

Accessing the hive mind: Creating  
a repository of interactive activities  
for use in online teaching



**The Open University has a distinct energy.**  
It is one that **stimulates** and **sparks**  
**imagination.**

Established nearly **50 years ago** with a clear  
purpose: **to open up education to all** – it is this  
radical idea that makes us distinct today.

In our anniversary year, we will tell our story and  
create moments that inspire **pride, unity** and  
**involvement.**

- **During October 2018 the Open University gave 5,156 online tutorials**
- **This peaked on the 16<sup>th</sup> October with 430 online tutorials run on that day**
- **During October, the average number of users in a day was 2,317**
- **With 5,319 users on the 16<sup>th</sup> October**



The Open  
University

50  
YEARS

# Brief Overview of Online Package Used

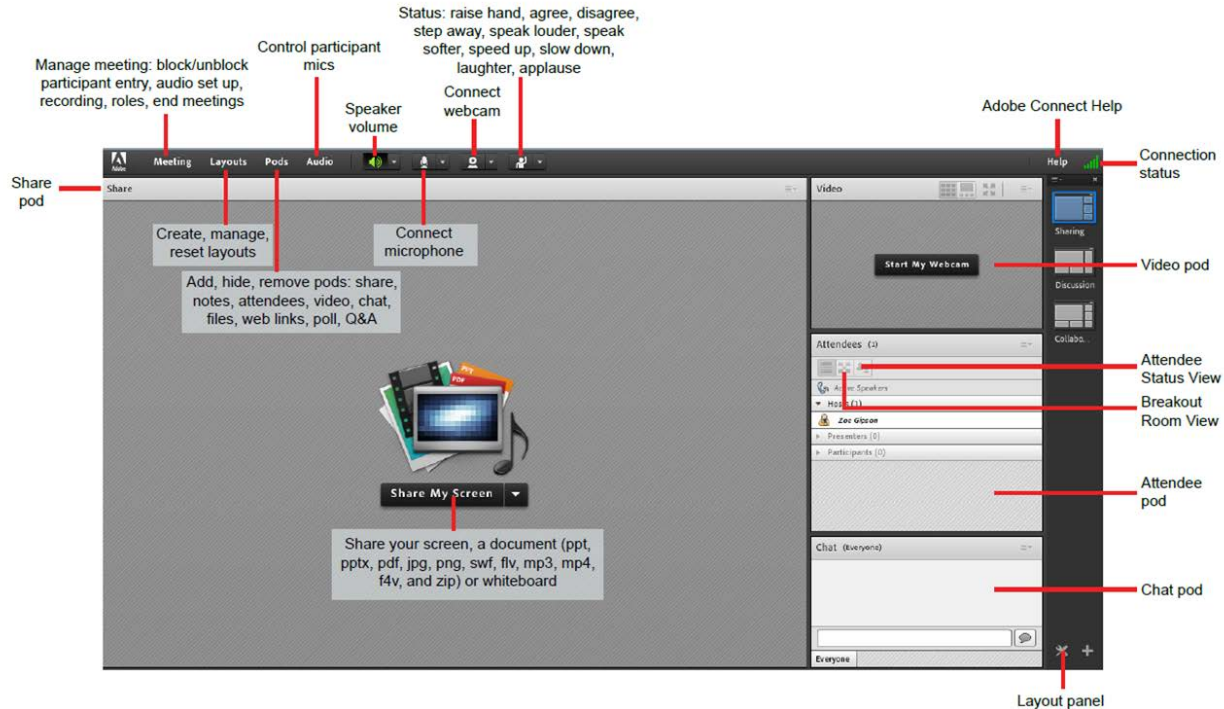
# Brief overview of Online tutorial package used

## Packages Used at the Open University

- Lyceum (2007- 2010)
- Elluminate (2010-2013)
- OULive (2013-Sept 2017)
- Adobe Connect (Sept 2017- )

