

Social Learning Analytics

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Southern SoLAR Flare, Sydney

The Open University (UK)



- Supported distance education
- Quality open education at scale



Open learning





59,053,400 iTunes downloads

6,200,000 YouTube views

OpenLearn 11,000 hours of viewing material 400,000 unique visitors per month

Frozen Planet

Have you studied with us?

Online social learning



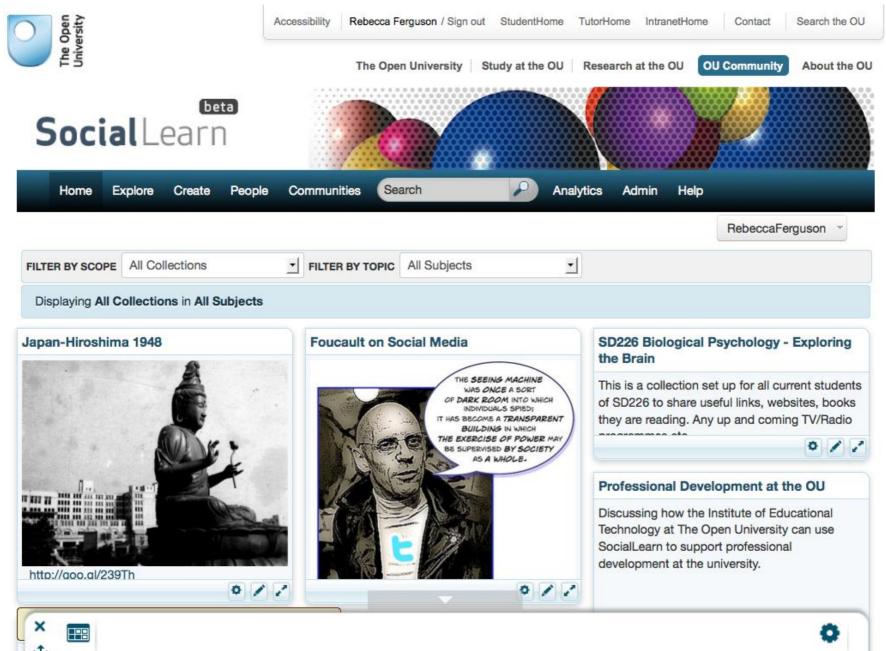
Why has someone sawn down half of the beautiful cedar tree outside my office window? I can't find this out from a book, and I don't know anyone with the precise knowledge that I am looking for. It is as I engage in conversations with different people that my understanding of what I see outside my window increases, and I learn more about the tree's history, health, ecosystem and future possibilities.





Sociallearn.open.ac.uk





Learning analytics



Developing new tools for learners and teachers drawing on experience from the learning sciences intention of understanding and optimizing not only learning but also the environments in which it takes place

Implementing analytics

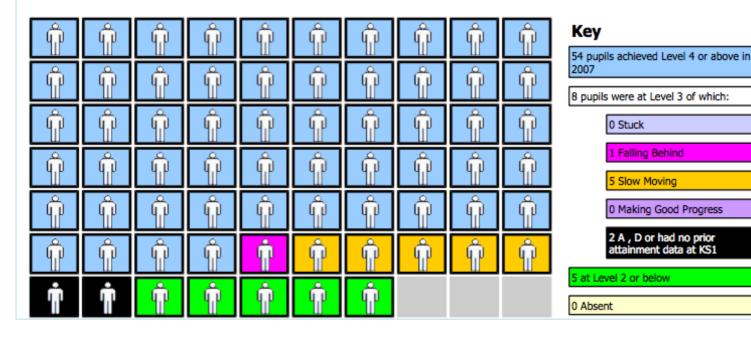




Chart 2.1.22

For 2007 results, Mathematics (KS2)

The chart shows the proportion of pupils achieving level 4 or above in Key Stage 2 Mathematics (KS2) and for those who did not reach this threshold how they have progressed since Key Stage 1.



- Aligned with clear aims
- Huge and sustained effort
- Agreed proxies for learning
- Clear and standardised visualisation
- Driving behaviour at every level

Individual assessment within cohort

Negative perspective: NAPLAN



There is massive pressure on schools and individual teachers to lift their school results. The logical consequence is to teach to the test ... It is not about the students but it is all about the school ... It does not reveal anything about the richness of your child's learning ... Why is the ability to work in teams not included...?

This is a nice little earner capital ising and exploiting the anxiety of students and parents. Schools aid and abet this by opting to purchase these materials. **6** Schools are as much to blame as ambitious parents who want bragging rights. 7 But what is of deep concern and reflective of the flawed British experience of persistent testing is that standards in the classroom are not linked to NAPLAN. The information given to parents is of palpably little worth. It tells you that on a given day your child scored this or hat. It does not reveal anything

Sydney Morning Herald 27 November 2012

Social learning analytics



Social learning analytics focus on how learners build knowledge together in their cultural and social settings.

In the context of online social learning, these analytics take into account both formal and informal educational environments, including networks and communities.

Why social learning analytics? (1)



Changing environment



Why social learning analytics? (2)

Social media



Florence Chee @cheeflo
Working on my acknowledgments se
choked up. Oh halp. #phdchat



Keri Ferencz @keri_lotion Interesting! #phdchat #highered RT @ advising faculty to publish only in Op hvrd.me/Jsz9G6



Michelle A. Hoyle @Eingang

I just submitted my first article to be probably to be rejected :-p) #phdchat



Jess Drake @soilduck

22 Apr

#phd thought of the day: you can't compare your phd with another. it is a different journey for each person #phdchat





Doug Clov

Today I learned that Klezmer/Techno/Ragga/??? fusion music exists. Also that it is really rather good.

Like · Comment · 17 hours ago via Mobile · 🎎



Support learning-related reflection on interpersonal relationships and interactions

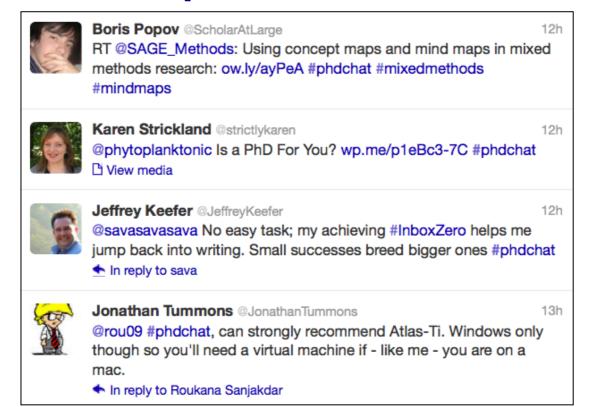
Why social learning analytics?



