Designing Tools to Scaffold Collaborative Learning within MOOCs -A UQx Perspective

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## UQXSTATISTICS

- .....
- UQx formed in 2013
- Produced 53 MOOCs to date
- 4 Micromasters
- 2 million + registrations to date

https://www.edx.org/school/uqx

## Lack of Collaborative Tools

#### "large gap between social polls and forums"

- Learner is required to go from responding to a poll or word cloud to a collaborative discussion forum
- Research has shown the learners that actively engage in a forum achieve better results (Corrin, de Barba, & Bakharia, 2017)
- Currently approx 5-10% of MOOC learners use forums (Hill, 2013)

#### "UQx has developed tools to bridge the gap"

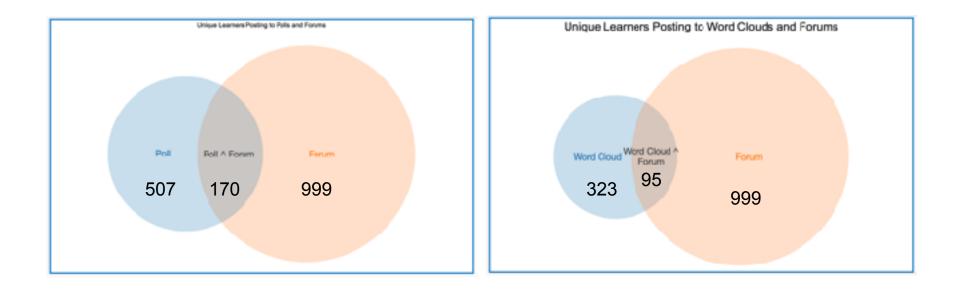
Corrin, L., de Barba, P., & Bakharia, A. (2017). Using learning analytics to explore help-seeking learner profiles in MOOCs. LAK '17 Proceedings of the Seventh International Learning Analytics & Knowledge Conference. Vancouver.

Hill, P. (2013, September 16). MOOC Discussion Forums: barrier to engagement? Retrieved from e-Literate: https://mfeldstein.com/mooc-discussion-forums-barriers-engagement/





## Comparing Social Polls and Forum Usage PSYC1030.1x: Introduction to Social Psychology







## Enhanced Social Polling - Rank Poll

#### Ranking Poll (External resource)

#### Your seved rankings:

:	Applicant 3
1	Applicant 4
•	Applicant 1
•	Applicant 2

#### Overall course average rank for each applicant is displayed below.

:	Applicant 2 (Average Rank: 1.58)
1	Applicant 1 (Average Bank: 1.86)
1	Applicant 3 (Average Bank: 3.27)
8	Applicant 4 (Average Rank: 3.29)

- Learner must order items
- After submission the average ranks of cohort is shown
- Used in PSYC1030.1x Introduction to Social Psychology
  - Rank Job Applicants
- Used in Carbon101x
  - Rank Carbon Abatement
     Project
- Used in Business Leadership
  - Rank Leadership Skills





## Enhanced Social Polling - Survey.js LTI

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- Surveys created using Survey.JS
- Lots of widgets and branching
- Generates survey in json
- LTI developed to display and track learner responses



#### https://surveyjs.io/Survey/Builder/



### Enhanced Social Polling - Survey.js LTI Advanced Scored Surveys

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- Learner completes survey
- Questions are mapped to dimensions
- Dimension scores shown for learner and histogram of cohort scores
- Surveys used in Business Leadership and Corporate Innovation Micromasters
- Examples
  - Identity Leadership
  - Wisdom
  - Workplace Engagement



## **Critical Thinking and Reflection**

JOURNAL REFLECTION TASK (EXTERNAL RESOURCE) (1.0 points possible)

#### The importance of student teacher relationships

For the next task think back to a learning situation that was enjoyable for you and of which you have positive-memories. What part did applies learning a payment? Ceacribe the connection between you and the teacher and you and other learners. Make some links between positive social relationships and the quality of learning and learner motivation.

