

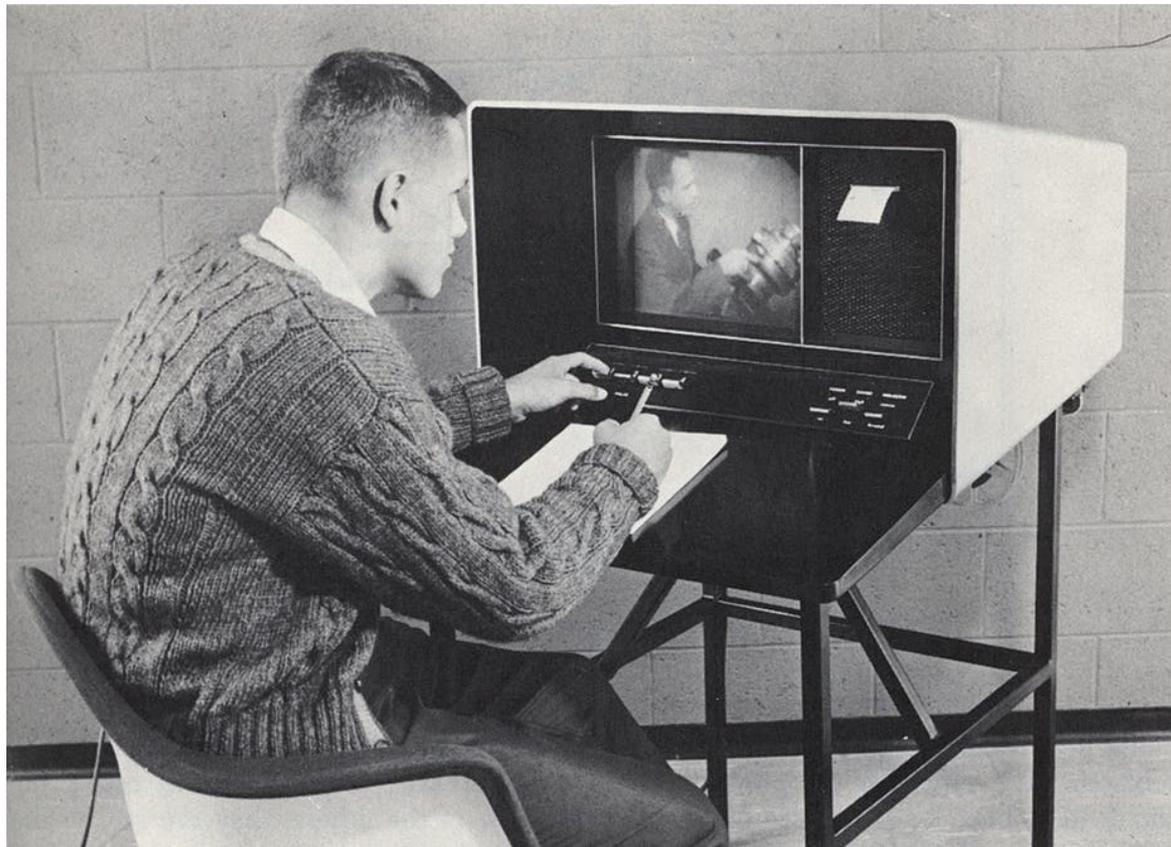
MOOCs: Back to the Future



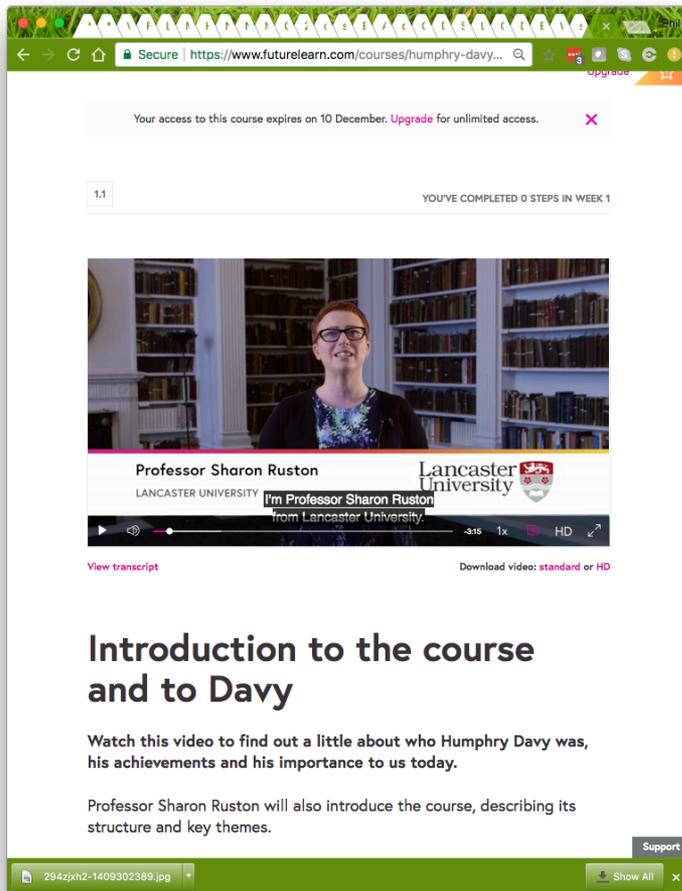
Behaviourist teaching in the 21st Century



Behaviourist teaching machine



Behaviourist teaching machine



Secure | <https://www.futurelearn.com/courses/humphry-davy...>

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1.1 YOU'VE COMPLETED 0 STEPS IN WEEK 1



Professor Sharon Ruston
LANCASTER UNIVERSITY