# Brief overview of Online tutorial package used

## Host Guide

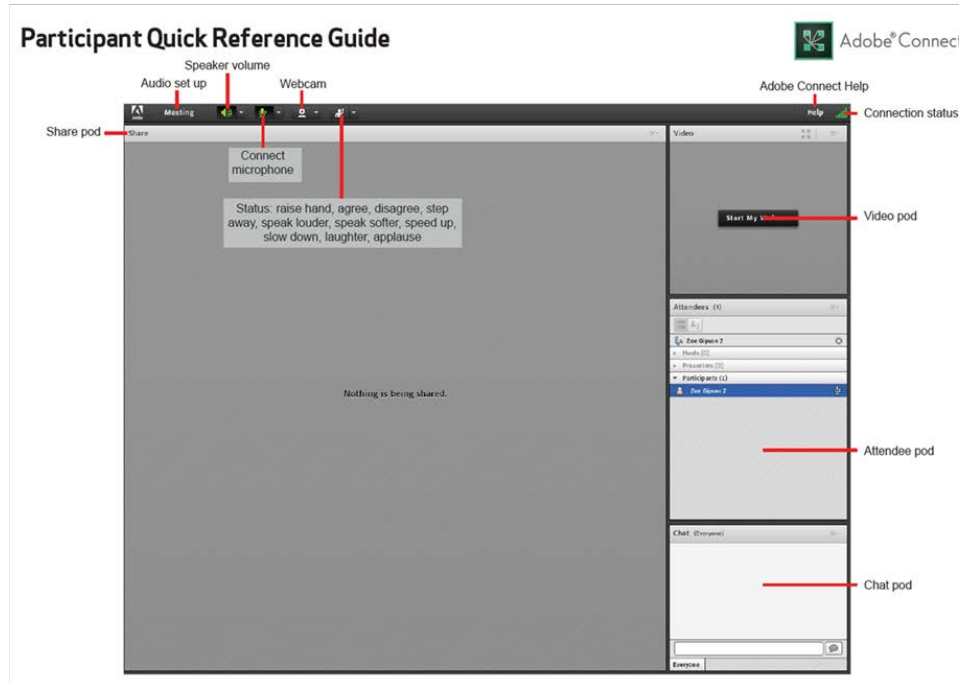


The screenshot shows the Adobe Connect Host Guide interface with various controls and panels. Red lines and text boxes point to specific features:

- Meeting**: Manage meeting: block/unblock participant entry, audio set up, recording, roles, end meetings
- Layouts**: Create, manage, reset layouts
- Pods**: Add, hide, remove pods: share, notes, attendees, video, chat, files, web links, poll, Q&A
- Audio**: Control participant mics
- Speaker volume**: Speaker volume
- Connect webcam**: Connect microphone
- Status**: Status: raise hand, agree, disagree, step away, speak louder, speak softer, speed up, slow down, laughter, applause
- Share pod**: Share
- Share My Screen**: Share your screen, a document (ppt, pptx, pdf, jpg, png, swf, flv, mp3, mp4, f4v, and zip) or whiteboard
- Adobe Connect Help**: Adobe Connect Help
- Connection status**: Connection status
- Video pod**: Start My Webcam
- Attendee Status View**: Attendee Status View
- Breakout Room View**: Breakout Room View
- Attendee pod**: Attendee pod
- Chat pod**: Chat (everyone)
- Layout panel**: Layout panel

# Brief overview of Online tutorial package used

## Basic layout for Participants



# Adobe Connect Training



50  
YEARS

- General training was provided by our Online rooms support team and experts from Adobe Connect
  - 3 training sessions, forum support, training rooms multiple sessions ran throughout 2017
- Specific sessions for maths and stats staff generating interactive ideas
- Sessions to generate cross-faculty interactive ideas





