

# How will new technologies create the university of the future?

Second Virtual International Meeting on Higher Education

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- **Key developments in technology enhanced learning (TEL) : a UK perspective**
  - Impact of Covid-19 on the higher education sector
- **Have students' expectations changed in terms of how technology should be used to support their learning?**
- **What are the implications for the university of the future?**
  - What should HE institutions be doing to support academics and students in their effective use of learning technologies?

## Disruption and renewal? The promise of TEL...

- **Market differentiation in programme design:**
  - Distinctive portfolio of programmes (design, outcomes & transferable skills)
  - Flexible entry points and pathways to degree courses, attracting a diverse student body
  - New and flexible delivery methods: increased online provision (Barnett, 2014)
- **Learner engagement (retention & progression):**
  - institutional responsiveness to student expectations and needs (through well-defined academic support and service delivery; greater use of learner analytics)
  - Ensuring the quality of the student experience through innovative teaching, support & service provision
- **Learner flexibility:**
  - Flexible and interactive learning experiences through the informed use of digital technologies (evidence-based)

## What does the UCISA data say?

The Universities and Colleges Information Systems Association (UCISA) has surveyed UK higher education institutions on the use of learning technology tools since 2001

<https://www.ucisa.ac.uk/News-and-Blogs/News/2021/April/2020-TEL-survey-report>



- Extensive use of LMS, lecture capture, reading list software
- Webinar / virtual classroom usage: **72%** of institutions with centrally supported services
- Team-based environments (e.g. MS Teams): **62%** of institutions had established a central service
- Data analytics: **35%** of institutions looking to introduce a central service
- Cloud-based service management: established for lecture capture (**54%**) and LMS (**42%**) systems

*Source: 2020 UCISA TEL Survey*

- **BUT still a focus on supplementary uses of digital tools to support content delivery for blended (on-campus) courses:**
  - offered extensively across **79%** of responding institutions
  - more active modes of blended learning only supported extensively in **20%** of institutions
  
- **Limited diversification in programme delivery**
  - Fully online course delivery supported within Schools/departments, but not institutionally
  - Low engagement with open online courses



# Has Covid-19 changed higher education?

## Three key themes emerging during the pandemic:

- Pedagogic redesign to support flexible engagement
  - benefiting the full range of learners
- Innovations in technology usage to support student centred learning (QAA, 2020)
- Shift in assessment practices: open and authentic formats





# Redesigning teaching for flexible student engagement

## Music – Prof. Martin Suckling (Case Study 1)

**Office Hour / Student discussion room**

For general questions, etc. you'll be able to find me in the 'TATClassroom' on Gather on Wednesdays from 1-2pm [at this link](#). The password you'll need to enter is TonalityRulesOK.


To begin you'll need to make a Gather account, if you don't have one already – you can do this by linking in your uni gmail account, if you wish.

Should you wish to meet others in the module to discuss tonal things further, you can pop over to that same room any time you wish!

Go ahead and have an explore! We may use it in some online sessions as well...

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**Welcome to Tonality After Tontology!**



...and on the seventh day Schoenberg emancipated the dissonance and thus tonality's brief reign came to an end. But what if it didn't?

An outline of the content can be found in the [Module Catalogue](#).

As with all these 'blended' teaching packages, the VLE page includes a variety of materials for you to engage with at your own pace – videos, texts, suggested listening and activities for each numbered session before our group discussion – this will enable you to get the most out of the discussion.

A normal session should take you around 6–8 hours overall to complete, including your own preparatory reading and listening, watching the videos, doing the tasks, and the you significantly more (or less!) time than this, you can let me know in the feedback form at the end of the session.

[For more information about the 'blended' approach we'll be taking this term, visit this page from the Music Department's Induction VLE.](#)

There will be in-person teaching this term (hooray!) – but if you aren't on campus, or need to self-isolate, you can just come to the equivalent online session.

*Before the first session, in addition to the session tasks, please contribute to the padlet below!*

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**Ground Rules (made by you)**

Please read the existing entries and add at least one entry of your own to this padlet (embedded below, [also at this link](#)). Feel free to add as many as you like, and comment / like. Now actually writeable...

padlet


Martin Suckling + 1 • 26d

### Tonality After Tontology: Project Ground Rules

Take ownership of this project! What do you want it to look like? (Entries are anonymous)

What should students be able to expect from the tutor?	What should the tutor be able to expect from students?	What should students be able to expect from each other?	Any special requests/concerns you have relating to online learning?
regular uploads of the next weeks material	Interaction and discussion	respect for others opinions	

**2. Tonality as Topic - OVERVIEW**



**Tasks for Friday** (see individual items for more detail)


- Watch the video on Tonality as Topic (1 video, c. 10')
- Read ['Tonality as Topic: Opening a World of Analysis for Early 20th-Century Modernist Music'](#) (c.21 pages, c.90'-2 hours) (*This is quite a tricky read, but it's worth the effort. We can clarify anything you don't understand during the session!*)
- Listening task: three pieces, three approaches to 'tonality as topic'. How is tonality used in these? What effect does it have on you? (c.40 / write)

remember there's always more reading and more listening you can do!

