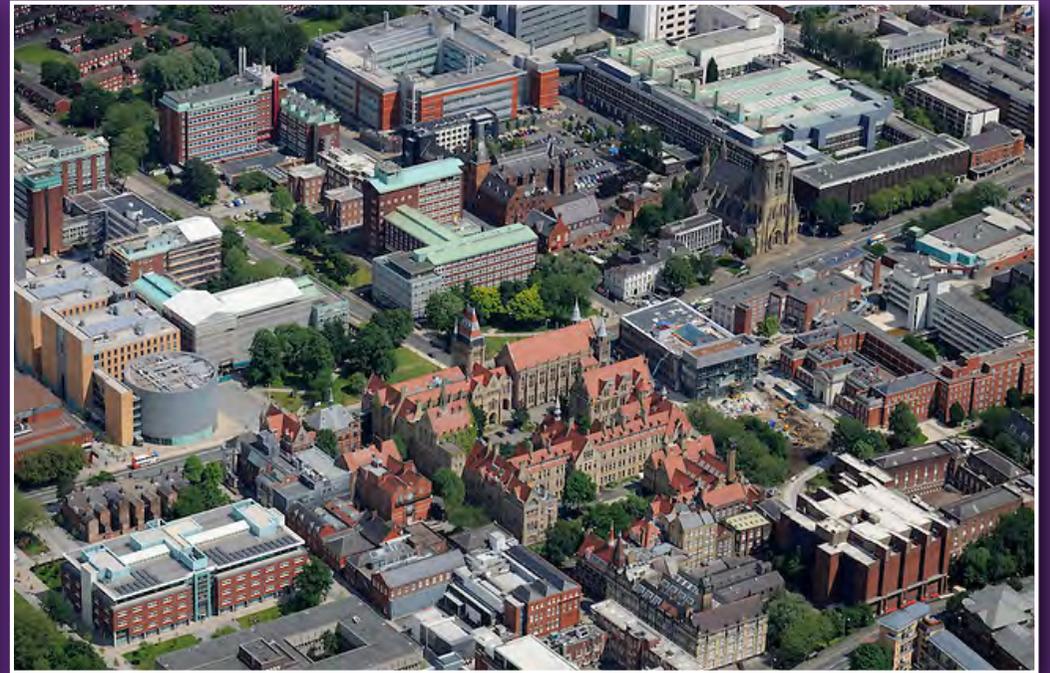


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Online Education and Distance Learning



Richard J Reece

Changes and challenges

- Higher education in UK has undergone radical, and almost unprecedented, change in recent years
- The way we teach has changed too
- Student expectation
 - Digital natives
 - Digital adoptors

eLearning benefits

- Portfolio diversity, financial viability
- Exploit familiar environment
- MOOCs offer huge potential to 'showcase' teaching and learning excellence at UoM
- Lessons learned from DL can be used to bolster our expertise in eLearning delivered to on-campus students

