A Social Learning Grid for MOOCs: Exploring a FutureLearn Case

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FutureLearn Academic Network Meeting

27th January, 2017

Collaborative & Social Learning in MOOCs

- Mere student groups - fruitful learning ??
  - Structured collaborative learning promotes active learning [Dillenbourg, 2015; Hernàndez-Leo, et al., 2010]

- Social learning - continuous mutual interactions influence humans to learn [Bandura, 1971]

- Most widely used - forum discussions [Manathunga & Hernàndez-Leo, 2015]
- Not seen very effective
  - Overwhelming amount of threaded discussions
  - Hinders knowledge building process [Scardamalia & Bereiter,2006]

Requirements & Challenges

- Collaborative Learning had been applied at small scale
  - Scalability has not been considered within the design
- Avoid isolation & provoke conversations - Social Learning
- Difficulties:
  - Diversity in learner motivations and expectations
  - Differences in cultural expectations (e.g., how individuals should behave in social spaces)
  - Resulting in diverse behaviors when taking MOOCs

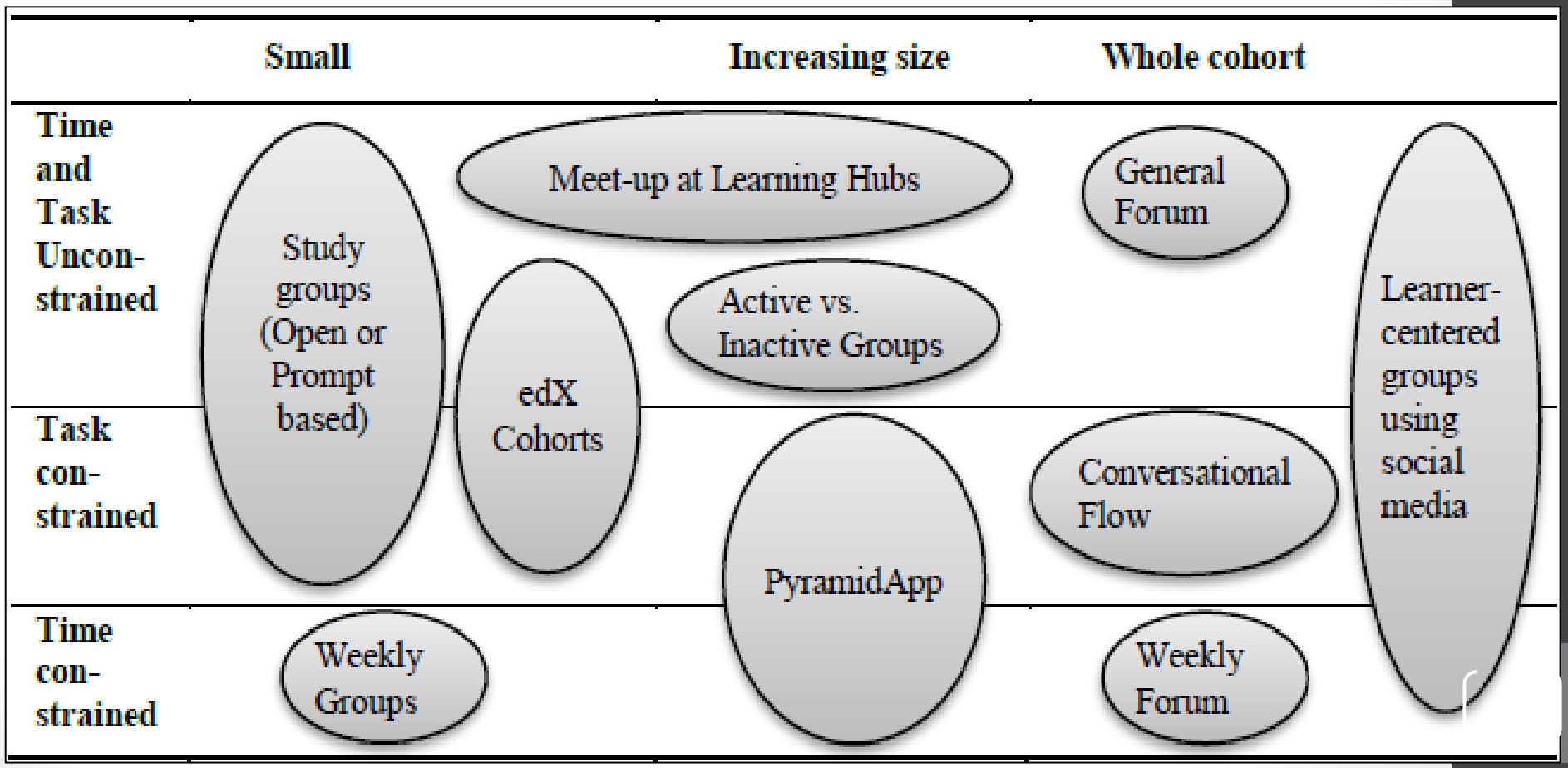
Objectives

- To understand the possibilities and introduce mechanisms to adopt well-known collaborative and social pedagogical methods into MOOCs