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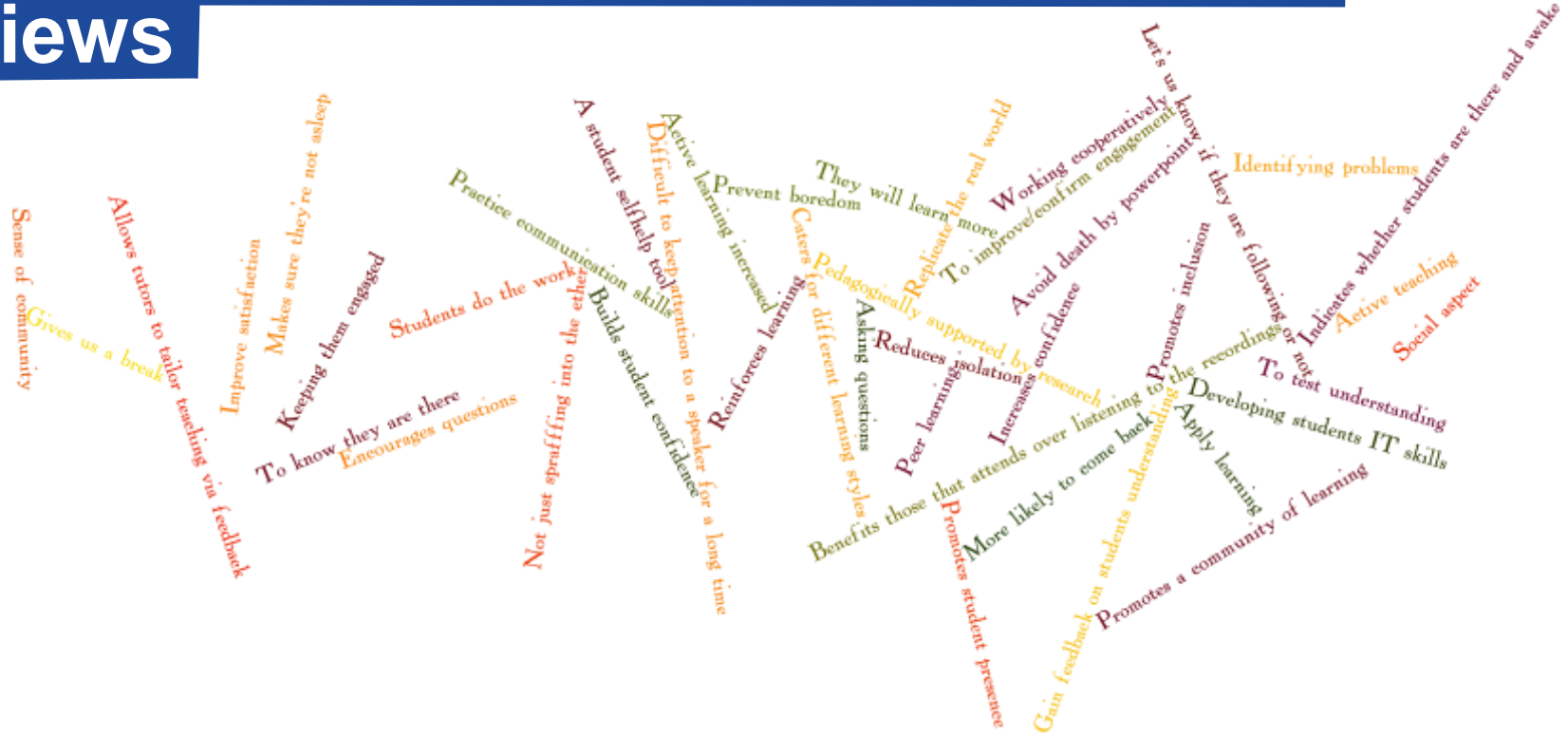
# Staff Development Sessions

Attended 8 staff development events

## Session plan

- Why do we want students to interact?
- Examples of interactivity in mathematics
- Table discussions on student interactivity in adobe connect
- Plenary

# Why do we want students to interact? – Open University staff views



# Why do we want students to interact?

Collaborative learning  
(Vygotsky;  
Biggs, 2003)

Consolidates learning

Social-constructivist models (e.g. Bangert, 2004)

Assessing understanding

Active learning

Deep/surface learning  
(Biggs, 2003)

Motivation

Communities of practice  
(Lave & Wenger, 1990)

Builds confidence

Can be more fun

The will to learn  
(McCune & Entwistle, 2011)