Importance of eLearning

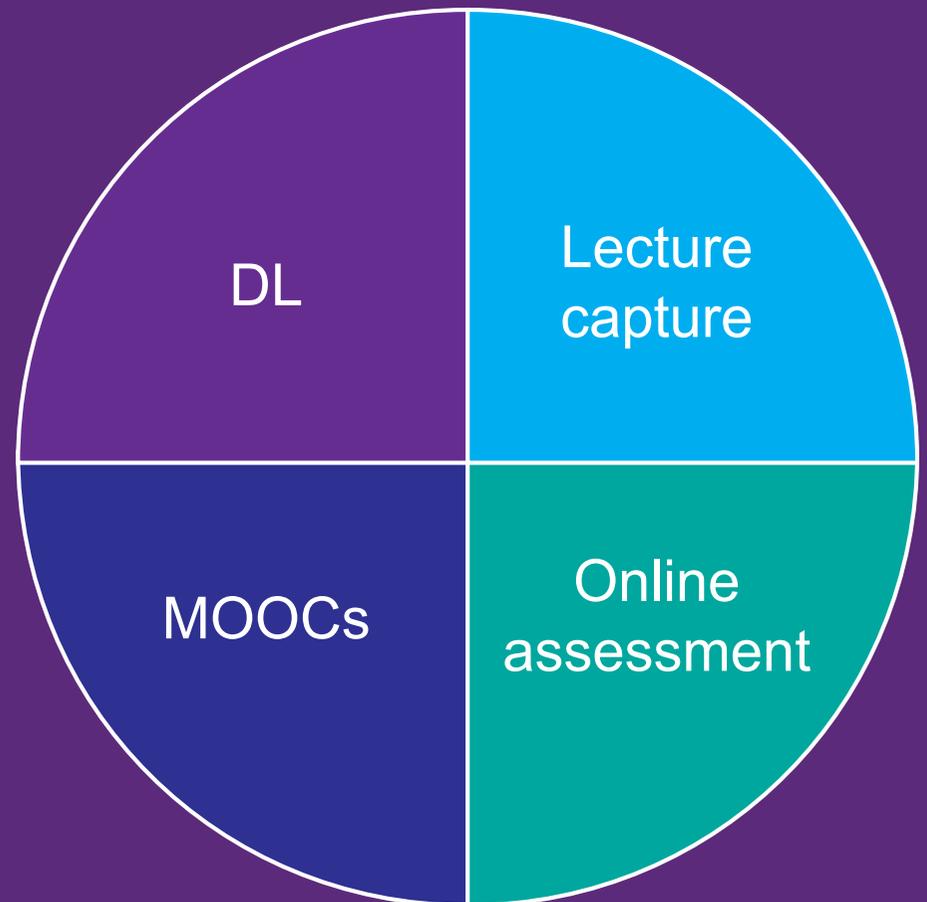
- UoM 2020 Strategic Plan, Goal 2:
 - *"highest quality teaching resource, including staff and infrastructure, in a rich eLearning environment, by upgrading infrastructure for distance and mobile learning and ensuring staff time is prioritised for teaching and students"*
- eLearning strategic plan

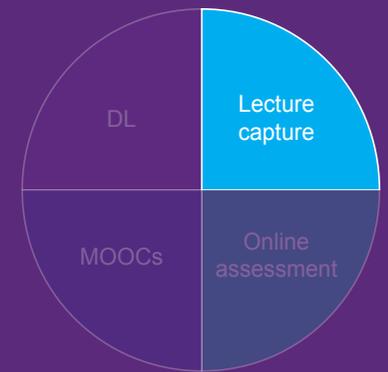
eLearning Strategic plan

- Devised after a very wide consultation
- Forms the basis of all ICT developments related to teaching and learning
- Outlines the technology, support and overall direction for the use of ICT in Teaching and Learning at UoM
- Approved by Senate in 2012

Online education and DL

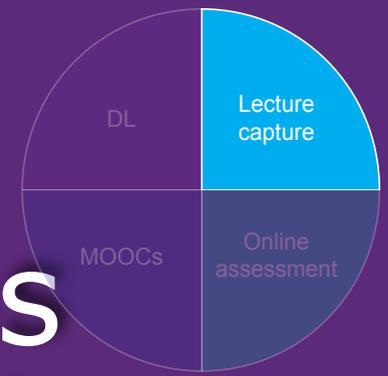
- Since the introduction of Blackboard, UoM has invested heavily in online education





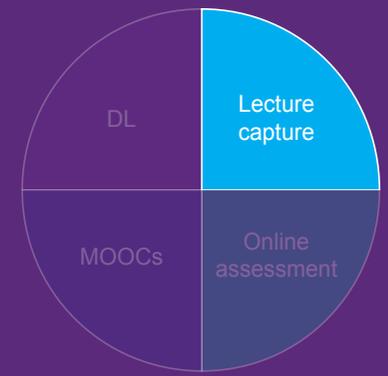
Lecture capture

- Recording of lectures can provide a useful resource for students to:
 - Provide a study-aid for review and revision
 - Help accommodate different learning styles
 - Assist students who do not have English as their first language
 - Assist students who have particular educational needs



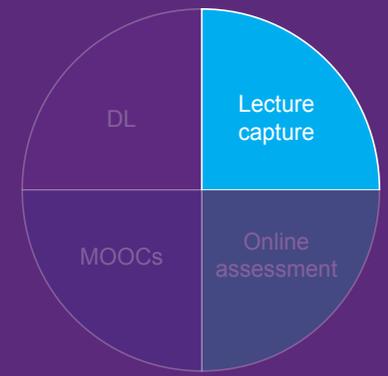
Lecture capture limitations

- Not all teaching styles are suitable for capture
 - White-boards, chalk-boards, high levels of interactivity, *etc.*
- Ethical issues, or the use of sensitive material may render the recording of some activities as inappropriate
- Requirements for staff to change their teaching style for the purpose of recording is not encouraged