Lancaster University

I'm Professor Sharon Ruston from Lancaster University.

View transcript Download video: standard or HD

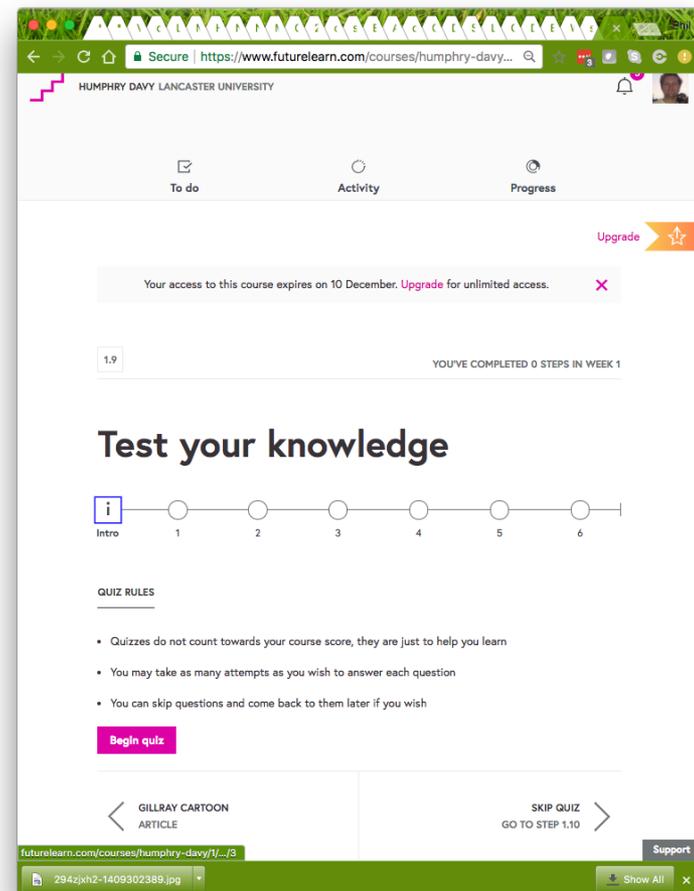
Introduction to the course and to Davy

Watch this video to find out a little about who Humphry Davy was, his achievements and his importance to us today.

Professor Sharon Ruston will also introduce the course, describing its structure and key themes.