Free and open content

New ideas

Helpful info



Useful resources

Key hashtags

Support networks

Support the role of social networks in filtering and recommending resources

Why social learning analytics? (3)

Living in the knowledge age

Learning skills for the knowledge age

- Information and media literacy skills
- Communication skills
- Critical thinking and systems thinking
- Problem identification, formulation and solution
- Creativity and intellectual curiosity
- Interpersonal and collaborative skills
- Self-direction
- · Accountability and adaptability
- Social responsibility

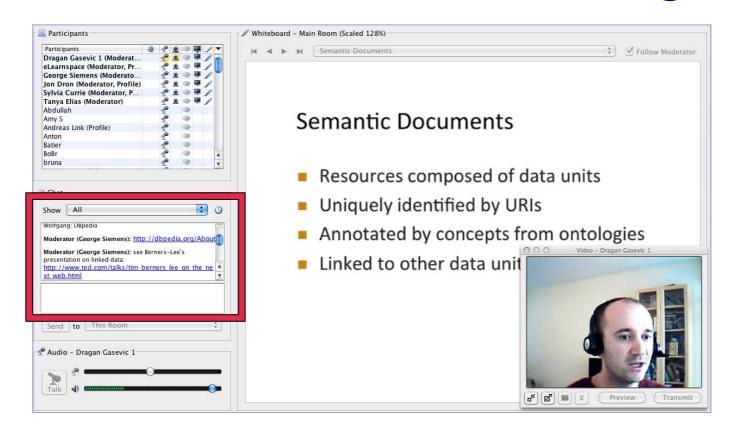
The 7Cs

 Critical thinking-and-doing 	 Computing 	
 Creativity 	 Career & Learning self-reliance 	
 Communication 	 Collaboration 	
	Cross-cultural understanding	

Support learners to assess their progress in terms of knowledge-age skills

Why social learning analytics? (4)

Sociocultural understandings



Increase learner proficiency in the use of educational dialogue

Why social learning analytics? (5)



Sociocultural understandings



Enable learners to engage proficiently with a range of tools and social settings

Why social learning analytics? (6)



MOOCs

November 26th, Week 7: Researching and evaluating other OT tools and projects (1)

This week you will have to opportunity to explore other Open Translation projects, including the work of GlobalVoices, TEDTalks and Wikipedia.

Things to do this week

Translating TEDTalks

TED's Open Translation Project: 9,000+ translators, 88 languages, nearly 30,000 volunteer-contributed translations of TEDTalks. The video below tells you why they do it! You can also have a look at: http://www.ted.com /OpenTranslationProject



Global Voices Lingua project

Unread

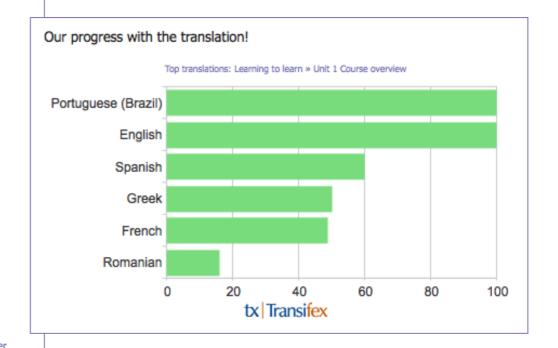
Translating Wikipedia

Unread

OT PROJECTS FORUM (Unread posts)

Paula and Dimitra's forum (Unread posts)

Link to the online meeting with Paula Góes from Global Voices - 29th November (7pm UK time) Unread



Open Translation MOOC http://bit.ly/OTcgiD Learning Design MOOC http://www.olds.ac.uk/

Social/ized analytics



Social analytics

- social network analytics
- discourse analytics

Socialized analytics

- content analytics
- disposition analytics
- context analytics

Social analytics: potential uses

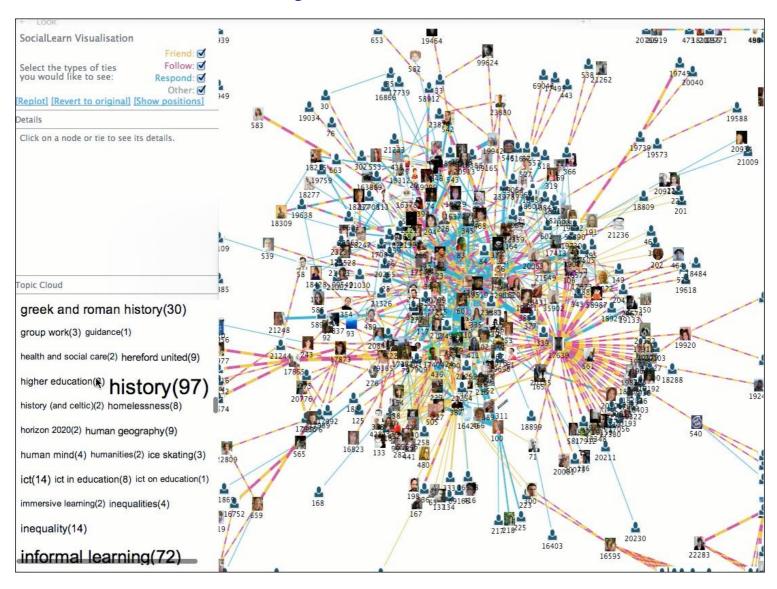
Network analytics

Identify individuals who support my learning Identify individuals with relevant interests Identify origins of conflicts

Identify groupings that could support learning Provide feedback to groups and group leaders

Network analytics

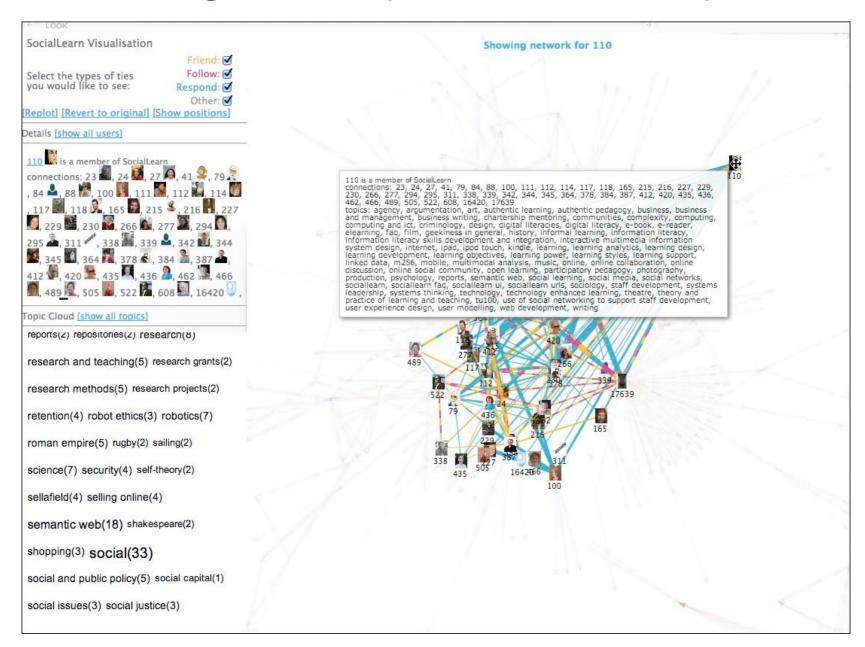




Visualising Social Learning in the SocialLearn Environment. *Bieke Schreurs and Maarten de Laat (Open University, NL), Chris Teplovs (Problemshift Inc. and University of Windsor), Rebecca Ferguson and Simon Buckingham Shum (The Open University, UK)*, SoLAR Storm webinar, The Open University, UK. http://bit.ly/UaFhbL