Or thinking time,  
e.g. Bowler & Raiker, 2011

Builds relationships

Gives the tutor a rest



# Simple ideas for interaction used in maths tutorials

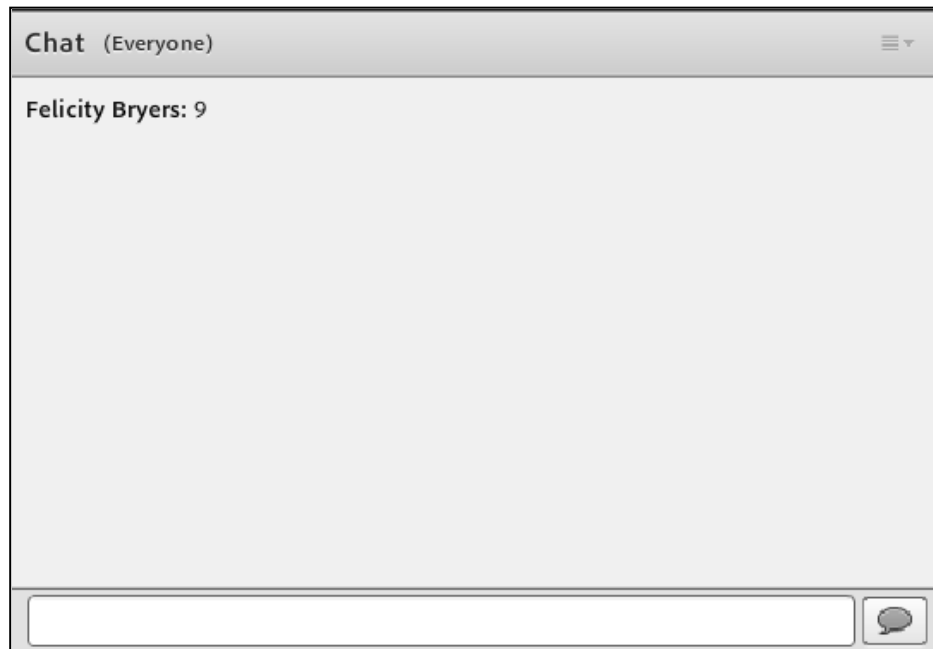
## The chat pod

- for simple answers

**A**     $1 + 2 \times 3$

**B**     $8 + 6/2$

**C**     $-5^2$



# Simple ideas for interaction used in maths tutorials

## The agree/disagree buttons

**A**     $1 + 2 \times 3 = 9$

**B**     $8 + 6/2 = 11$

**C**     $-5^2 = 25$



# Simple ideas for interaction used in maths tutorials

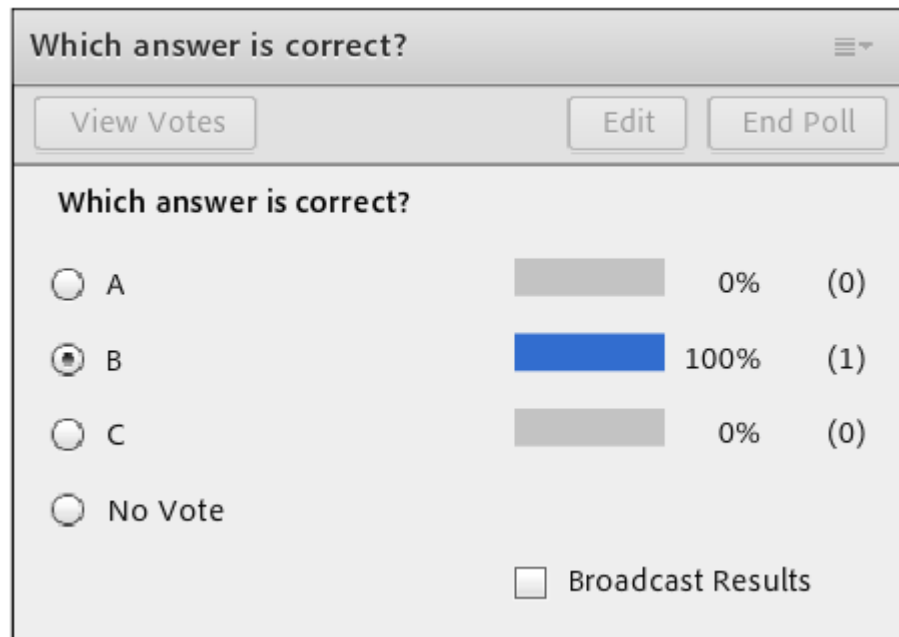
## Poll pod -multiple choice

Which answer is correct?