Support

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HUMPHRY DAVY LANCASTER UNIVERSITY

To do Activity Progress

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1.9 YOU'VE COMPLETED 0 STEPS IN WEEK 1

Test your knowledge



Intro 1 2 3 4 5 6

QUIZ RULES

- Quizzes do not count towards your course score, they are just to help you learn
- You may take as many attempts as you wish to answer each question
- You can skip questions and come back to them later if you wish

[Begin quiz](#)

[GILLRAY CARTOON ARTICLE](#) [SKIP QUIZ GO TO STEP 1.10](#)

Support

futurelearn.com/courses/humphry-davy/1.../3

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A 'constructivist' learning platform

- 'Talk' on the platform is mediated through the discussion forums, which have interactive qualities ('affordances')
- **"we shape our buildings and afterwards our buildings shape us."** Winston Churchill, on redesigning the Commons Chamber in 1943



Social Constructivism in FutureLearn (FL)

- Conversational Framework: “...learning involves a **dialogue** between teacher and student, which reveals conceptions and variations between them” Laurillard, 2002.
- Talk is directly around the content (e.g. video step) so is usually relevant. ‘Around a shared conceptual object’.
- This organises the talk to some degree and increases the likelihood of higher levels of knowledge construction (Scardamalia, Gunawardena, Henri) or cognitive activity (Piaget, Bloom)
- Also does not overwhelm the participant. Commenting is easy.

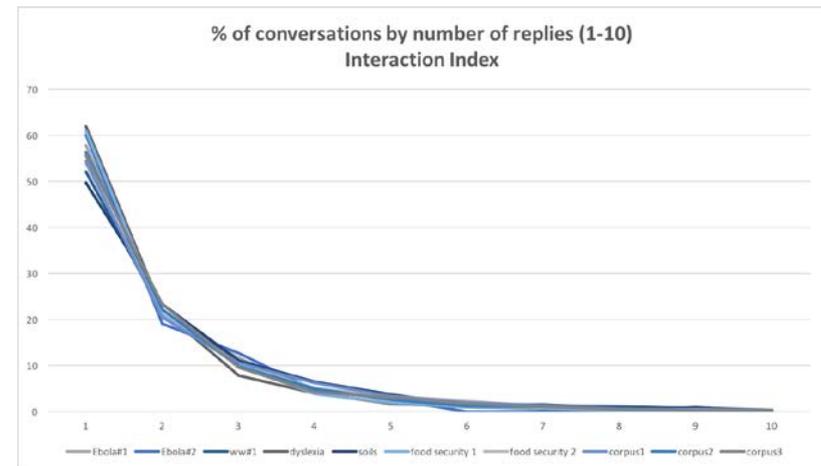
Other consequences of the design

- Comments are ordered chronologically, so older posts get pushed down the feed
- Notifications only trigger to people *already* in a conversation
- The ‘most liked’ feature cannot perform ‘affinity searching’ ☹️
- The platform is ‘stepped’ so users will not often look back



Conversations in FL

- Are very short. This graph shows a count of conversation by length. Negligible numbers of conversations more than 5 strong IN ANY MOOC
- Other research (Brinton et al) shows that discussion in MOOCs can get very busy and dense, then activity decreases (these are not FL but show that scale is a problem for all MOOCs)



Measuring the conversation

-
- Conversation length alone is not an adequate measure
 - A social constructivist heuristic may also include 2 further dimensions:
 1. Turn taking
 2. Diversity of contributions (unique participants)
 - These are proxies for, *not evidence of*, higher levels of cognitive activity. They are used to act as constants in the experimental design

Turn-taking in FL conversations

- Affordance of the FL platform is single hierarchy threads (ie no reply to reply)
- Taking the conversation as the main unit of analysis, and ‘first’ and ‘further’ as means of categorising the contributions, there are 9 possible ‘types’ of conversation that are possible