- **Collaboration Space Grid**
  - Collaborative and social interaction possibilities with underlying rationale

- An exploratory study using three collaborative and social learning spaces in a MOOC (FutureLearn platform)

Collaboration Space Grid with Examples



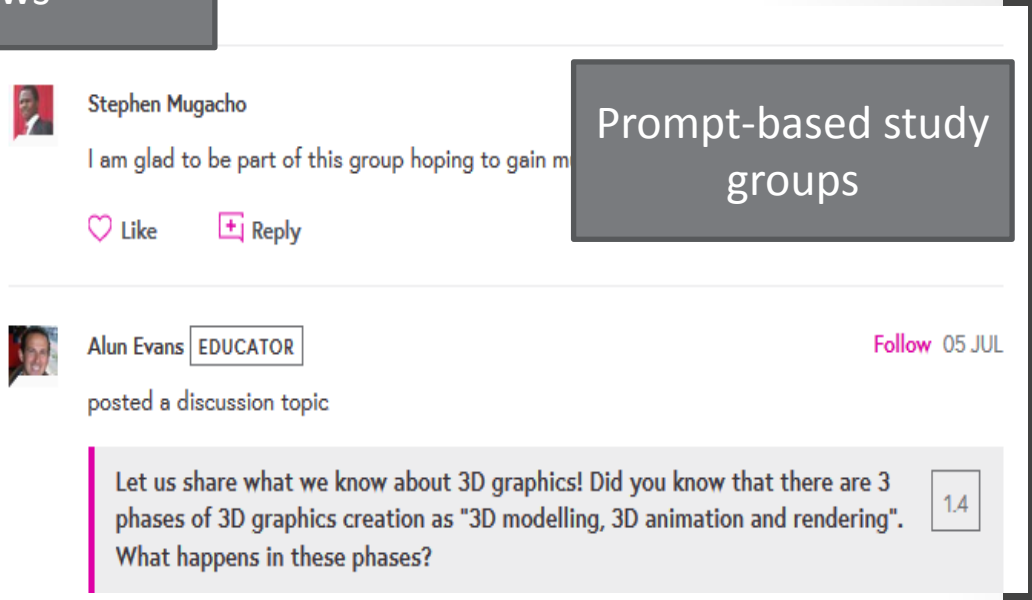
MOOC Case Study

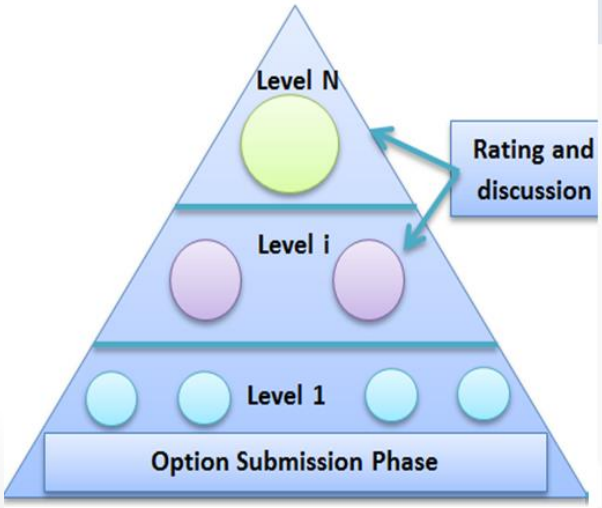
- “3D Graphics for Web Developers” – 5 weeks
- Target crowd : Web developers
- Aim : Implement high quality interactive 3D applications to run natively on a browser
- 10500 enrolments