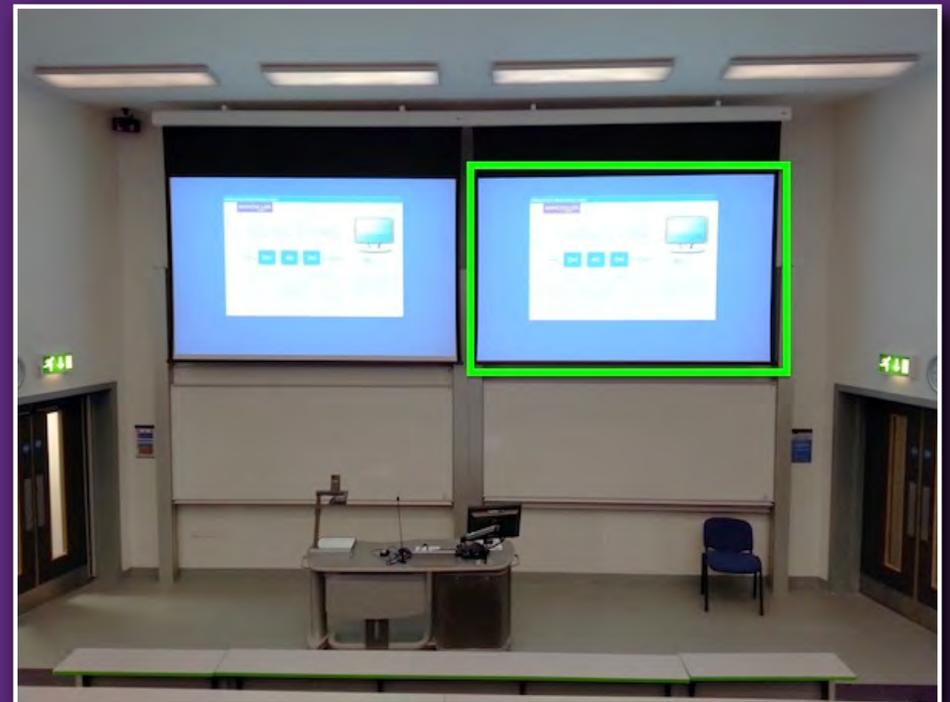
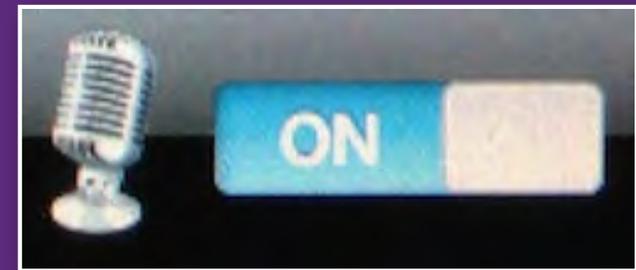
What is recorded?

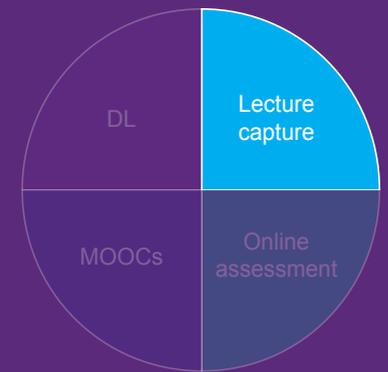
- No cameras are used in the recording process
 - The feed from the data projector provides the only visuals
 - The audio from theatre microphones
- Recordings are timetable driven, starting on the hour and stopping 5 minutes before the next teaching session begins



Enabling recordings

- Teaching staff need do almost nothing
 - Turn the microphone on
- If a room has two projectors...
 - The right-hand projector, from the audience point of view, is the one captured