Turn-taking in FL conversations

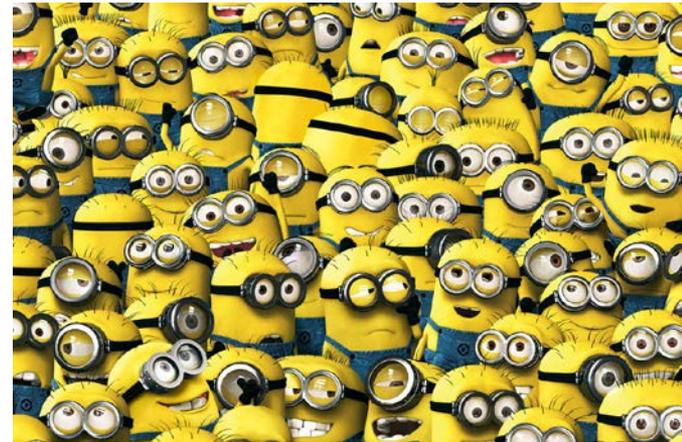
	Initial Post (IP)	First Reply (FR)	Further Reply (FurR)	Initiator First Reply (IR)	Initiator Further Reply (IFurR)	Type
1	✓	✓	✓	✓	✓	Extended Social
2	✓	✓	✓	✓		Extended Social
3	✓	✓	✓			Extended Social
4	✓	✓				Q&A
5	✓	✓		✓		Limited Social
6	✓	✓		✓	✓	Extended Social
7a	✓			✓		Lone
7b	✓			✓	✓	Lone
7c	✓					Lone

Simpler heuristic

- **Lone:** only 1 person is involved; may reply to themselves (reflective practice?)
- **Q&A:** 1 post/ 1 reply;
“Where did Wordsworth live?” // “Grasmere”
- **Limited Social:** 1 post/ 1 reply/ OP posts again:
“R” // “B” // “..I can understand his poetry through that landscape...” (no-one triggered to reply 😞)
- **Extended Social:** anyone gives a further reply:
as above, but then B, R, B, R etc.

Diversity (unique participants)

- Indicates new information and more variety of concepts to negotiate with in the conversation



- **Lone:** 1 person
- **Watercooler:** 2 people
- **Cocktail party:** 3-9 people
- **Conference:** 10+ people



Diversity

- On the longest thread (90 comments) in the William Wordsworth course:



[Follow](#) 25 SEP

This thread is a peculiar mix of interesting analysis and the Daily Mail.

 Liked 10

 Bookmark



“A new technology tends to take as its content the old technology, so that the new technology tends to flood any given present with archaism” – Marshall McLuhan



How can we turn our ‘backs from the future’?
What theory or practice do we have to guide us?

Design Based Research (DBR)

- “set of analytical techniques that ... attempts to bridge theory and practice in education. A blend of empirical educational research with the **theory-driven design of learning environments**, DBR is an important methodology for understanding how, when, and why educational innovations work in practice; DBR methods aim to uncover the **relationships between educational theory, designed artefact, and practice.**”

<https://www.learning-theories.com/design-based-research-methods.html>

Coordination, Cooperation, Collaboration



Collaboration: 2 or more people collectively creating emergent shared representation

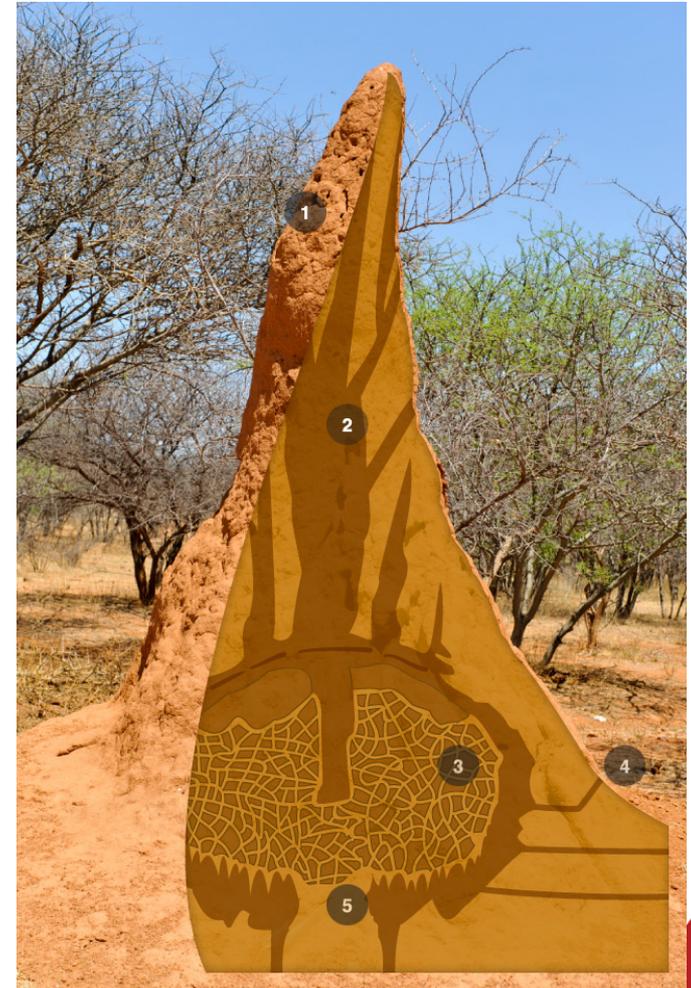
Cooperation: Separate and distinct contributions are made and aggregated