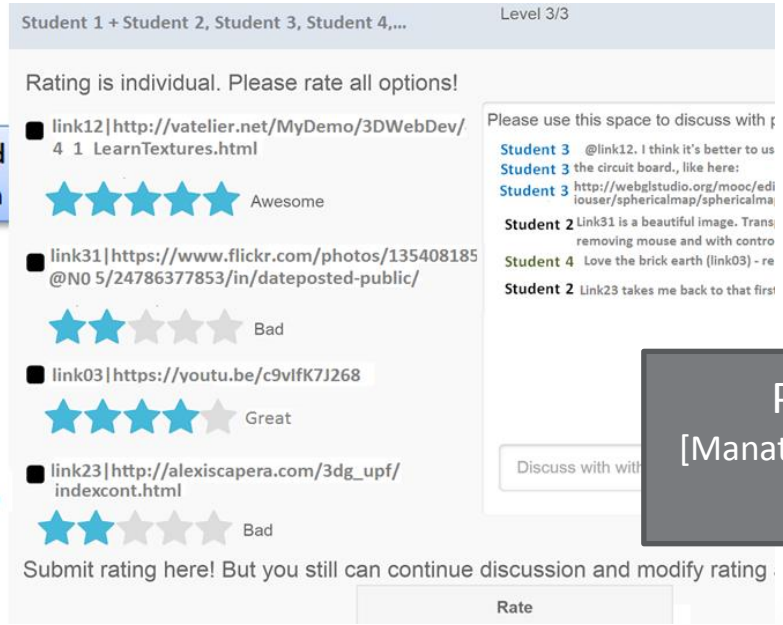
- Three diverse collaboration spaces:
  - Task-constrained educator prompt based study groups up to 30 members
  - PyramidApp with both task and time constraints; for cumulative collaborations
  - Conversation flows linked to course step for the whole cohort

Conversational Flows

Prompt-based study groups





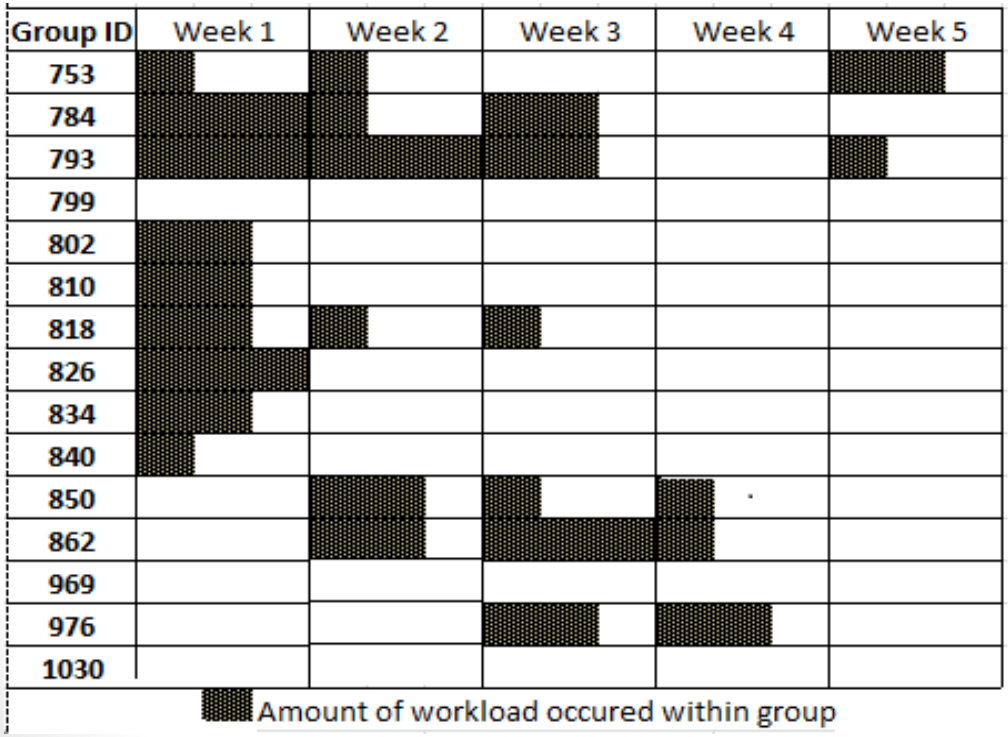


PyramidApp [Manathunga & Hernàndez-Leo, 2016]