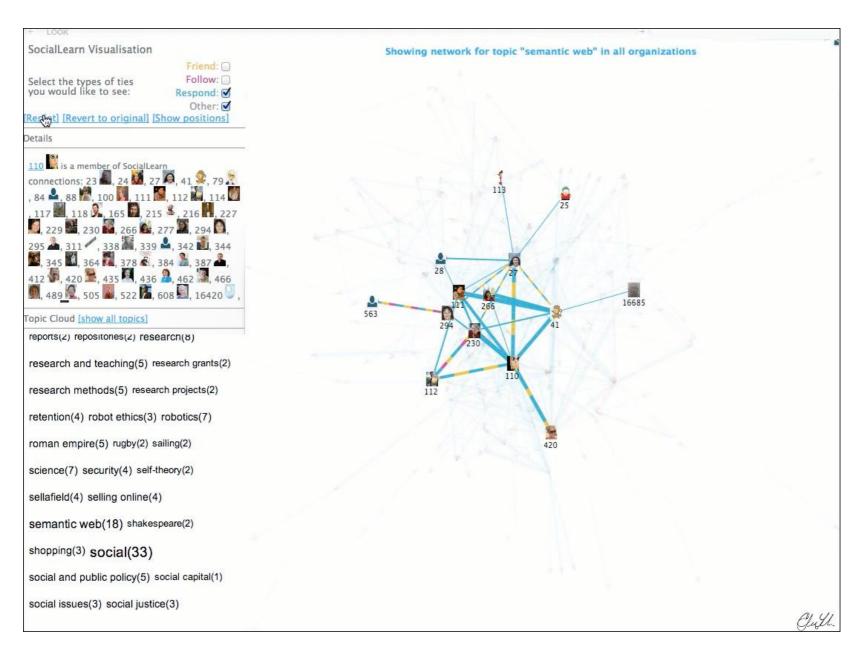
Visualising ties by topic and type





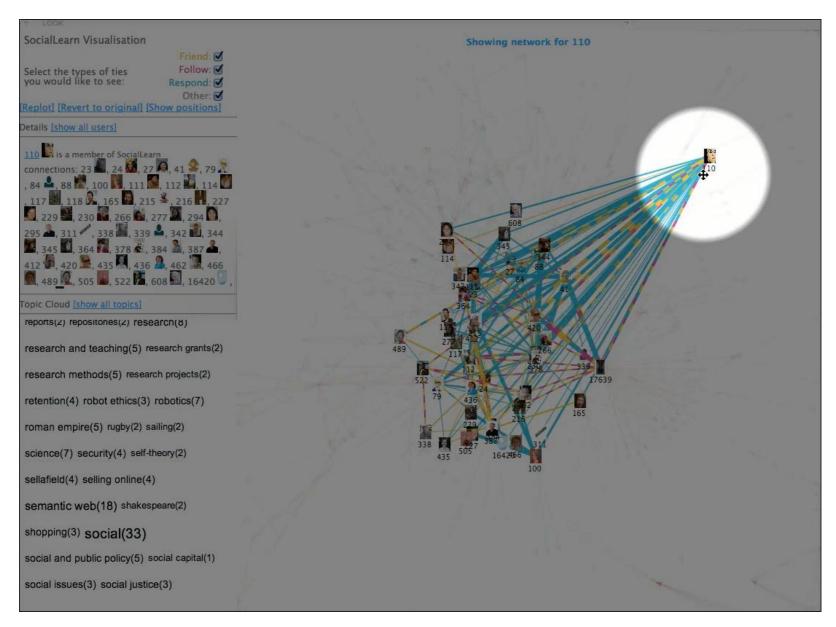
Visualising ties by topic





Visualising ties by individual





Social analytics: potential uses

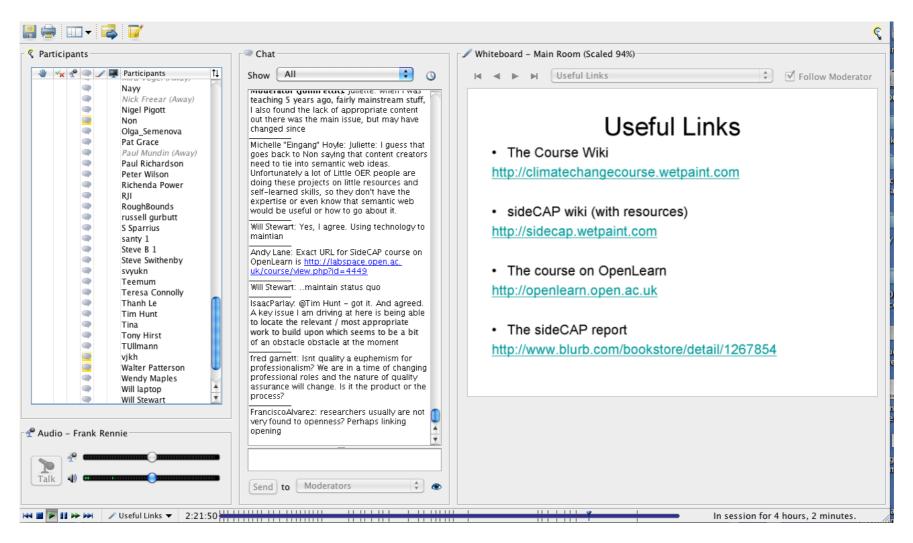
Discourse analytics

The ways in which learners engage in dialogue indicate how they engage with the ideas of others, how they relate those ideas to their understanding and how they explain their own point of view.

- Disputational dialogue
- Cumulative dialogue
- Exploratory dialogue

Analysing synchronous chat





Extensions to: Ferguson, R. and Buckingham Shum, S. (2011). Learning Analytics to Identify Exploratory Dialogue within Synchronous Text Chat. *Proc. 1st International Conference Learning Analytics & Knowledge*. Feb. 27-Mar 1, 2011, Banff. ACM Press. Eprint: http://oro.open.ac.uk/28955

Identifying indicators



Category	Indicator
Challenge	But if, have to respond, my view
Critique	However, I'm not sure, maybe
Discussion of	Have you read, more links
resources	
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

Identifying exploratory chat



Challenge: Locate the 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?

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.

Manual analysis identifies indicators

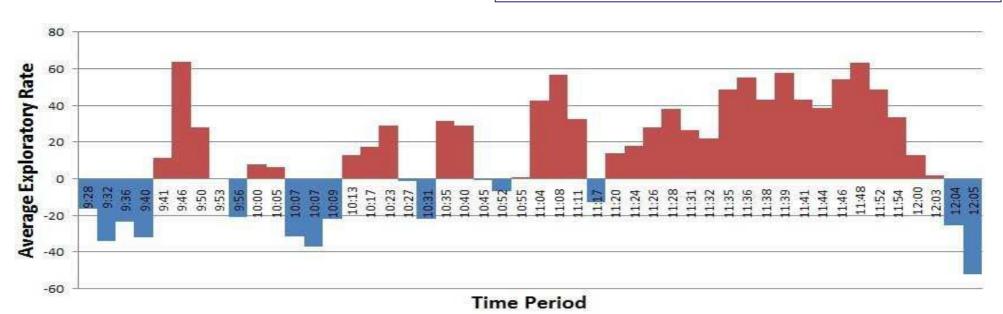
Category	Indicator
Challenge	But if, have to respond, my view
Critique	However, I'm not sure, maybe
Discussion of resources	Have you read, more links
Evaluation	Good example, good point
Explanation	Means that, our goals
Explicit reasoning	Next step, relates to, that's why
Justification	I mean, we learned,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