Coordination: Unrelated entities are drawn together within a space

Stigmergy: a theoretical framework for mass collaboration

- “Stigmergy is a form of mediated communication where signs placed in the environment serve as stimuli to other agents to further transform the environment”
- “Mass collaboration is defined as digital stigmergic collaboration (collective creation of shared representations in digital media), where the membership is near or greater than 25 participants”
- “..collaboration (in education –ed) is a specific kind of collaborative activity that can only scale beyond small f2f groups through stigmergy”

Elliot, 2017



'Comment Discovery Tool' (CDT)

- Each word written is a sign for others to follow, knowledge is emergent
- Each time a word is clicked, the visualisation re-draws containing only comments with the chosen word/s

• <https://www.futurelearn.com/courses/william-wordsworth/3/exercises/24260>



The words you have chosen are: "mind" and "hills"

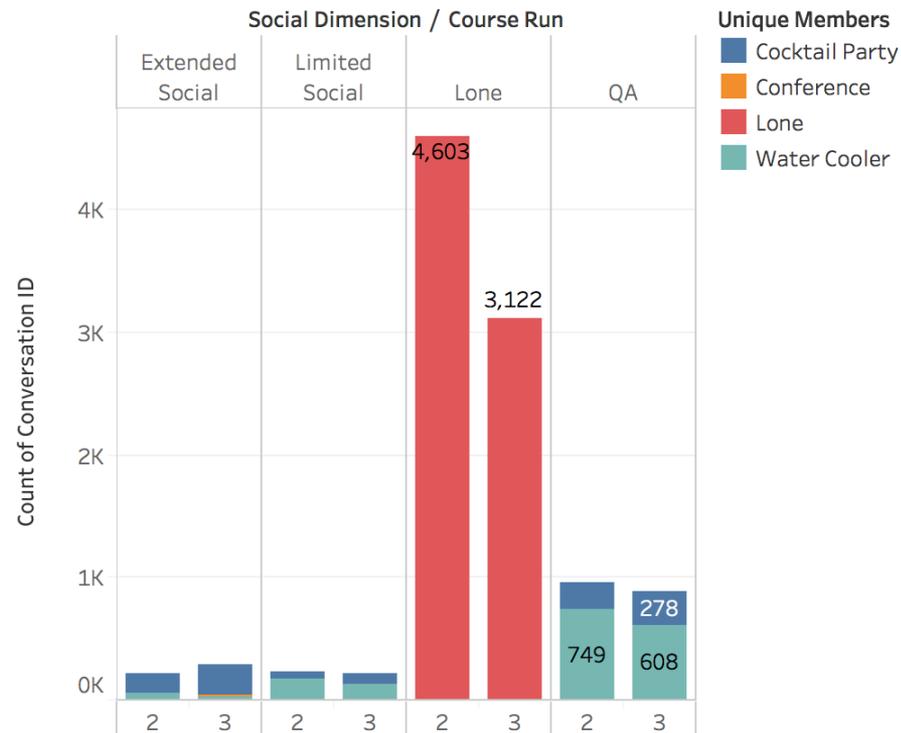
Click on new word to construct a different Word Cloud.

The 100 most recent comments featuring "mind" and "hills" from the william-wordsworth course are shown below.