Observations across collaboration spaces

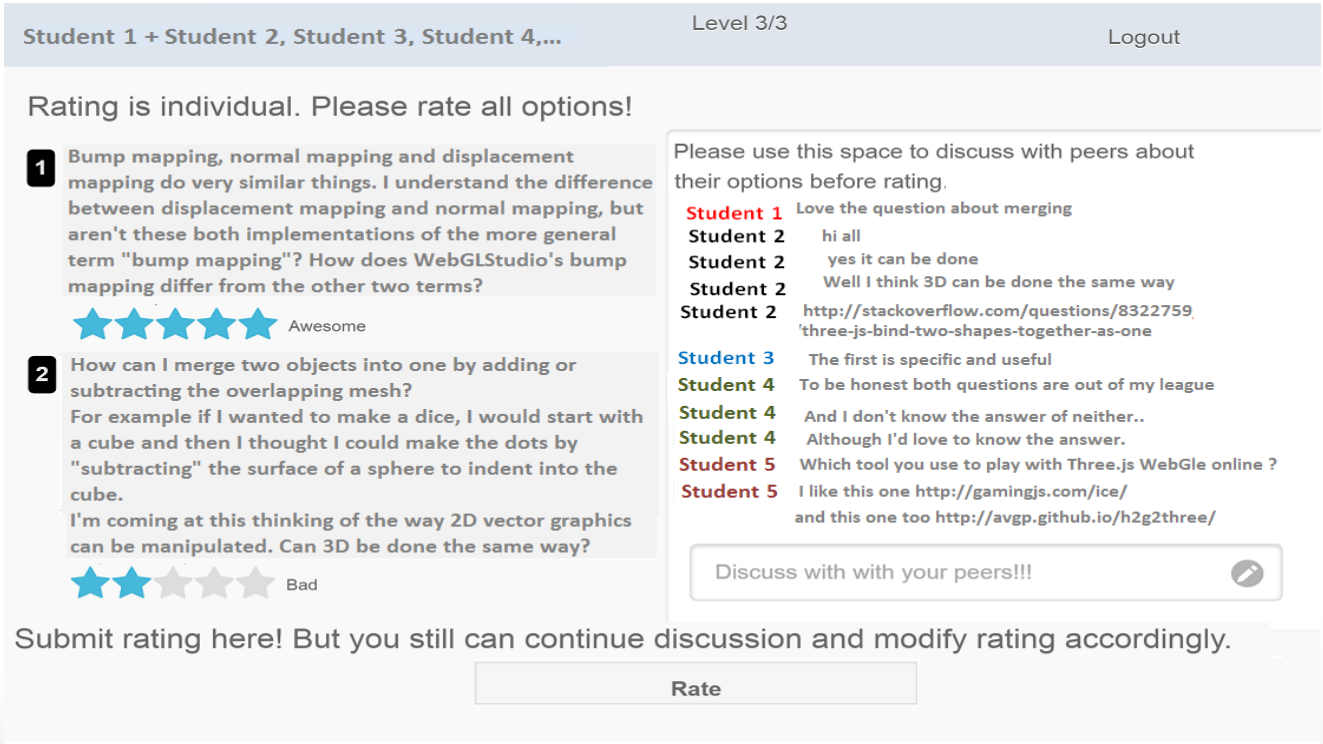
- Conversation flows were abundantly used
- FutureLearn social networking concepts such as likes, following were used by learners to filter lengthy conversational flows
- Experts were offering help to novices by sharing their suggestions/ideas and experiences to solve technical problems
- Shared knowledge through programming code samples
- Late joiners' queries and comments had not received much attention

- Mostly active upon receiving the educator's prompts at the beginning of each week
- 16 groups
- Different participation patterns
  - Length is proportionate to the number of days that group members were actively participating



5 out of 12 active groups engaged in activities for three weeks from the day the group was formulated

- Curious about questions and rating
- Tried to answer questions during the discussion
- Learner artefacts were shared in groups to rate and critique
- Participants appreciated artefacts and provided suggestions like different materials to be used
- PyramidApp email notifications helped learners to know when subsequent levels were ready.



Discussion on Challenges

- Prompts - carefully designed, more structured and precise.
  - E.g.: “Does your first 3D scene look “realistic”, “artistic” and “imaginative”? Vs. “discuss about the first 3D scene”

Specific tasks in Study groups Share conclusions in a discussion step for the whole cohort

- Synchronous interaction mechanisms in a MOOC can be futile; yet with task and time constraining, PyramidApp tries to achieve a level of synchronicity
  - Facilitate learners at similar paces to continue learning experience

Discussion on Challenges

- Small open groups or general forums for the whole cohort are easy to implement
  - Challenging to monitor
  - Interactions are free to emerge
  - Many groups
  - More effort to monitor
  - Require additional support to structure interactions

- Further technological facilitation for regrouping and activity monitoring reduce educator's workload

Conclusions

- Scalable pedagogies and novel opportunities for learner interactions in MOOCs is essential.
- Collaboration space grid aids MOOC designers to implement such spaces