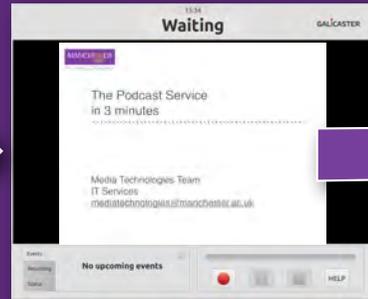




Recording workflow



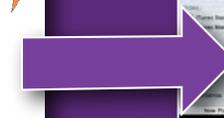
Schedule



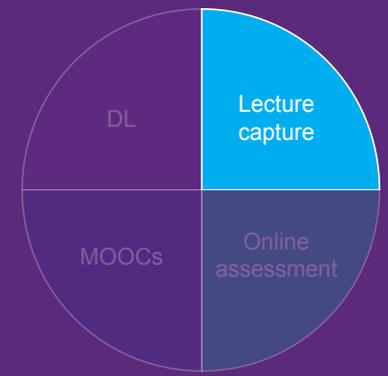
Capture



Process



Distribute



Recording workflow



Lecture theatre
1-2 GB

Capture agent
~300 MB

Switch

Matterhorn storage

100 GB Work,
3 TB Distribution,
10 TB Archive

Worker Worker Worker Worker

Database

~100 MB

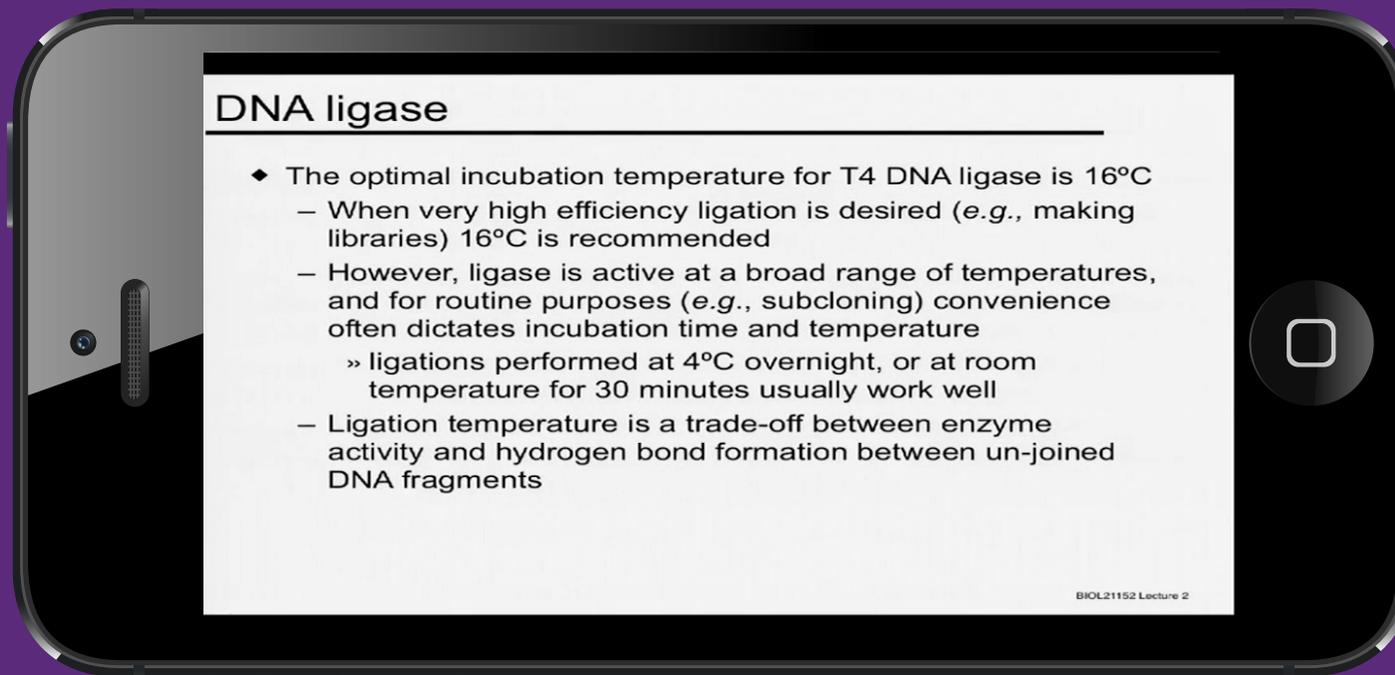
Load balancer

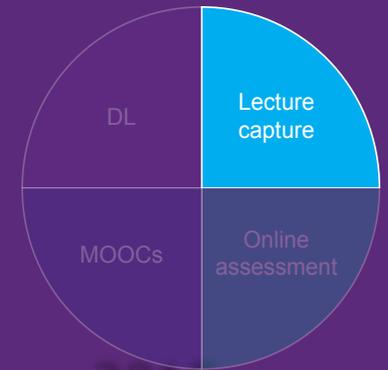


Student

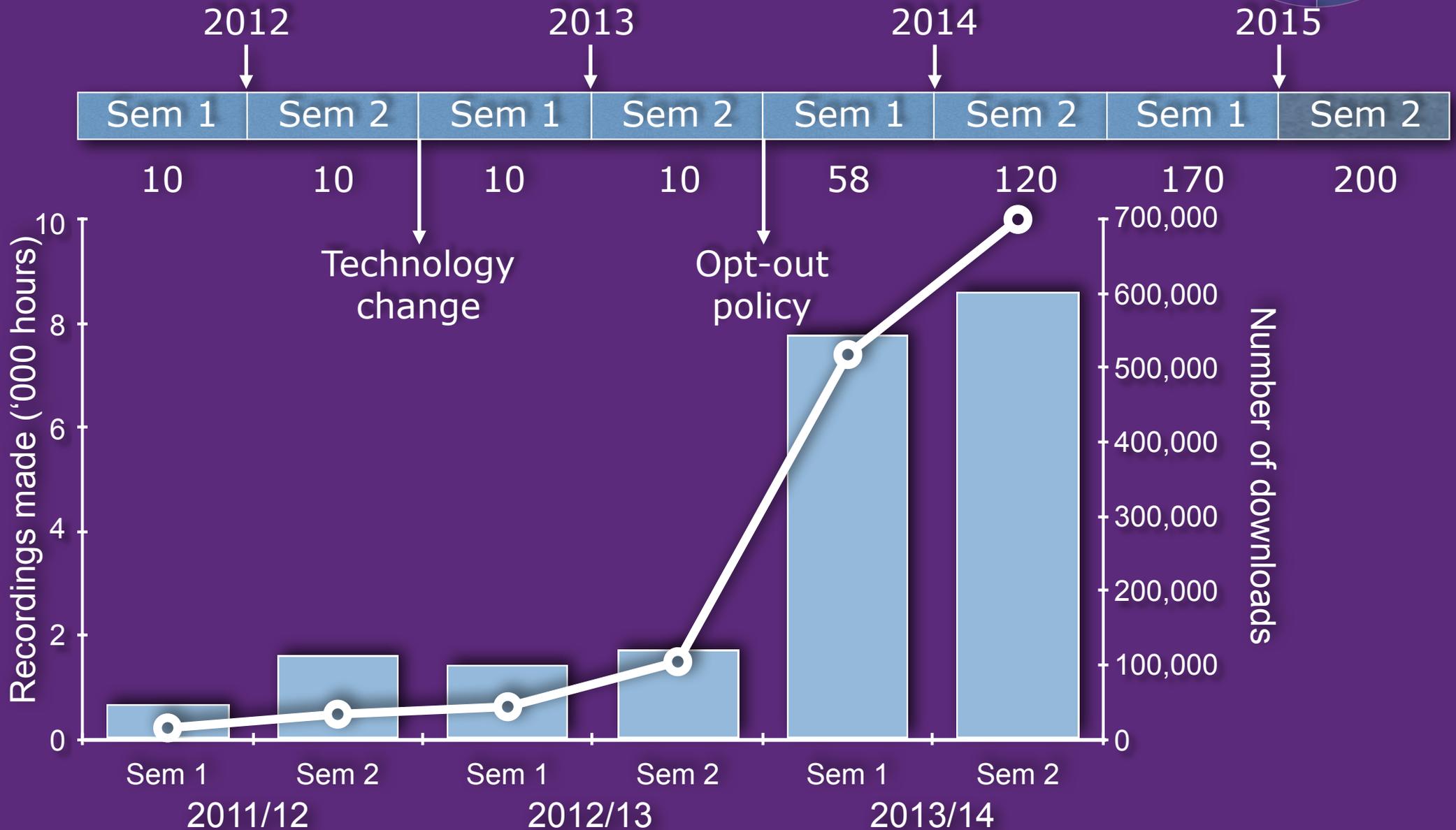
Viewing recordings

- Available within 60 min
- PCs, tablets and mobiles
- Streamed or downloaded and stored