Group A (10.30) is online, and I'll be in the [Gather Room](#) (TonalityRulesOK) beforehand. Group B (12pm) is in person in E106.

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**After this session you should ...**



- Understand and be able to apply the concept of 'topics' in music
- Have encountered a range of repertoire that employs tonality as a topic
- Be aware of different possible approaches to this principle
- Be sensitive to the varying expressive / political ends that this approach can achieve

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**2.1 What is a topic?**



Oxford Handbook of Topic Theory (2014)

Mirka: 'musical style or genres taken out of their proper context and used in another one'



# Pre-Covid

'in person'

3hr 'project session'



Discovery learning & Lecture-style teaching:  
Discussions; Workshops; Improvisations;  
Listening; Written exercises...

# 2020-21

'flipped' & 'blended'

Stimulus

Asynchronous, online:  
lecturer-created video etc.

Activity

Asynchronous & small-group  
synchronous online and in-person,  
independent work: reading, listening,  
creating, sharing, discussing

Discussion /  
workshop

Synchronous, in-person – and online  
where required – exploring the issues  
and ideas from the work that's been  
shared. (60' socially distanced)

Summary

Asynchronous, online:  
Text/ video drawing ideas together

*Assessment is based on your own independent work, creating something meaningful, whether that be essay, composition, performance etc. As far as possible unchanged.*

## Case Study 2: 'Online Module: Pollution in York'

### Original Tenerife field trip targeted:

- design of an independent research project and associated hypotheses
- application of appropriate methods of experimental design, data collection and analysis

### Redesigned online project targeted the same outcomes:

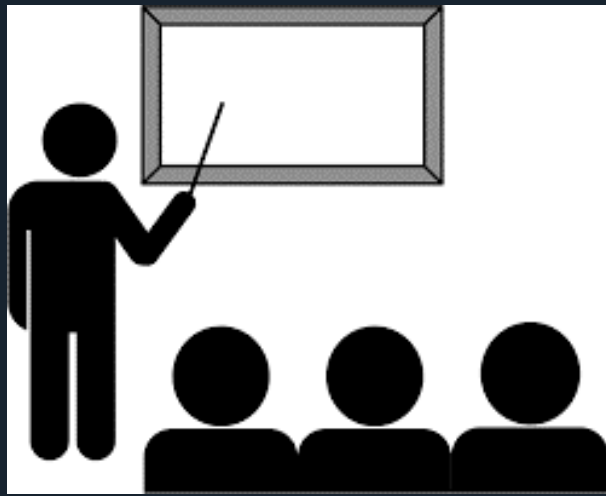
- through an intensive, week-long course, establishing a pattern of group working
- with external expertise (through pre-recorded video, and QAs) with links to authentic/real-life contexts and research
- by engaging students in research and live presentations



## Learning objectives

- **[NEW] demonstrate an understanding of the different pollution pressures experienced by a city like York as well as an understanding of how these are currently monitored, managed and how they are interlinked**
- design an independent research project and develop associated hypotheses
- employ appropriate methods of experimental design, data collection and analysis
- **[MODIFIED] undertake individual** research in your own time, referring to on-line data sources
- synthesise and analyse datasets
- critique research results and understand good practice for the delivery of research projects
- **[NEW] clearly present the results of their research in a scientific conference type situation**