Self-training framework



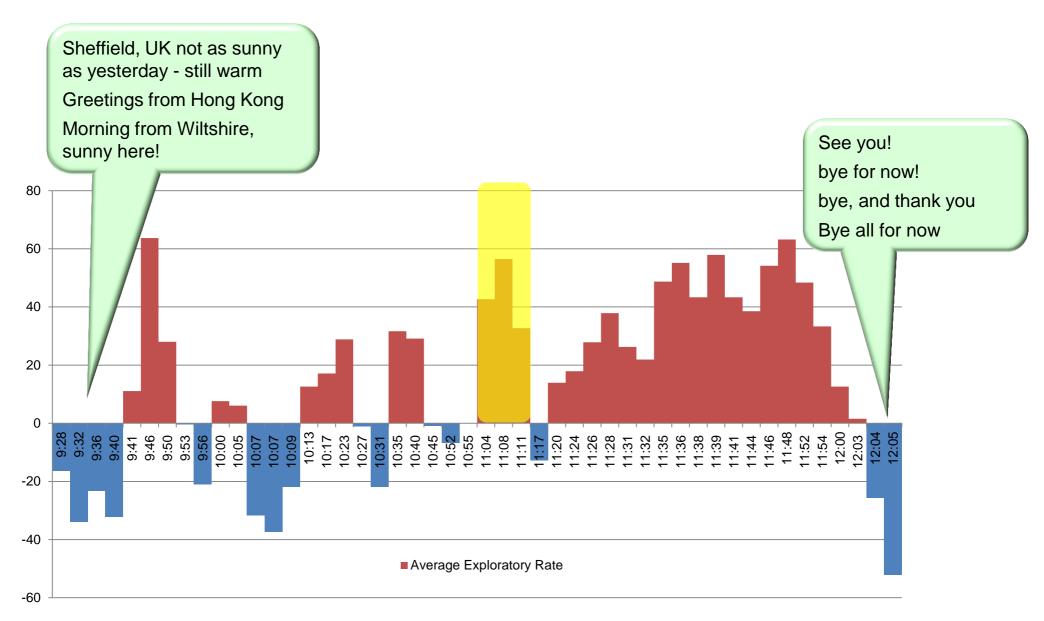
- Framework uses cue phrases to make use of discourse features for classification
- Uses a k-nearest neighbours instance selection approach to draw on topical features

Exploratory features					
	exploratory probability	non-exploratory probability			
httpurl	exploratory:0.999999998924732	non-exploratory:1.0752688169730606E-10			
learning	exploratory:0.999999998863637	non-exploratory:1.136363636105372E-10			
i-think	exploratory:0.999999997727272	non-exploratory:2.272727271694215E-10			
Non-exploratory features					
	exploratory probability	non-exploratory probability			
bye	exploratory:3.448275859690844E-10	non-exploratory:0.999999996551724			
sound	exploratory:4.99999995E-10	non-exploratory:0.999999999			
hi	exploratory:4.99999995E-10	non-exploratory:0.999999995			



Webinar chat analytics





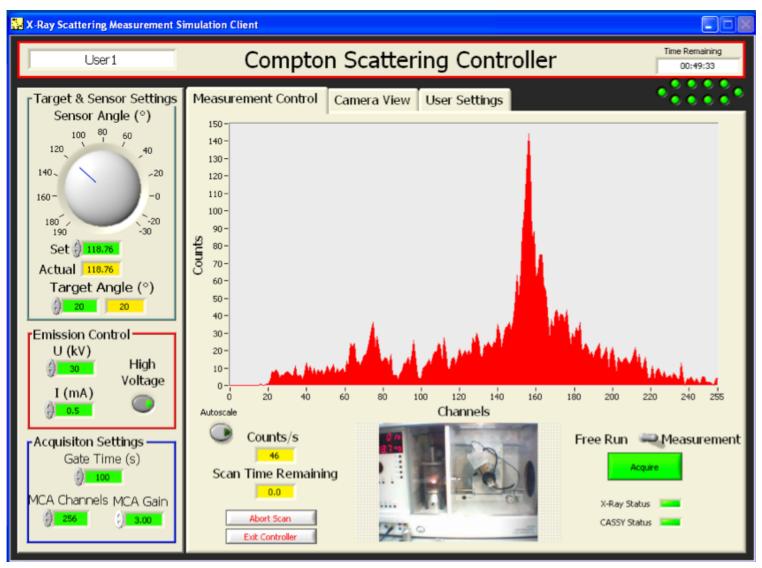
Webinar chat analytics



right	X X X X
I wonder if it also changes from introspective feel of some (of our) materials to	
more of an open dialogue?	
Course teams (not necessarily OU) can become incredibly blinkered during the	
period of writing a course and an additional external view is valuable	
Is the authoring out loud model best suited for new, emerging fields? Introduction to Algebra might go be so ripe for this model unless there was a novel dimension to it, eg. a new way of teaching it, or for s niche audience hello Helen!	x x x x
OK i take your point - I think there are points when it could really help. Eg. inviting	
ALs and students in to comment on course outlines or particularly tricky chunks of	Classified as
material. Yes - take your point.	"exploratory
would you like me to speak?	talk"
I'm just wondering how 'team work' works when live authoring is used?	taik
That's what: I was looking for Tony - lovely, "Conversational" is the term	(more
<rt>@Tony Does the meaning of 'a course' change through the process? I.e.</rt>	substantive
there is effectively a different learning process (course) in the preparation of the	for learning)
actual course.	ioi icariiiig/
I'd also like to point out that this particular model is more agile, not just in initial	
development but in ongoing development. "Traditional" OU courses are written and pretty much well fixed in stone for extended periods of time.	
	"non-
The link to the artist who painted the image I used on one of my slides is Steve Russell http://www.russellstudio.co.uk/russell_studio/steve_russell.html	exploratory"

OpenScience Laboratory

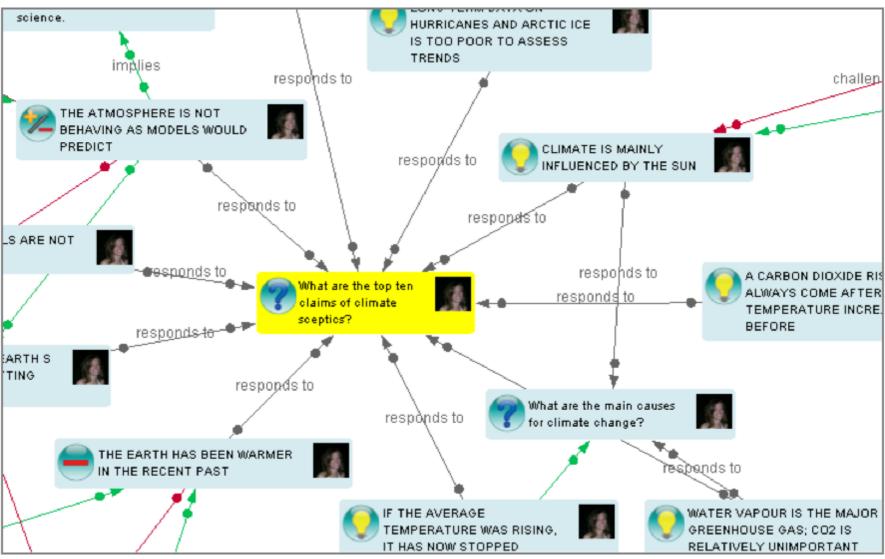






Cohere.open.ac.uk





Weave webs of meaningful connections between ideas

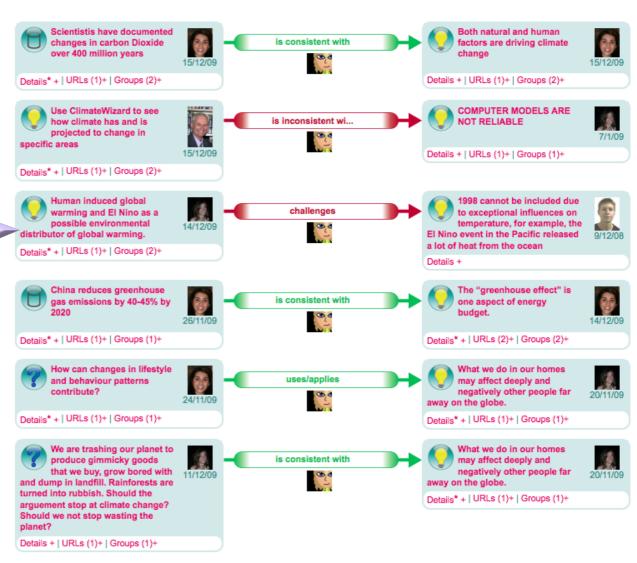
Kmi's Cohere





Rebecca is playing the role of *broker*, connecting 2 peers' contributions in meaningful ways