#### Journal Entry Tag Dloud B / 8 19 8 - 00 0 0 0 0 . What I think beak te a positive experience in place. I tempmber when the toponer provant in some play dowah and explained we warp aging to be getting our hands messy working with this play dough. At the time I was 16 not 6 and 1 originally thought you get to be kildling and to bid other students in my class. But after that initial aviorandness the teacher had us working in proups and we were given a range of different tasks which related to the subject we were being taught, which i think back now I can see how we were notify active and propaged as a class, and that the pedagogical shalogy the teacher had used really worked well in terms of prevising a deeper learning experience. We were being a particular lesson on the bain at the time, and being able to physically make a brain. and share-our ideas in the proud of what parts should be included, really ment teacher depen my understanding around the concept of the sinusium of the INSDOCT brain and all of its parts. In terms of trust and respect i feit like during and after that class activity the classroom an vironment changed for the coprany mon better, and that beth respect and thus, improved between the students as well between the students and the teacher

#### Gave

Feedback: The journal entry has been saved. Here you thought about the role of trust and respect?

#### • Embedded LTI

- Many journals can be created anywhere in the course
- Feedback displayed after save
- Word cloud of student entry





## **Critical Thinking and Reflection**

surfaces frequent

# Modules 1-4 Journal Reflection Summary (External resource)

- Summary LTI
- Lists all Journal entries
- Show overall word cloud
- Export to either MS Word or PDF
- Used in all new MOOCs





### Templates to Scaffold ORA Assessment

#### Leadership Development Plan

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- Custom LTI's built
- Template for form entry
- ORA submission generated as a PDF
- Consistent layout for all learners in peer assessment process
- LTI can be embedded in multiple locations to enable students to complete a section each week
- Used in Leadership in Global Development Micromasters





## Ideas from Knowledge Community of Inquiry (KCI)

- UQx tools use ideas from Knowledge Community and Inquiry model (KCI) (Slotta & Najafi, 2013).
- KCI uses Web 2.0 tools to add a layer of collective knowledge building to scripted learning activities.
- 4 main principles
  - Knowledge base of student answers (principle 1),
  - Submission and curation mechanics (principle 2&3)
  - Teacher's moderation (principle 4)

Slotta, J., & Najafi, H. (2013). Supporting Collaborative Knowledge Construction with Web 2.0 Technologies. In C. Mouza, & N. Lavigne, Emerging Technologies for the Classroom (pp. 93-112). New York: Springer.





## **KCI - Image Sharing and Filtering**

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- Build as re-usable LTI
- Instructors setup demographic information and tags
- Learners can submit and tag an image/screenshot
- Learners can filter

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## **KCI - Image Sharing and Filtering**

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- Activity from MediaWarX: Global Media War and Technology
- Go to google.com and search the word TRUMP
- You will receive a page of search results. Upload a screenshot.
- View view learner submissions from many locations.
- In the text box please record your observations. What do you see? Is there anything that strikes you as noteworthy or puzzling?

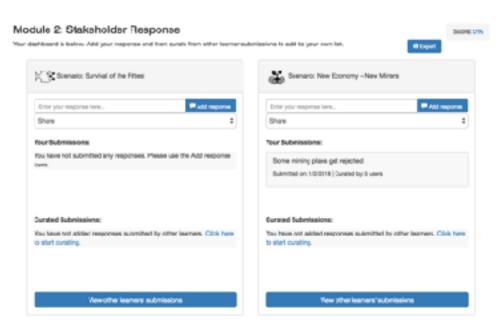
"Lots of interesting possible activities with MOOC cohorts"







## **KCI - Multi-perspective Elaboration**



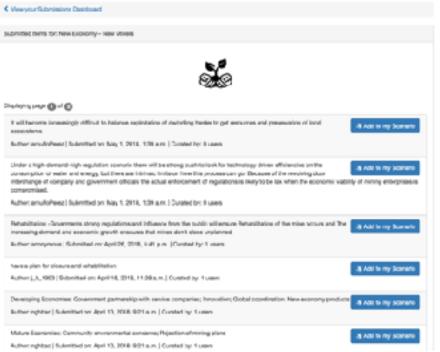
- PerspectivesX LTI
- Instructor defines template grids (eg SWOT, Six Thinking Hats, Pros/ Cons, etc)
- Learners submit ideas
- Learners curate (add items) from other learners
- Ideas can be shared, not shared or posted as anonymous
- Used in MiningX The Four Futures of Mining Scenarios