**A**  $1 + 2 \times 3 = 9$

**B**  $8 + 6/2 = 11$

**C**  $-5^2 = 25$



Which answer is correct?

View Votes Edit End Poll

Which answer is correct?

<input type="radio"/> A	<div style="width: 0%;"></div>	0%	(0)
<input checked="" type="radio"/> B	<div style="width: 100%;"></div>	100%	(1)
<input type="radio"/> C	<div style="width: 0%;"></div>	0%	(0)
<input type="radio"/> No Vote			

Broadcast Results

# Simple ideas for interaction used in maths tutorials

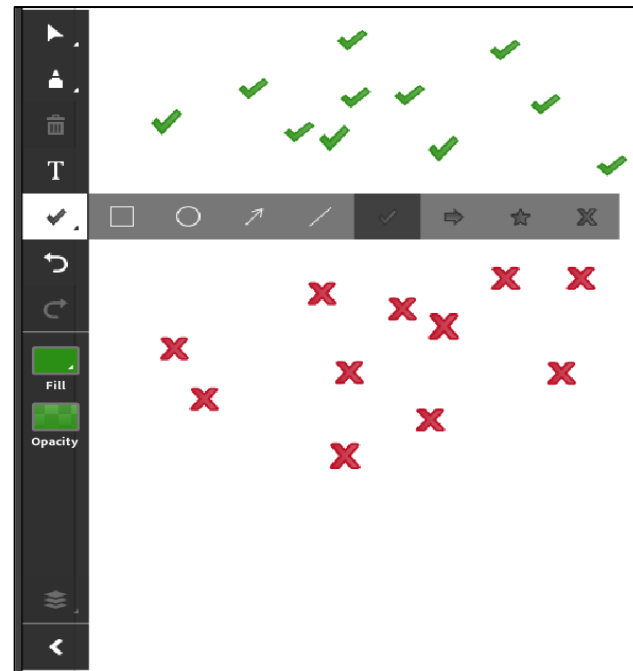
## Drag and drop activities

### Ticks and crosses

**A**  $1 + 2 \times 3 = 9$

**B**  $8 + 6/2 = 11$

**C**  $-5^2 = 25$









# Simple ideas for interaction used in maths tutorials



## Drag and drop activities

## Ticks and crosses

Ticks and crosses

A  $1 + 2 \times 3 = 9$   

B  $8 + 6/2 = 11$   

C  $-5^2 = 25$   

The image shows a digital interface for a math tutorial. On the left is a vertical toolbar with icons for navigation and editing. The main area displays three math problems labeled A, B, and C. Each problem has a set of red 'x' marks and green checkmarks scattered around it, representing a drag-and-drop activity where users place the marks to indicate correctness. Problem A is  $1 + 2 \times 3 = 9$ , B is  $8 + 6/2 = 11$ , and C is  $-5^2 = 25$ . The interface also includes a title 'Ticks and crosses' and a small navigation bar at the top left of the content area.

# Simple ideas for interaction used in maths tutorials

## Writing on the board

Discrete

The weight of cornflakes in a packet

The number of cornflakes in a packet

The number of books in a library

The size of the crowd at a rugby match

The temperature at midday in towns in Scotland

Continuous

# Activity:

Learning outcomes:

How the activity will be done	
Pre-session setting up (pods, settings etc)	
During the session: what the students will be doing	
During the session: what I will be doing	
Post session	
Potential Challenges	

# Interactive Ideas from Other Faculties

## Activity: Progression in understanding a relevant topic

Learning outcomes: At the end of the session the students will be able to see how the general understanding of the group has improved and identify areas for further study.