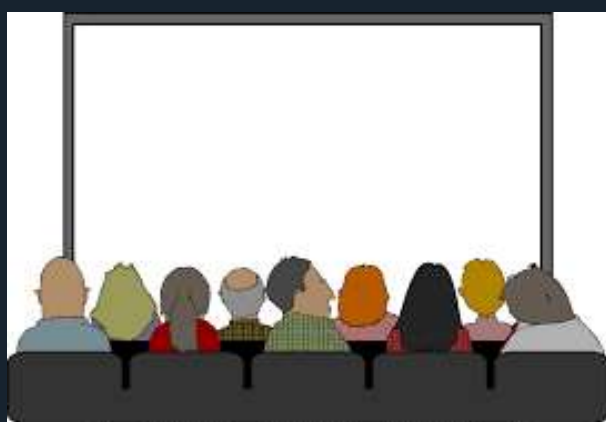
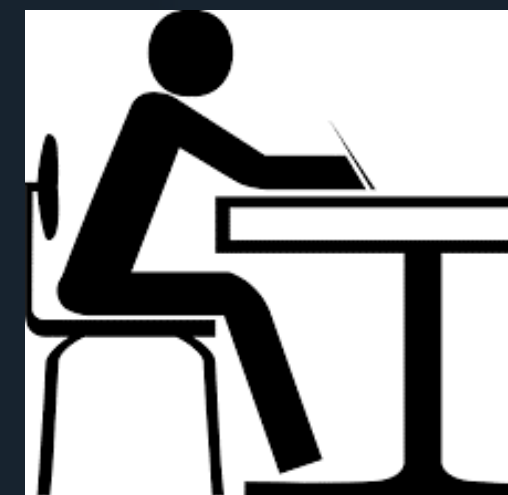
10 x pre-recorded talks

1 x live Q&A session



1 x half-day workshop with breakout groups

1 x individual project + group support sessions



1 x project overview  
1 x one day conference

Pollution of York's Environment  
Online Course for 2<sup>nd</sup> Year Environmental Science Programme

23<sup>rd</sup> April – 1<sup>st</sup> May 2020

AGENDA

Time	Activity
<b>THURSDAY 23<sup>rd</sup> APRIL</b> The presentations today are pre-recorded and will be available from the 22 <sup>nd</sup> Please view the talks in order and do this before 1530. Each talk will be around 30-40 minutes long	
1	Urban Pollution and Course Introduction <i>Alistair Boxall, Environment and Geography</i>
2	Stakeholder perceptions of pollution in York <i>Steve Cinderby, Stockholm Environment Institute</i>
3	Air quality in York <i>Nic Carslaw, Environment and Geography</i>
4	Monitoring pharmaceutical pollution in York's rivers <i>John Wilkinson, Environment and Geography</i>
5	Drivers of pharmaceutical pollution in York's rivers <i>Emily Burns, Personal Care Product Council</i>
6	Understanding diffuse pollution in York's rivers <i>Prado Domerq, Stockholm University</i>
7	What data are available on York's environment? <i>Alistair Boxall, Environment and Geography</i>
1530-1645	Q & A with the speakers <i>All presenters</i>
<b>Friday 24<sup>th</sup> April</b>	
1000-1030	Introduction of Source-pathway mapping exercise for York



# Rethinking of digital assessment practices

- What role can digital tools play in supporting engaging learning through assessed activities?
- How can we encourage creative and collaborative learning outcomes through assessment?



Increased collaboration and participation

**Assessment of learning**  
**Group Tasks**  
Document sharing applications  
Wikis  
Content authoring tools for video, podcast artefacts

**Individual Tasks**  
MCQs  
Learning units (e.g. SCORM packages)

**Assessment as learning**  
**Collaborative Tasks**  
Digital storytelling (audio, video, images)  
Social media for peer review (i.e. blogs, Twitter)

**Individual Tasks**  
Blogs  
Portfolios  
Simulations

Increased focus on metacognitive skills



## Case Study 3: Reworking **Existing** Summative Assessment

### Original PG assessment (19/20, pre-COVID):

#### Group assessment

*"In groups, students will discuss and plan the recruitment and selection strategy needed to hire one successful candidate only for the role; students will decide on the role to be filled themselves; required competencies needed for the role will be identified; job descriptions will be written; researching of interview technique (for both interviewers and interviewees) will be undertaken together; CVs will be created and submitted; mock interviews will be run. Each group will interview two candidates only - with a maximum number of four students on the interview panel."*