Comment link	Comment Text
Link	There is a bold description of the old man's strength of both body and mind and that he was special to Wordsworth being "prompt and watchful more than ordinary men." As in nature, the wind calls Michael "The winds are now devising work for me." There is an element of memory when the shepherd recalls climbing the hills and that this place is so important to him. So I think Michael's relationship to place is special but not unique, shepherds elsewhere would do similar jobs with devotion.
Link	'Wordsworth shows his admiration of Michael, an elderly shepherd, paying tribute to his strength of character and bodily strength, describing him as being 'stout of heart and strong of limb'. In addition to his lifelong physical prowess, Michael is described as having a keen mind and possessing other admirable qualities. In particular 'Wordsworth draws attention to his conscientiousness in his life a shepherd, in that, 'he was prompt And watchful more than other men....'. Wordsworth then goes on to demonstrate Michael's close affinity with the landscape, 'The common air; the hills which he so oft Had climbed with vigorous step;' and then goes on to point to Michael's many acts of kindness to animals and his care of his sheep. Michael, despite his humble occupation, appears to be a contented man, very much deserving of respect and completely at one with his environment.
Link	'Wordsworth values Michael's 'unusual strength' as well as his earthiness - his closeness to Nature which was 'more than his own Blood'. Michael also has a keen mind and is above ordinary men in his abilities as a shepherd. He is an heroic figure who dominates the landscape but not as a master, rather as a sensitive equal who loves his surroundings and his job with all his heart. Michael is as much part of the landscape as the fields and hills and Wordsworth wants us to understand that country people would have an intimate relationship with Nature although

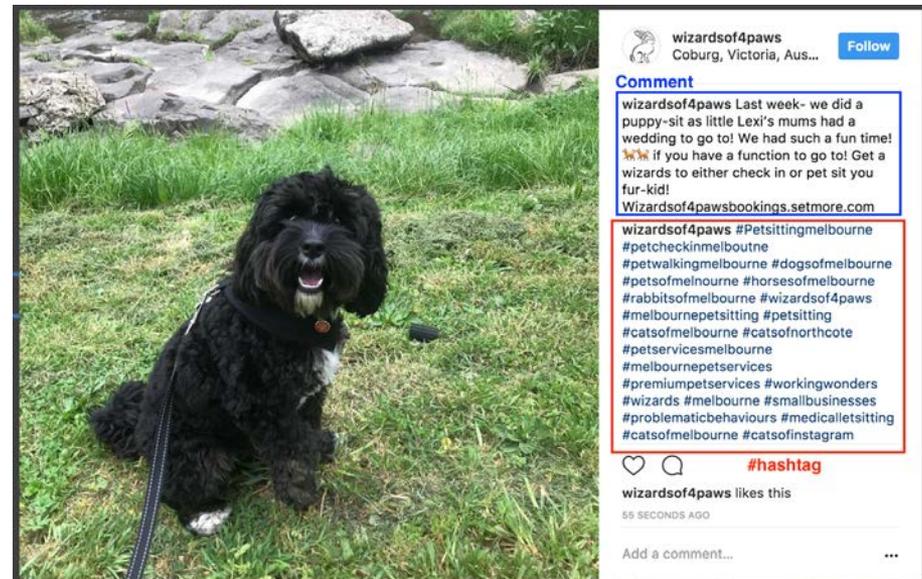
Research questions, brief results

- Does the CDT encourage more diversity in conversations?
- Does the CDT affect the ‘types’ of conversation as categorised by ‘turn-taking’?



Social Media practices for networked individuals

- ‘trending’
- ‘#hashtags’
- ‘verified’ comments (e.g. mentors, tutors)
- New activity: classifying content to enrich the visualisation



Possible outcomes

- Ownership over MOOC
- Enriched datasets, signals
- Emergence of community?

#insta-gogy (or #insta-doggy)

Discussion

-
- To what extent do our environments shape us? What does this mean for online pedagogy within MOOC context?
 - What other conversational dimensions could be measured as proxies for social constructivism? How reliable are they?
 - Is it a good idea to port ideas from social media like visualising, trending and hashtags?
 - What of brute force? Is this a useful method or will there be too many false positives?

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