## **KCI - Multi-perspective Elaboration**

#### Module 2: Stakeholder Response



- Learners curate ideas from other learners
- Grade for submission and curation can be set by instructor
- % Grade given or curation ensures that learners must review other learners submissions
- Learner knowledge grows over the activity
- Usernames are displayed (permission from edX to enable)
- Further discussion on forum





## **KCI - Multi-perspective Elaboration**

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- Learners collate ideas to obtain a holistic view of each perspective/scenario
- Own submissions are clearly distinguished from curated items
- Learners can export to MS Word





### **Team Selection**

#### LTI Consumer - Team Selection Activity (External resource)



#### Select Candidates

Additional information is provided for each candidate. The name and a photograph is displayed for each candidate. Please review the candidates again, taking ino consideration the additional information that is provided.



Adam 53 years old Software engineer with over 10 years in the firm and experience in health care situations.



Boris 41 years old Very hard vorker who always places the team first.



Cate 32 years old Expert electronics engineer with a proven record of software and hardware integration projects.

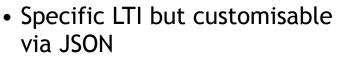
C



Conna 45 years old Experienced, successful customer relationship manager.



Erik 29 years old Greative, avard-winning software-engineer.



- Learners must select a job applicant
- Additional information is revealed as the learner progresses
- Learner can view how their decision has changed given
  - Applicant CV's
  - Selection Criteria
  - Other panel members input





#### **Team Selection**

LTI Consumer - Team Selection Activity (External resource)

Home Introduction	Stop 1 Review Cendidates	Step 2 Select Candidates	Step 3 Select Danddates	Step 4 Company	Step 5 Select Candidates	Step 6 Company
Step 7 Rank Candidates	Step 8 Compare	Step 9 HiringPanel Inefestrices	Step 10 Compare	Step 11 Consider Intengibles	Step 12 Compare	Step 13 Feflection
Rank Candidates						
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		andidate from 1 to 5 agains aro value is net allowed.	t each criteria <mark>(10ein; you</mark>	r top-ranked candid	ate for the criteia and 5 be	ng your lowest
Krowledge, Skills, and	Abilities (KSAs): The	candidate possesses nece	ssan knovledge skills, an	dabilities to succes	sfullyaccomplish the job ass	ioned to the

Experience: The candidate has the experience to successfully deliver the project within the specified serverteesand conditions.

Team Focus: The candidate demonstrates the necessary team focus to work logether and successfully deliver the project.

Wirk Ethis: The candidate demonstrates a workethic that ensures the best possible charce for successfuldelivery of the project.

Candiciate	KSAs	Experience	Team tocus	Work ethic	Total	Fank
Adam	1	5	1	5	12	1
Eoris	3	4	2	4	12	2
Cute	£		8	0	12	3
Jonna	4	2	4	2	12	4
Brik	1	1	8	1	12	5

- Specific LTI but customisable via JSON
- Used in Buslead2x: Leading the Organization
- Reflection and comparison are built in
- Process can apply to selection of software e.g. ERP, CRM, etc





LTI Consumer (External resource)

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consider a challen learners, building-	following simulation introduces you to the design thinking process. During this simulation, your task will be to ging problem that is yet to be solvedone that we can stand to improve "thou will collaborate with other on and integrating diverse ideas to develop investitive solutions. At the end of the simulation challenge, you ent solutions in order to find out how well you did!
Our aim hom this see	exism is to reprove your ability to generate ideas and overcome your natural inhibitors that prevent creativity.

- LTI Tool to build multi-step workflow activities that are enabled by learner submission
- Very powerful tool
- Current components
  - Display previous entries
  - Display random submissions from other learners
  - Multiple choice submission (eg Poll, rubric)
  - Display results

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LTI Consumer (External resource)

Interduction Activity Destinationsing Adding Value & Integration & Peer Desturbances & Eventuate/ Learning &

#### Problem #1:

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#### Your task

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#### What is the problem?

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- Design Thinking Activity
- Used in Buslead3x: Leading High Performing Teams
- Activity steps:
  - Formulate a solution
  - Reflect on other learners' solutions
  - Integrate Ideas
  - Provide Peer-Feedback
  - Receive Feedback from random peers



LTI Consumer (External resource)

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LTI Consumer (External resource)

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### UQx LTI's

- Open source
- https://github.com/UQ-UQx





#### THANK YOU Contact: uqx@uq.edu.au