web deliberation platform enabling semantic social network and discourse network analytics

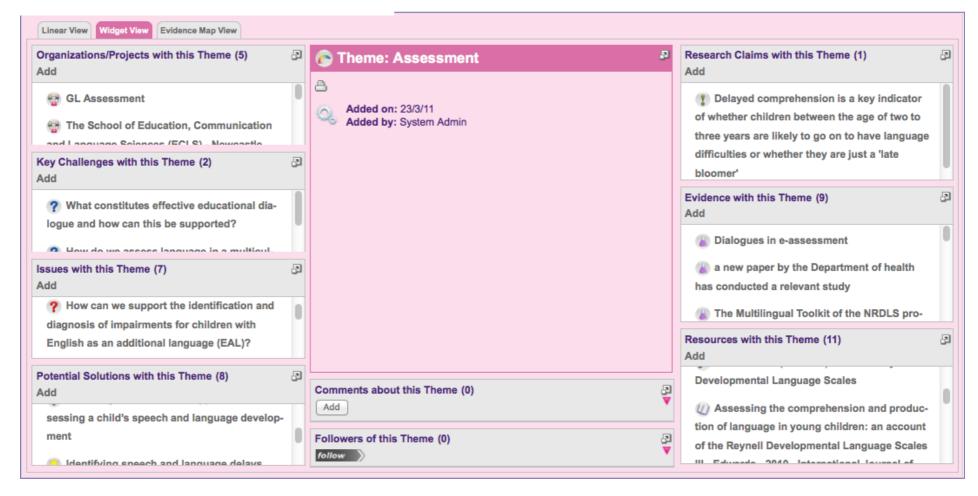


De Liddo, A., Buckingham Shum, S., Quinto, I., Bachler, M. and Cannavacciuolo, L. Discourse-centric learning analytics. *1st International Conference on Learning Analytics & Knowledge* (Banff, 27 Mar-1 Apr, 2011) http://oro.open.ac.uk/25829

Evidence-hub.net



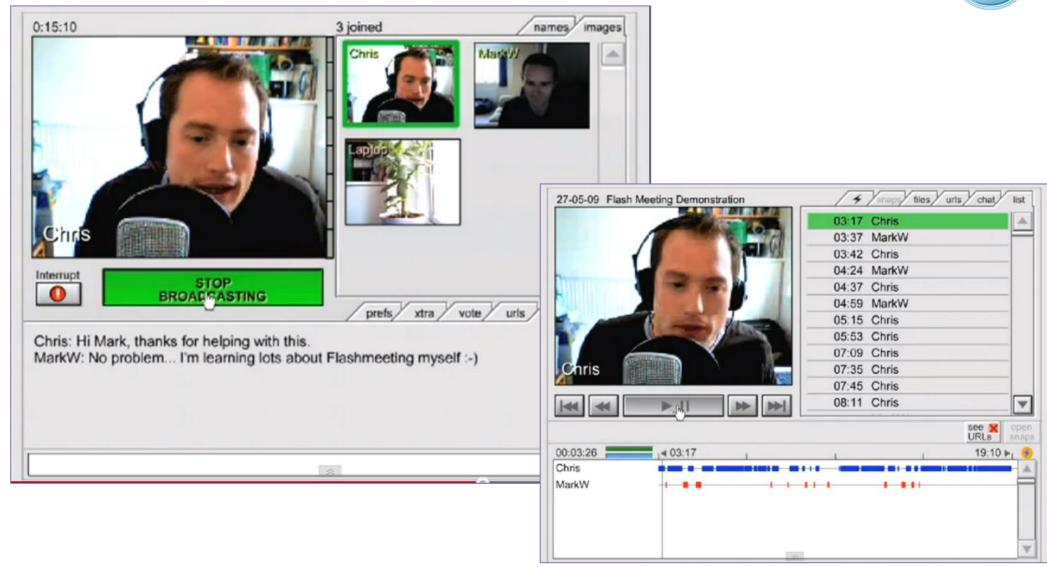




Simon Buckingham Shum, Anna De Liddo & Michelle Bachler

Flashmeeting.e2bn.net



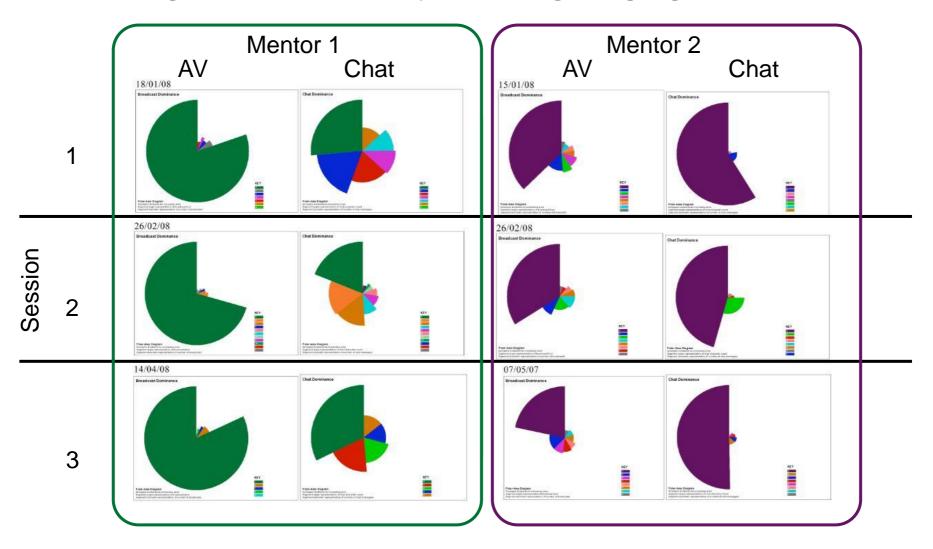


http://flashmeeting.open.ac.uk/research/shapes.html

Videoconferencing analytics



Flashmeeting video conference: spoken foreign language tutorials



Socialized analytics: potential uses

Disposition analytics

Dispositions can be used to render visible the complex mixture of experience, motivation and intelligences that make up an individual's capacity for lifelong learning and influence responses to

learning opportunities



Buckingham Shum, S., & Deakin Crick, R. (2012). *Learning dispositions and transferable competencies: pedagogy, modelling, and learning analytics.* Paper presented at the 2nd International Conference on Learning Analytics & Knowledge.