How the activity will be done	Determine the level of understanding at the beginning and the end of a tutorial
Pre-session setting up (pods, settings etc)	Setting up two polls in identical pods, with multiple choice options as applicable
During the session: what the students will be doing	Complete one poll at the start Discuss and study material Complete second identical poll at end
During the session: what I will be doing	Encouraging students to participate Emphasising anonymity
Post session	Bring up both polls for comparison
Potential Challenges	If understanding has decreased - uncover reason by questioning students

## Activity: Watching a video

Learning outcomes:

How the activity will be done:	Use one of the pods to screen share and show relevant module video
Pre-session setting up (pods, settings etc)	
During the session: what the students will be doing	Watching video, making notes, discussing questions
During the session: what I will be doing	Stopping the video at suitable places and asking students to discuss what is happening
Post session	
Potential Challenges	Problems with streaming video.  Accessibility issues - will also make transcript available

## Activity: Planning an essay

Learning outcomes: The student should be able to recognise key concepts

How the activity will be done	The students will study an essay broken down into sections and learn to identify the key concepts within each section, they will then learn how to assemble the essay into the correct order based on the key concepts of each section
Pre-session setting up (pods, settings etc)	Prepare an essay, break it up into 6 sections and then jumble up the sections and label them a, b, c, etc. Prepare a short answer poll pod for each section.  Prepare a poll where they can order the sections.  Break group into 6 breakout rooms so they can look at a section each
During the session: what the students will be doing	Initially they can discuss in breakout groups what they think the key concepts in their designated section are. Then the groups can look at each other findings and suggest any alterations.  Final poll, each student votes on the order of the sections to create a full essay.
During the session: what I will be doing	Observing each group - giving guidance where necessary

## Activity: Programming Solutions

Learning outcomes: Algorithm of code for a problem - practice

How the activity will be done	Set a problem that can be solved in program code. Split into modular programming by asking different rooms to address different aspects of the problem. Back in main room promote individual students to presenter, application share program so they can code solution to their bit of the problem
Pre-session setting up (pods, settings etc)	Set up break out rooms. Prepare statement of problem.
During the session: what the students will be doing	Discussing and preparing code in their breakout rooms
During the session: what I will be doing	Explaining problem. Processing the application share
Post session	Email or forum post the complete final program
Potential Challenges	A student with presenter status can do things that might disrupt the session.



## Activity: Critique of a mathematical solution

Learning outcomes:

How the activity will be done	Critique a potential solution prepared on PowerPoint which contains errors eg Legendre symbol calculation
Pre-session setting up (pods, settings etc)	Slide with solution of say ten lines Add theorem references
During the session: what the students will be doing	Adding ellipses round errors, adding explanation-move pre-existing boxes with theorem numbers
During the session: what I will be doing	Giving drawing permission to just a few students at a time to prevent screen freeze.  Checking they are happy to participate
Potential Challenges	If no one is willing to try to identify mistakes

**Activity:** To use appropriate terminology when interpreting hypothesis

Learning outcomes:

How the activity will be done	Give Polling options: Accepted Rejected Proved supported not supported
Pre-session setting up (pods, settings etc)	Set up voting options
During the session: what the students will be doing	Voting for each statement null Hypothesis is... Hypothesis is ...
During the session: what I will be doing	Use the same poll over and over again with different statistical results
Advantage over how I've been doing this before	Advantage is students don't see what option other students have chosen so it should be easier to see who has misconceptions

## Activity: Preparing a program

Learning outcomes:

|

<p>How the activity will be done</p>	<p>Open the program eg <u>Mathcad</u> and application share then get students to write lines of code in the chat box that I can copy and paste into the program to see if they work. Use poll pods to see if other students think it will work before we run the program</p>
<p>Pre-session setting up (pods, settings <u>etc</u>)</p>	<p>Set up application share</p> <p>Set up yes/no/don't know poll pods</p> <p>Set up short answer poll pods for suggested alternatives/improvements</p>

## What Next?

- Each activity plan was a specific idea for a specific course
- The discussions at the sessions concentrated on how to use the ideas in their own courses
- However each idea can be used in many different ways

## Activity: Progression in understanding a relevant topic

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- Each activity plan was a specific idea for a specific course
- The discussions at the sessions concentrated on how to use the ideas in their own courses
- However each idea can be used in many different ways
- Create a database to collate ideas and extensions
- Capture qualitative data on how the students respond to the activities



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