- Study groups deviated from intended tasks
  - Help-seeking groups or to get to know each other
- In conversational flows, late-joiners were not receiving responses and help as early-joiners.
- Many accessed PyramidApp, yet not really engaged in rating and discussing.
  - Late-comers are handled positively as new pyramids were created

Conclusions

- Conversation flows, Study groups and PyramidApp tested in the exploratory study reveal possible challenges
  - More structured activities
  - Well-thought out course design
  - More engaging tasks

- Activity design has been revised for a third edition of the course (e.g., prompts for study groups)
- Study other social spaces expressed in the framework
- Investigate levels of facilitation and monitoring aspects

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Future Learn

Thank You!

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https://pyramidappupf.wordpress.com/

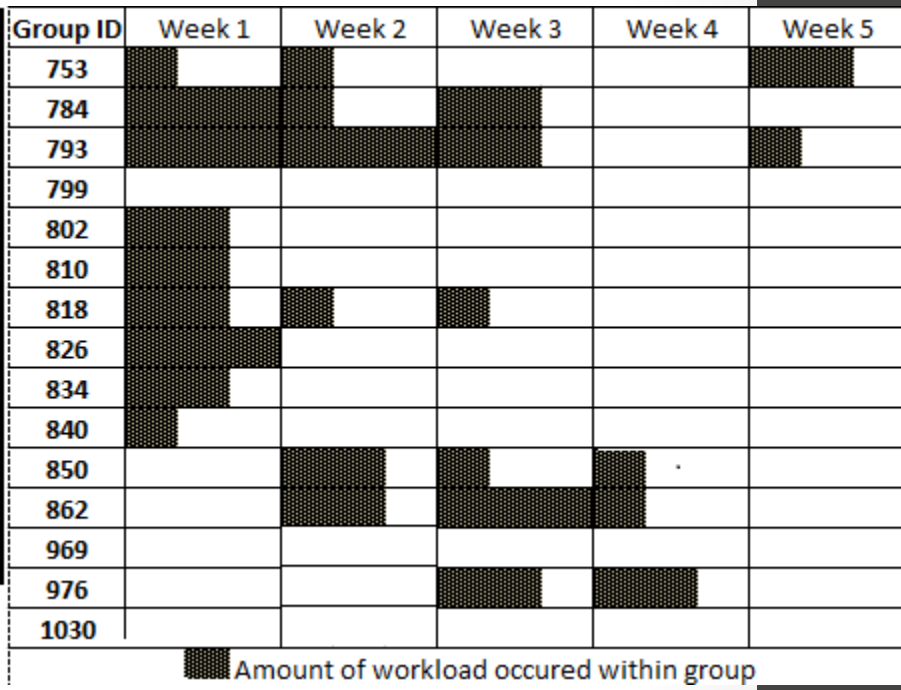
Additional

Collaborative and Social Learning Space Grid

	Small	Increasing size	Whole cohort
Time and Task Unconstrained	Groups exist through-out the course. Participants are free to interact at any given moment, for any given task.	Small groups can be joined based on certain criteria or behaviour to interact at any time, for any given task.	An open space for all course participants to interact regarding any topic at any time
Task Constrained	Small groups formed to attend a given task	Small groups are combined based on task completion to attend another given task	All course participants attend given task in a common interaction space
Time Constrained	Small groups formed to work during a specific time period	Small groups are combined based on time expiration to work together for another specific time period	All course participants attend in a common interaction space during a specific time period

Emerging Opportunities

- Study groups - FutureLearn
  - Local, private spaces for around 80 MOOC participants to discuss and share knowledge
- Cohort-specific discussions - edX
  - Private group discussions visible only for a specific cohort
- Meet ups at Learning Hubs - Coursera
  - Learners from nearby local get-together for discussions or project based learning
- Workspaces - NovoEd
  - Support learning groups and project teams

- Learner-centered groups harnessing the benefits of social media like Facebook, Twitter, Google+ or Hangout

Don't forget to share your 3D solar system within your study groups. Feel free to share external links from your own website or YouTube or Flickr.	5.6 Can you create it?
How is the activity going? Do you enjoy sharing and discussing about your final earth scene within your study groups? Some groups have already started sharing the "Earth" scene, very interesting to see!	4.5 Share your final 3D earth scene in the study group
Still you are not late to share the creations! We saw some very nice 3D creations in last week. Share your experiences with your fellow learners.	2.6 Share your experiments in WebGL and