ELLI Profile



Home » Topics » ELLI Adult Version 2.0 » ELLI Adult Version 2.0 ELLI Adult Version 2.0				
	No not at all like me	A little bit like me	Quite a lot like me	Yes very much like me
Talking things through with my colleagues helps me to learn.	0	Θ	0	0
2. I enjoy discussing difficult problems with my friends.	0	0	0	0
3. I often look back and think about what I have learned.	0	Θ	0	0
4. I always approach learning in the same way.	0	0	0	0
5. There is at least one person in my community/social network who is an important guide for me in my learning.	0	0	0	0
swered 0 of 74 questions			Save	and proceed

Web questionnaire 72 items (children and adult versions: used in schools, universities and workplace)





Dimensions of learning power



Resilience



Resilient learners like a challenge. They accept that everyone can find learning hard sometimes and are not frightened by finding something difficult. They have a high degree of 'stickability'. They are not fragile and can tolerate the feelings of anger, fear, frustration and anxiety that sometimes accompany learning.



Critical curiosity
Meaning making
Creativity
Resilience
Strategic awareness
Learning relationships
Changing and learning

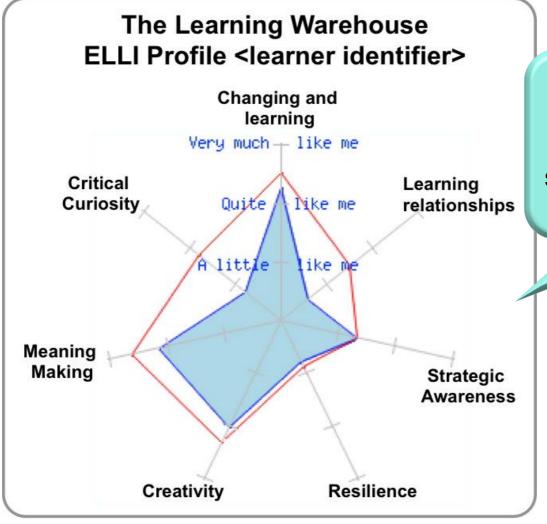
Strategic awareness

Definition

Strategic learners think about how they learn. They talk about how they will go about something and consider the habits, preferences, strengths and weaknesses they bring to the task. They are aware of their own feelings about learning and know how to manage them. They can talk about personal learning preferences.

A 'visual learning analytic'





Basis for a mentored discussion on how learner see themselves, and strategies for strengthening the profile







Connecting with learner identity



Singleton High School (ratified by the Wonnaruah elders)

willy wagtail: didijiri

emu: kungkurung

snake: ta nipa tang

eagle: ka-wul

echidna: kuntji kukan

platypus: pikan

ants: yunrring





Connecting with learner identity



Gappuwiyak School N. Territory

> Changing & Learning: Drongo - Guwak



Strategic Awareness: Emu - Wurrpan

http://bit.ly/srUSHE



Meaning Making: Pigeon - Nabalawal



Critical Curiosity: Sea Eagle - Djert



Resilience: Brolga - Gudurrku



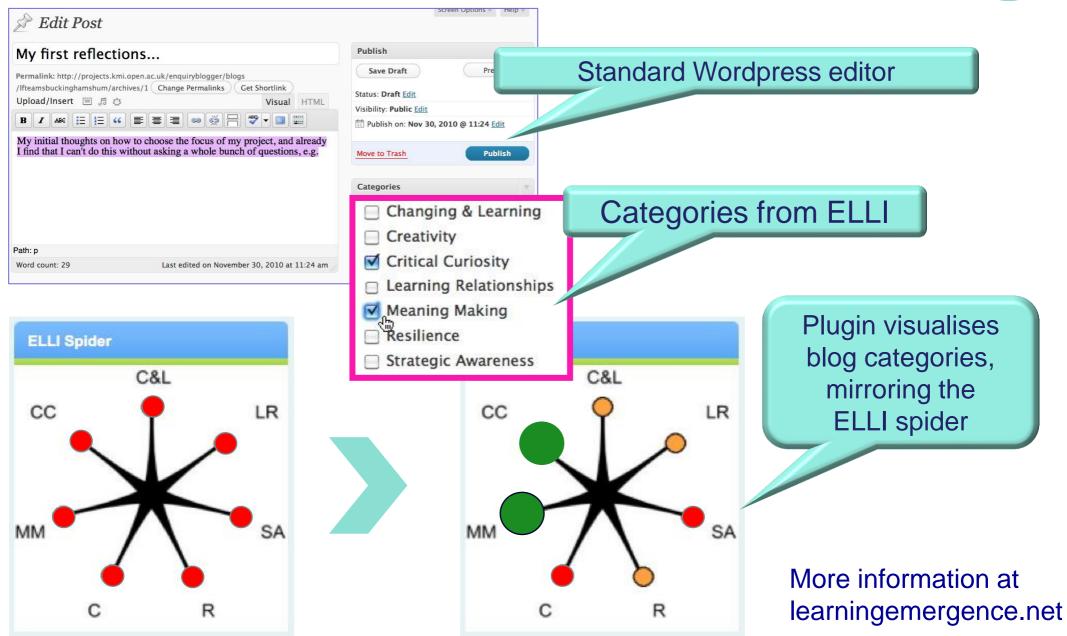
Creativity: Bower Bird - Djurwirr





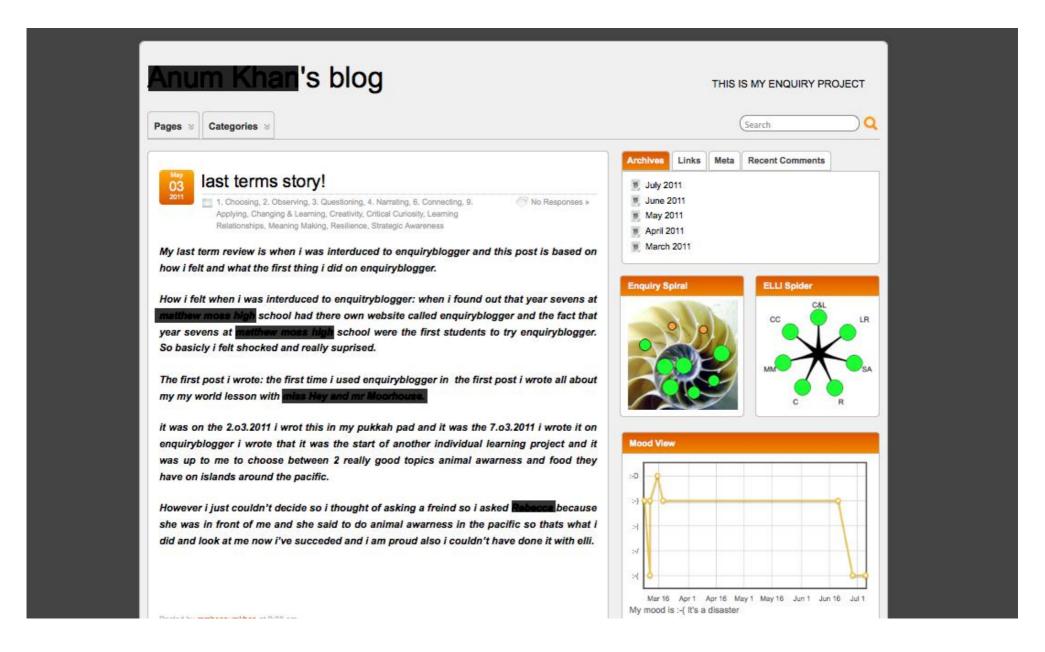
EnquiryBlogger





Secondary school bloggers





Primary school bloggers





Day 3: Answering and conclusion

Creativity, Meaning Making, Strategic Awareness

Today, we were looking at our questions in detail, adding and removing question we thought needed to be. We also spent sometime sitting on the carpet and descussing our ideas for our finished product for the project. We have also tried to answer most of our questions as well.