### Redesigned online PG assessment targeting the same outcomes:

**Task very similar to pre-COVID, but now run online via Blackboard Collaborate.**

#### **Honours same learning outcomes, but in addition:**

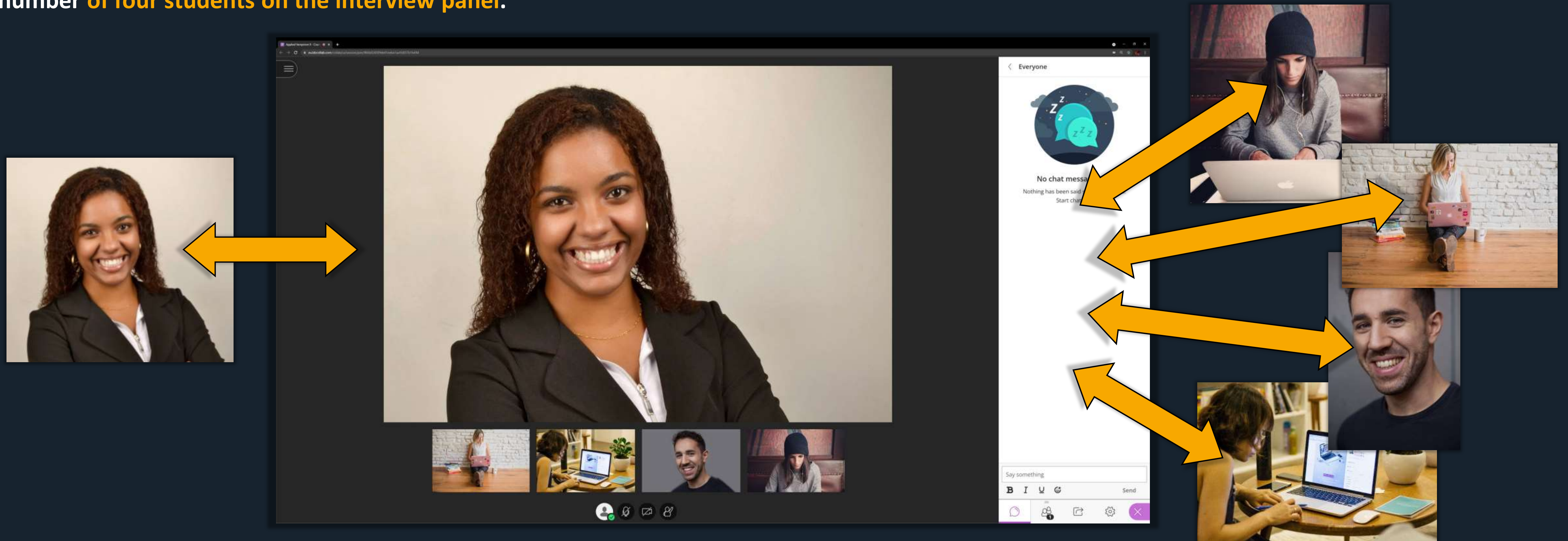
- Provide students with an opportunity to enhance, not only their application of specialised knowledge in the area of recruitment and selection and organisation capacity building, but also in the niche area of 'online' recruitment and selection
- Provide every student with the additional opportunity to enhance their online competencies at a time when careers [...] are likely to require high levels of online experience and understanding...



# Redesigning assessment cont.

## Case Study 3: Reworking **Existing** Summative Assessment

Brief: "...**mock interviews** will be run. Each group will **interview two candidates** only - with a maximum number of **four students on the interview panel.**"



Student acting as interviewee

Shared Collaborate Online Space

Students Acting as Interviewers

## Case Study 4: Creating **New** Summative Assessment Embracing Online

**Original UG summative assessments (19/20 and earlier):**

**Comprised of two pieces of essay work, with learning outcomes:**

- *Understand the concept of Human Resource Development and how it differs from Human Resource Management*
- *Demonstrate an awareness of the role of learning and skills development in organisations*
- *Use the theoretical content of the module in order to analyse the context of skills development, employability and education in organisations and public policy*

**Redesigned one assessment into a practical that embraced online:**

**Student has to plan, design, deliver, evaluate and record a 15 minute learning and development event, with between four and six external participants, using the Collaborate platform, outcomes:**

