made.*
- *Compared with the other two types, in Exploratory talk knowledge is made more publicly accountable and reasoning is more visible in the talk.*

Mercer, N. (2004). Sociocultural discourse analysis: analysing classroom talk as a social mode of thinking. *Journal of Applied Linguistics*, 1(2), 137-168.

Example from Mercer (classroom discussion)

- George** I think she should be saying 'Did you steal my money from me?'
- Tina** Your go.
- Sophie** I think we should put 'I thought that my money's gone missing and I thought it was you'.
- George** 'I think it was you'.
- Sophie** Which one?
- Tina** Now what was it I was going to say, Um, um
- George** **No because** she's *thinking*, so we need to do a thought. So we could write her saying
- Sophie** 'My money's gone missing so'
- Tina** I was going to say if we're doing the one where she's saying, this is *saying* not thinking
- Sophie** 'My money's gone do you know where it is?'
- Tina** No, on the saying one she could say
- George** You should be saying
- Tina** Like she could be thinking to say to Robert, she could be saying 'Do you know where's my money?' 'Do you know anything about my money going missing?'
- George** **Yeah, what, yeah that's good.** When she's thinking i think she should be thinking 'Oh my money's gone missing and its definitely Robert.
- Tina** Yeah
- Sophie** **No 'cos** she's *saying it to him isn't she?*
- Tina** No she's thinking at the moment.

Explicit reasoning
Challenge Evaluation

Indicators of exploratory talk?

Category	Indicator
Challenge	But if, have to respond, my view
Critique	However, I'm not sure, maybe
Discussion of resources	Have you read, more links
Evaluation	Good example, good point
Explanation	Means that, our goals
Explicit reasoning	Next step, relates to, that's why
Justification	I mean, we learned, we observed
Reflections of perspectives of others	Agree, here is another, makes the point, take your point, your view

Low exploratory dialogue

(and text chat is often not well formed, making it hard to analyse with CompLing tools)

Time	Contribution
3:12 PM	LOL
3:12 PM	It's not looking good.
3:13 PM	Sorry, had to do that.
3:13 PM	jaaa
3:13 PM	Ouch!
3:13 PM	It was a vuvuzela.
3:13 PM	I though that was you @Alistair
3:13 PM	I've taken away the vuvuzela from you now!
3:13 PM	
3:13 PM	LOL
3:13 PM	still 0-0?

Higher exploratory dialogue

Time	Contribution
2:42 PM	I hate talking. :-P My question was whether "gadgets" were just basically widgets and we could embed them in various web sites, like Netvibes, Google Desktop, etc.
2:42 PM	Thanks, that's great! I am sure I understood everything, but looks inspiring!
2:43 PM	Yes why OU tools not generic tools?
2:43 PM	Issues of interoperability
2:43 PM	The "new" SocialLearn site looks a lot like a corkboard where you can add various widgets, similar to those existing web start pages.
2:43 PM	What if we end up with as many apps/gadgets as we have social networks and then we need a recommender for the apps!
2:43 PM	My question was on the definition of the crowd in the wisdom of crowds we access in the service model?
2:43 PM	there are various different flavours of widget e.g. Google gadgets, W3C widgets etc. SocialLearn has gone for Google gadgets

Discriminating between participants (1 hr)

	Posts Mean = 5.4	Word Mean = 47.3	Ex posts Mean = 0.9	Ex words Mean = 11.4	Ex as % of all posts Overall 17%	Ex as % of all words Overall 24%
Alice	5	13	0	0	0%	0%
Ben	5	36	1	2	20%	6%
Chantelle	5	59	2	38	40%	64%
Dennis	7	71	0	0	0%	0%
Eric	7	55	1	8	14%	15%
Francesca	9	117	1	26	11%	22%
Gill	12	91	2	9	17%	10%
Harold	13	86	2	30	15%	35%
Moderator	42	337	7	84	17%	25%

Discriminating between sessions

June 22nd Afternoon - Open Learning

You need to log into Elluminate here (for playback):

<https://sas.illuminate.com/p.jnlp?psid=2010-06-22.0516.M.D86AEE>

- ▶ 1.30 - 2.30 OU presentations:
 - [SCORE](#) (Andy Lane) - WAS SCHEDULED FOR MORNING SESSION AT LAST MINUTE
 - [SocialLearn](#) (Simon Buckingham Shum)
 - [OpenLearn](#) (Laura Dewis)
- ▶ 2.30 - 3.15 Moderated discussion
- ▶ 3.15 - 4.30 External speaker - [George Siemens](#) (Athabasca)

Source data: webinar: <http://cloudworks.ac.uk/cloud/view/2994>

Discriminating between sessions

	APM	AWM	AXPM	AXWM	APE	AWE	AXPE	AXWE
OU Talks (60 mins)	2.4	21.3	0.4	5.2	5.4	47.3	0.9	11.4
Discussion (45 mins)	4.6	47.8	1.2	18.6	5.6	58.2	1.5	22.6
Keynote (75 mins)	5.8	67.5	1.6	31.1	10.1	117.7	2.8	54.2
Chat (8 mins)	8.8	57.6	0.9	11.8	3.3	22.0	0.3	4.5

Key: Average Xploratory Words Minute Posts Each

Source data: webinar: <http://cloudworks.ac.uk/cloud/view/2994>

Summary

- More nuanced than generic analytics
- More nuanced than conference timetable
- Importance of context
- Different types of learning

Future research needed in order to...

- Check reliability of this form of analysis
- Check validity of this form of analysis
- Differentiate exploratory talk about content, tools, process, people
- Investigate relationship between chat and audio/video
- Automate process of analysis
- Add more sophisticated text analysis

More sophisticated discourse analysis on longer texts

OLnet Project: KMi seminar replay: <http://olnet.org/node/512>

Detection of salient sentences based on rhetorical markers:

BACKGROUND KNOWLEDGE:

Recent studies indicate ...
... the previously proposed ...
... is universally accepted ...

CONTRASTING IDEAS:

... unorthodox view resolves ...
paradoxes ...
In contrast with previous hypotheses ...
... inconsistent with past findings ...

GENERALIZING:

... emerging as a promising approach
Our understanding ... has grown
exponentially ...
... growing recognition of the
importance ...

NOVELTY:

... new insights provide direct
evidence we suggest a new ...
approach ...
... results define a novel role ...

SIGNIFICANCE:

studies ... have provided important
advances
Knowledge ... is crucial for ...
understanding
valuable information ... from studies

SURPRISE:

We have recently observed ...
surprisingly
We have identified ... unusual
The recent discovery ... suggests
intriguing roles

OPEN QUESTION:

... little is known ...
... role ... has been elusive
Current data is insufficient ...

SUMMARIZING:

The goal of this study ...
Here, we show ...
Altogether, our results ... indicate



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<http://oro.open.ac.uk/view/person/rf2656.html>

<http://www.slideshare.net/R3beccaF>

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<http://oro.open.ac.uk/view/person/sjb72.html>

<http://www.slideshare.net/sbs>