Elli dimensions:

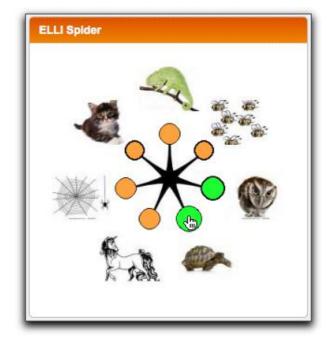
I used my meaning making dimension because we have been trying to make links with our questions in order to answer them. We have also used our Creativity dimension, because we have been looking through our questions, and rivising to make them seem better. And finally, we have used our strategic dimention, because we have been planning out what we are going to do for our project, and how we are going to do it.

Also, could you try to email Evelyn Glennie, so I can maybe get an answer from her, about how she felt about music as a child. Don't worry if you can't, because it doesn't matter if she can't get back to me, because it doesnt affect my plan. It would be extremely helpful if you could. So please could you try, I would be most grateful.

Please get back to me as soon as you are able. Thank you,

Creativity Meaning making Strategic awareness

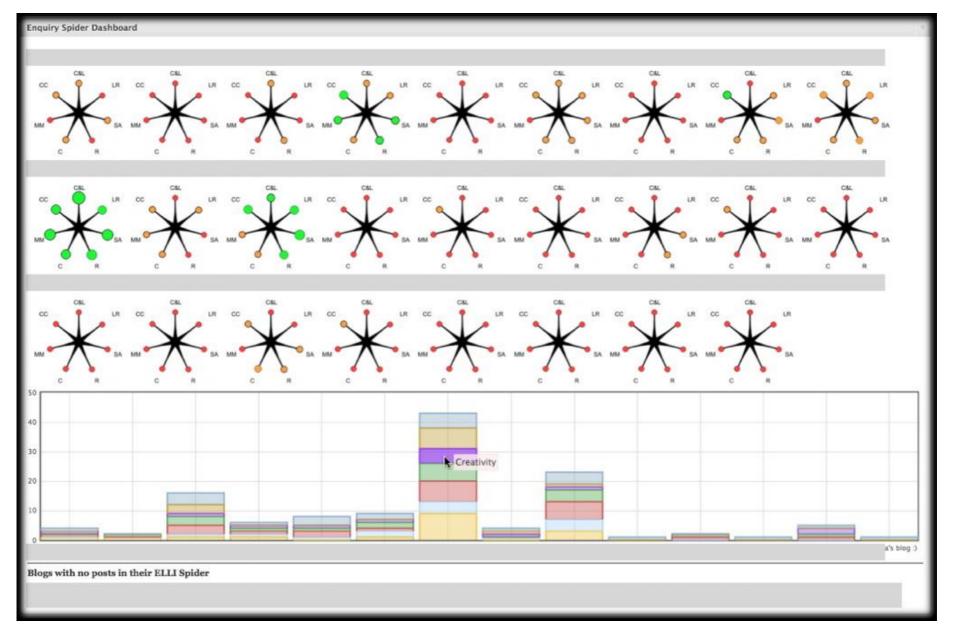




EnquiryBlogger: blogging for Learning Power & Authentic Enquiry http://learningemergence.net/2012/06/20/enquiryblogger-for-learning-power-authentic-enquiry

EnquiryBlogger dashboard

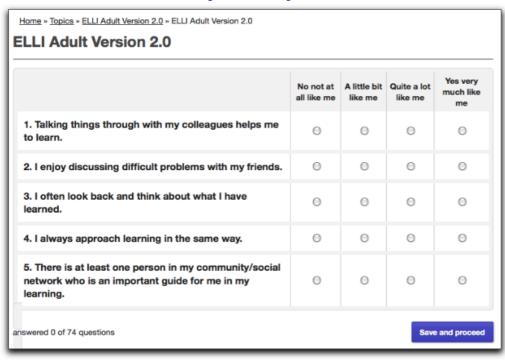




New possibilities



ELLI works from what learners say they do



Now we can observe what they actually do...



Could a platform generate an ELLI profile from user traces?



Questioning and challenging may load onto *Critical Curiosity*

Sharing relevant resources from other contexts may load onto *Meaning Making*

The Learning Warehouse ELLI Profile <learner identifier> Changing and learning Very much - like me Critical Learning Quite A like me Curiosity relationships A little ike me Meaning Making Strategic Awareness Creativity Resilience

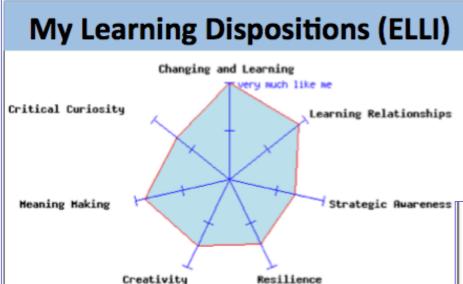
Different social network patterns in different contexts may load onto Learning Relationships

Repeated attempts to pass an online test may load onto Resilience

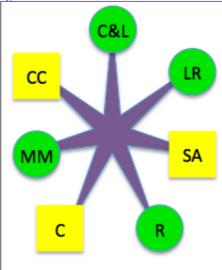
Shaofu Huang: Prototyping Learning Power Modelling in SocialLearn http://www.open.ac.uk/blogs/SocialLearnResearch/2012/06/20/social-learning-analytics-symposium

Possible future implementation

Disposition analytics



In your last discussion with your mentor, you decided that you would work on your **resilience** by taking on more learning challenges



Your ELLI Spider shows that you are doing well at working on your **resilience** (R), and that you are also beginning to work on your **creativity** (C) — which you identified with your mentor as another area that you wanted to develop during the next three months.

Socialized analytics: potential uses



Content analytics

Various automated methods used to examine, index and filter online media assets for learners.

These analytics may be used to provide recommendations of resources tailored to the needs of an individual or a group of learners.

iSpot.org.uk





Identification

Speckled Bush-cricket (Leptophyes punctatissima) by bobthebirder



@ likely ID

(at 9:51 pm 23/09/10

Confidence: It's likely to be this, but I can't be certain.

Notes: Long antennae identify this as a bush-cricket. Bright green body covered in tiny brown speckles mean that it must be this species.

Lack of wings makes it a juvenile.

I agree!

ID agreements (): 3 people agree with this identification.

@ Search Encyclopedia of Life for Leptophyes punctatissima

View NBN map for Leptophyes punctatissima



Speckled bush cricket male (Leptophyes punctatissima) by djr7

¥ x at 9:14 am 24/09/10

Confidence: I'm as sure as I can be.

Notes: This is an adult male. Leptophyes is a flightless bush cricket.

📤 I agree!

ID agreements (): 2 people agree with this identification.