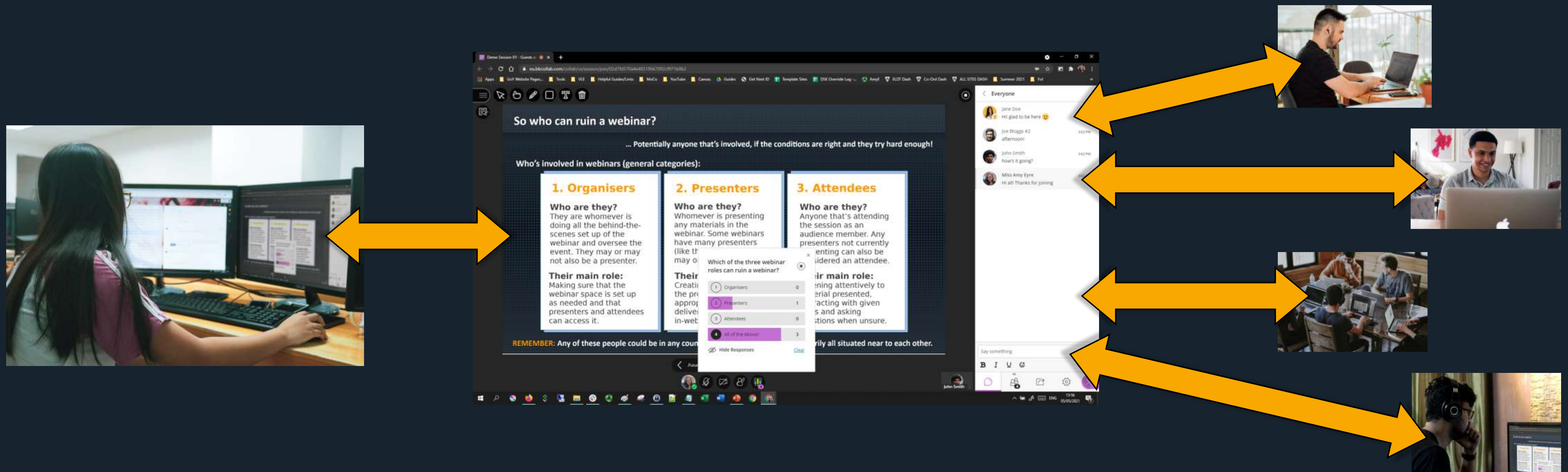
- provide students with an opportunity to enhance, not only their application of specialised knowledge in the area of learning and development, but also in the niche area of 'online' learning and development within a HR context
- provide every student with the additional opportunity to enhance their online competencies at a time when careers [...] are likely to require high levels of online experience and understanding...



# Introducing 'assessment as learning' cont.

## Case Study 4: Creating **New** Summative Assessment Embracing Online

Brief: "Student has to **plan, design, deliver, evaluate and record** a **15 minute learning and development event**, with **between four and six external participants**, using the **Collaborate** platform."



Student Leading Session

Shared Collaborate Online Space

External Contacts Attending Session

## Lessons learned on instructional (re)design

### **Emphasis on use of digital tools to support student-centred learning:**

- Greater flexibility and choice in how our students participate in teaching and assessment tasks (Walker, 2021);
- Focus on active learning & authentic tasks: students welcome opportunities to co-create learning activities (Walker, 2020);
- Consider different types of assessment methods that can be done in an online setting & develop students' creative capacities and literacies



## BUT Are we actually meeting Students' Expectations?



- **What type of digital experience do our students expect in the future?**
- **What role should digital tools play in course delivery and instructional methods over the next 10 years?**
- **What should the priorities be for the planning of digital services?**

# Envisioning the university of the future: the role of digital tools and services

**Goal** to anticipate future digital requirements for teaching, learning and assessment over a 10-year period (November 2019 - )

**Methods** 50 University of York students (mix of online/on-campus, research/taught, UG/PG) joined focus groups (online/in-person) to discuss digital experiences and future requirements

**Analysis** content analysis of student perspectives: mapping out themes & linking to sector developments & relevant literature (e.g. Barnett, 2014; [Jisc, 2019](#))



# Emergent Themes

## **Current challenges with digital provision**

Inconsistencies in system processes

Gaps in service provision and service delivery

## **Future requirements for digital provision**

Integrated digital infrastructure (interconnected services)

Flexible delivery and modes of engagement

Student choice over learning opportunities

Networking and community building opportunities (inclusive learning)

Lifelong learning and learner entitlements

## Implications for Digital Planning: What have we learned?

Beyond interconnected systems with a simple interface - students want the following experience from digital teaching, learning and assessment services:

**Flexibility** control over pace / place of learning and 'presence'; course materials 'portable by design'

**Personalisation** 'tailored curriculum'; on-demand access to extra / interdisciplinary materials

**Community and networking** connectivism and interdisciplinary support

**Employability support and alumni entitlements** Enduring relationship with institution; services for life



## Realising the vision: What should universities be doing?

There are a number of practical steps that our research suggests that institutions should be considering:

### **Infrastructure and systems integration**

- providing an interconnected set of services
- joining up virtual and physical learning spaces

### **Rethinking student engagement**

re-envisioning student engagement and 'presence'

### **Digital upskilling for staff and students**

Exploiting the emerging opportunities: AI and analytics (*EDUCAUSE, 2021*)

### **Diversification in course delivery**

'hybrid learning', short courses and microcredentials (*EDUCAUSE, 2021*)

# References and recommended reading

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