Social Learning Analytics

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• Supported distance education
• Quality open education at scale
• Over 250,000 current students
Open learning

World class learning anywhere

- 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.
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

- 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
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…?
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.
Changing environment

We are currently preparing students for jobs that don’t yet exist . . .

using technologies that haven’t yet been invented . . .
Why social learning analytics? (2)

Social media

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

**The 7Cs**

<table>
<thead>
<tr>
<th>Critical thinking-and-doing</th>
<th>Computing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creativity</td>
<td>Career &amp; Learning self-reliance</td>
</tr>
<tr>
<td>Communication</td>
<td>Collaboration</td>
</tr>
</tbody>
</table>

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

Increase learner proficiency in the use of educational dialogue

- Resources composed of data units
- Uniquely identified by URIs
- Annotated by concepts from ontologies
- Linked to other data units
Why social learning analytics? (5)

Sociocultural understandings

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

Learning Design MOOC  [http://www.olds.ac.uk/](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
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

## Identifying indicators

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

**Challenge:** Locate the exploratory dialogue

<table>
<thead>
<tr>
<th>Time</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:42 PM</td>
<td>I hate talking. :-( My <strong>question</strong> was whether &quot;gadgets&quot; were just basically widgets and we could embed them in various web sites, like Netvibes, Google Desktop, etc.</td>
</tr>
<tr>
<td>2:42 PM</td>
<td>Thanks, that’s great! I am sure I understood everything, but looks inspiring!</td>
</tr>
<tr>
<td>2:43 PM</td>
<td>Yes <em>why</em> OU tools not generic tools?</td>
</tr>
</tbody>
</table>

**Category** | **Indicator**                                                                 |
<table>
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Manual analysis identifies indicators
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
Webinar chat analytics

Sheffield, UK not as sunny as yesterday - still warm
Greetings from Hong Kong
Morning from Wiltshire, sunny here!

See you!
bye for now!
bye, and thank you
Bye all for now
right

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!

OK i take your point - I think there are points when it could really help. Eg. inviting AIs and students in to comment on course outlines or particularly tricky chunks of material. Yes - take your point.

would you like me to speak?

I'm just wondering how 'team work' works when live authoring is used?

That's what I was looking for Tony - lovely, "Conversational" is the term

<RT>@Tony Does the meaning of 'a course' change through the process? I.e. there is effectively a different learning process (course) in the preparation of the actual course.</RT>

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.

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

Classified as “exploratory talk”

(more substantive for learning)

“non-exploratory”
OpenScience Laboratory

http://www.open.ac.uk/blogs/openscience
Weave webs of meaningful connections between ideas
Kmi’s Cohere

Flashmeeting.e2bn.net

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

Flashmeeting video conference: spoken foreign language tutorials
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.

ELLi Profile

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

**Resilience**

**Definition**
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.

**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.

Critical curiosity
Meaning making
Creativity
Resilience
Strategic awareness
Learning relationships
Changing and learning
A ‘visual learning analytic’

The Learning Warehouse ELLI Profile <learner identifier>

Changing and learning
Very much like me

Quite like me

A little like me

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

Gappuwiya School
N. Territory

Changing & Learning:
Drongo - Guwak

Strategic Awareness:
Emu - Wurrpan


Meaning Making:
Pigeon - Nabalawal

Critical Curiosity:
Sea Eagle - Djert

Resilience:
Brolga - Gudurrku

Learning Relationships:
Cockatoo - Ngerrk

Creativity:
Bower Bird - Djurwirr
EnquiryBlogger

- Plugin visualises blog categories, mirroring the ELLI spider.
- Categories from ELLI.
- Standard Wordpress editor.
- More information at learningemergence.net.
Secondary school bloggers

Anum Khan's blog

last terms story!

My last term review is when I was introduced to enquiryblogger and this post is based on how I felt and what the first thing I did on enquiryblogger.

How I felt when I was introduced to enquiryblogger: when I found out that year sevens at Wellington Prep High school had there own website called enquiryblogger and the fact that year sevens at Wellington Prep High school were the first students to try enquiryblogger. So basically I felt shocked and really surprised.

The first post I wrote: the first time I used enquiryblogger in the first post I wrote all about my my world lesson with Miss Hey and Mr Moonhouse.

It was on the 20.3.2011 I wrote this in my pukkah pad and it was the 7.03.2011 I wrote it on enquiryblogger I wrote that it was the start of another individual learning project and it was up to me to choose between 2 really good topics animal awareness and food they have on islands around the pacific.

However I just couldn’t decide so I thought of asking a friend so I asked because she was in front of me and she said to do animal awareness in the pacific so that’s what I did and look at me now I’ve succeeded and I am proud also I couldn’t have done it without you.
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 discussing our ideas for our finished product for the project. We have also tried to answer most of our questions as well.

Ellis 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 revising to make them seem better. And finally, we have used our strategic dimension, 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 doesn’t 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,
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

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

My Learning Dispositions (ELLi)

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.
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.
**Speckled Bush-cricket (Leptophyes punctatissima)**

**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](#)

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**Speckled bush cricket male (Leptophyes punctatissima)**

**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](#)

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**Speckled Bush-cricket**

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.
Reputation

Social Points (2484) ⭐⭐⭐⭐⭐
778 Observations added
1262 Identifications made, which have received 1222 👍
1775 👍 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 🌿🌿🌿
121 Observations added
269 Identifications made, which have received 270 👍
510 👍 given by this user
# Profile of Jonathan

<table>
<thead>
<tr>
<th>Category</th>
<th>Observations</th>
<th>Identifications</th>
<th>Reputation</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Social Points</td>
<td>221</td>
<td>253</td>
<td>4</td>
<td>982</td>
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<tr>
<td>Fish</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fungi and Lichens</td>
<td>18</td>
<td>20</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mammals</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other organisms</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds</td>
<td>22</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Member since 29th Sep 2008
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

Mandatory
Hiking boots
Hand lens
Grain-size chart

Optional
Waterproof clothing
Sun hat
Sunscreen
Sunglasses
Compass

Inventory
Project led by Shailey Minocha

13°C
Virtual field trip

- Do learners engage with all the tasks?
- What are the differences between novice and expert practice?
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
For more from the OU, see
http://www.open.ac.uk/blogs/innovating/