@ Search Encyclopedia of Life for Leptophyes punctatissima

View NBN map for Leptophyes punctatissima





24 September 2010 - 6:45am — Michael Skelton 🦋 🦋 🦋

This is an adult male. The wings are reduced to the stridulatory apparatus, the brown area just behind the pronotum. Bush-crickets use their wings to stridulate, while grasshoppers use their legs.

reply Report content as inappropriate







Reputation



778 Observations added

1262 Identifications made, which have received 1222

1775 ig given by this user

Member since 1st Oct 2008

Fish 🤏

4 Observations added

2 Identifications made, which have received 2 ু

Fungi and Lichens



235 Observations added

531 Identifications made, which have received 314 ু

704 ু given by this user

Plants www

121 Observations added

269 Identifications made, which have received 270 -

510 a given by this user

Social Network Status

Domain Expert Reputation



Profile of Jonathan

User points **Points**

Reputation

Fish

982 - View, Adjust

Social Points (982) S 221 Observations added

333 \Rightarrow given by you

Member since 29th Sep 2008

























283 Identifications made, which have received 325 🚵





1 Observation added 1 Ident



20 Identifications made, which have received 11 is

20 ু given by you



4 Observations added

5 Identifications made, which have received 4 🍑

7 놀 given by you

Other organisms

4 Observations added

7 Identifications made, which has received 1 🊵

3 놀 given by you



22 Observations added

27 Identifications made, which have received 35 🊵

47 🍑 given by you







Socialized analytics: potential uses



Context analytics

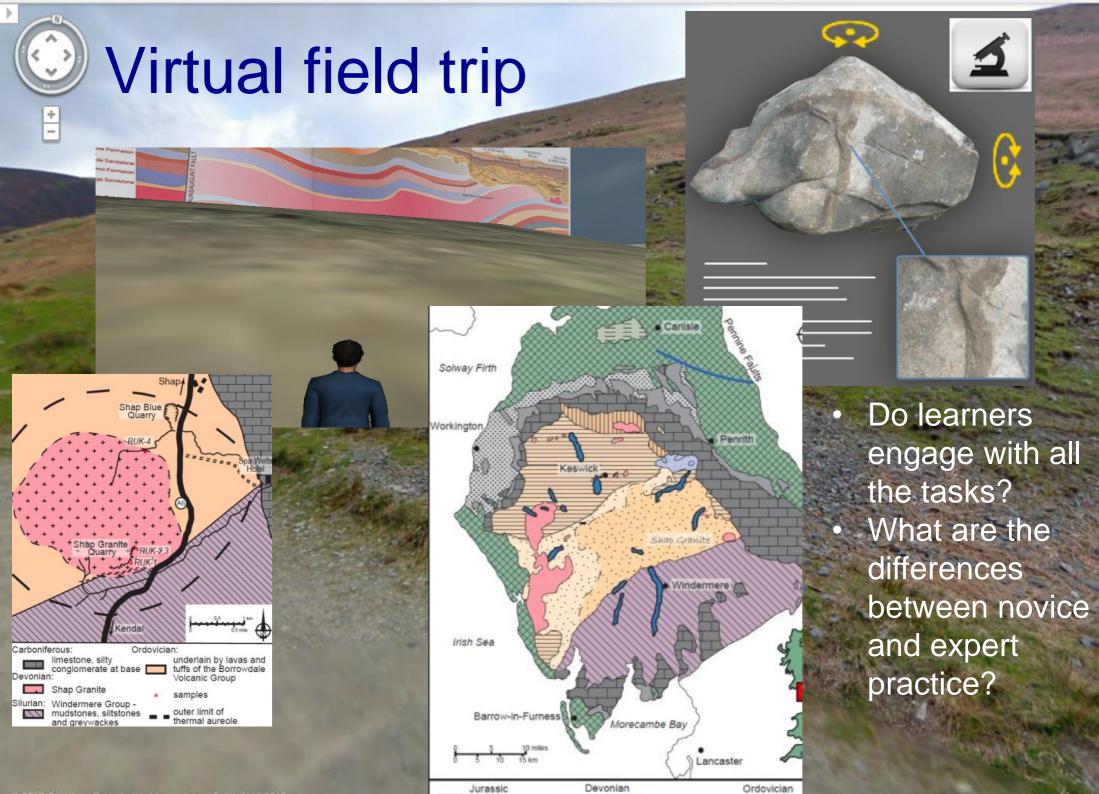
Analytic tools that expose, make use of or seek to understand learners' contexts. These analytics may be used alone, or may be employed as higher-level tools, pulling together data produced by other analytics.

Context as a dynamic process – a mobile device can present content, options and resources that support learning activities in this location at this time.

Virtual field trip

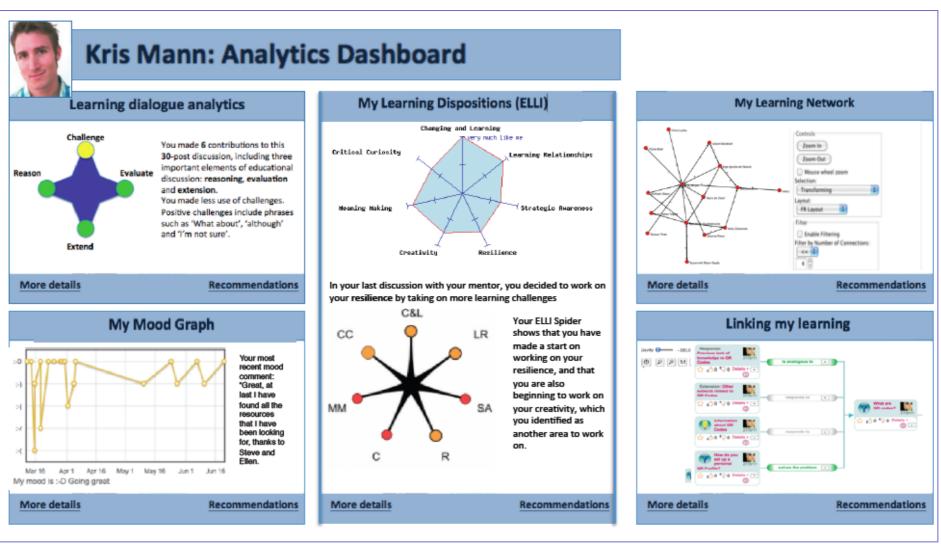






Implementing analytics





Customisable dashboards for learners and educators

Implementing analytics

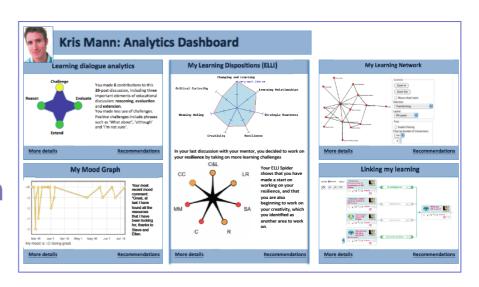


Can we achieve this?

- Aligned with clear aims
- Huge and sustained effort
- Agreed proxies for learning
- Clear and standardised visualisation
- Driving behaviour at every level

Can we avoid this?

- Instructivist approach
- Stressed, unhappy learners
- Analytics with little value for learners or teachers
- Omission of key areas, such as collaboration



Learning with others





Rebecca Ferguson

@R3beccaF

Research fellow at the Open University, focused on educational futures, learning analytics, new literacies and online social learning.

Milton Keynes, UK · http://r3beccaf.wordpress.com/

For more from the OU, see http://www.open.ac.uk/blogs/innovating/