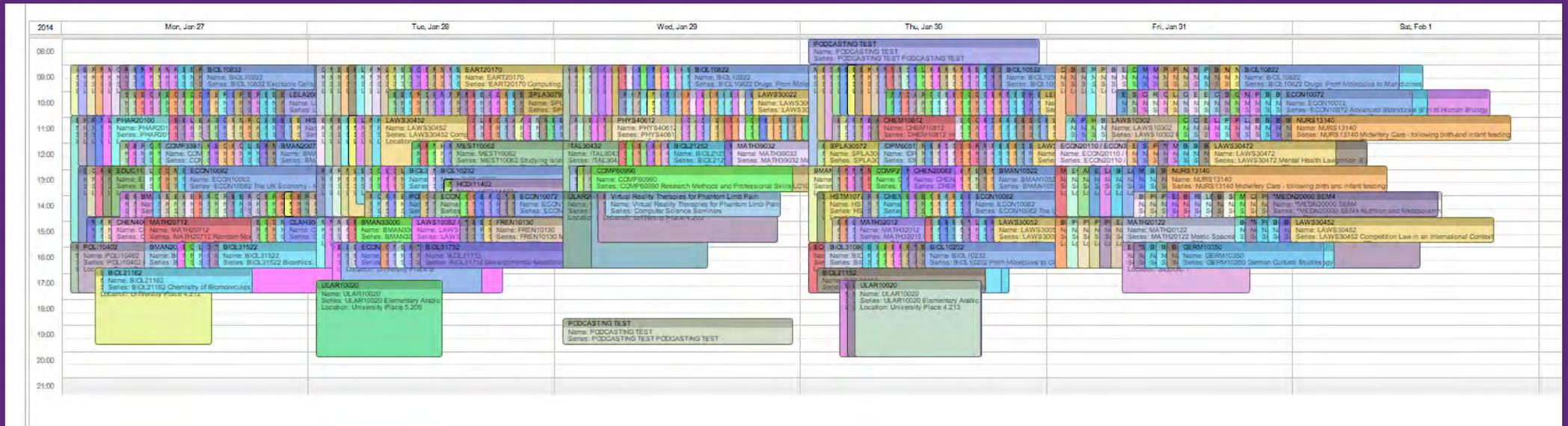
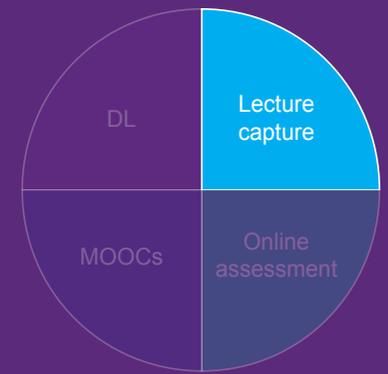


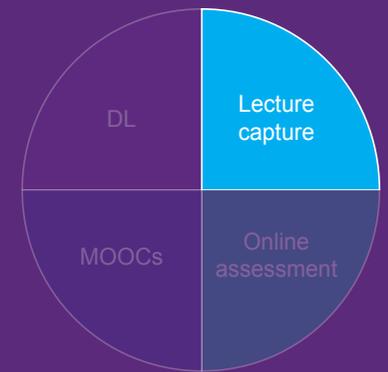


Lecture capture



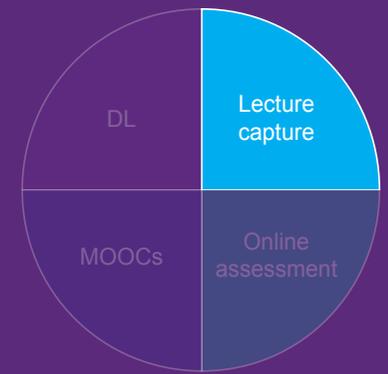
Scale of the recordings





Why opt-out?

- Lecture capture can have a transformative effect on the student experience for some activities
- Opt-out greatly increases the numbers of recordings made and therefore the scope and reach
- Can enable blended and flexible teaching
- Support of eLearning strategy
- Disability support
- Senate approved policy in June 2013

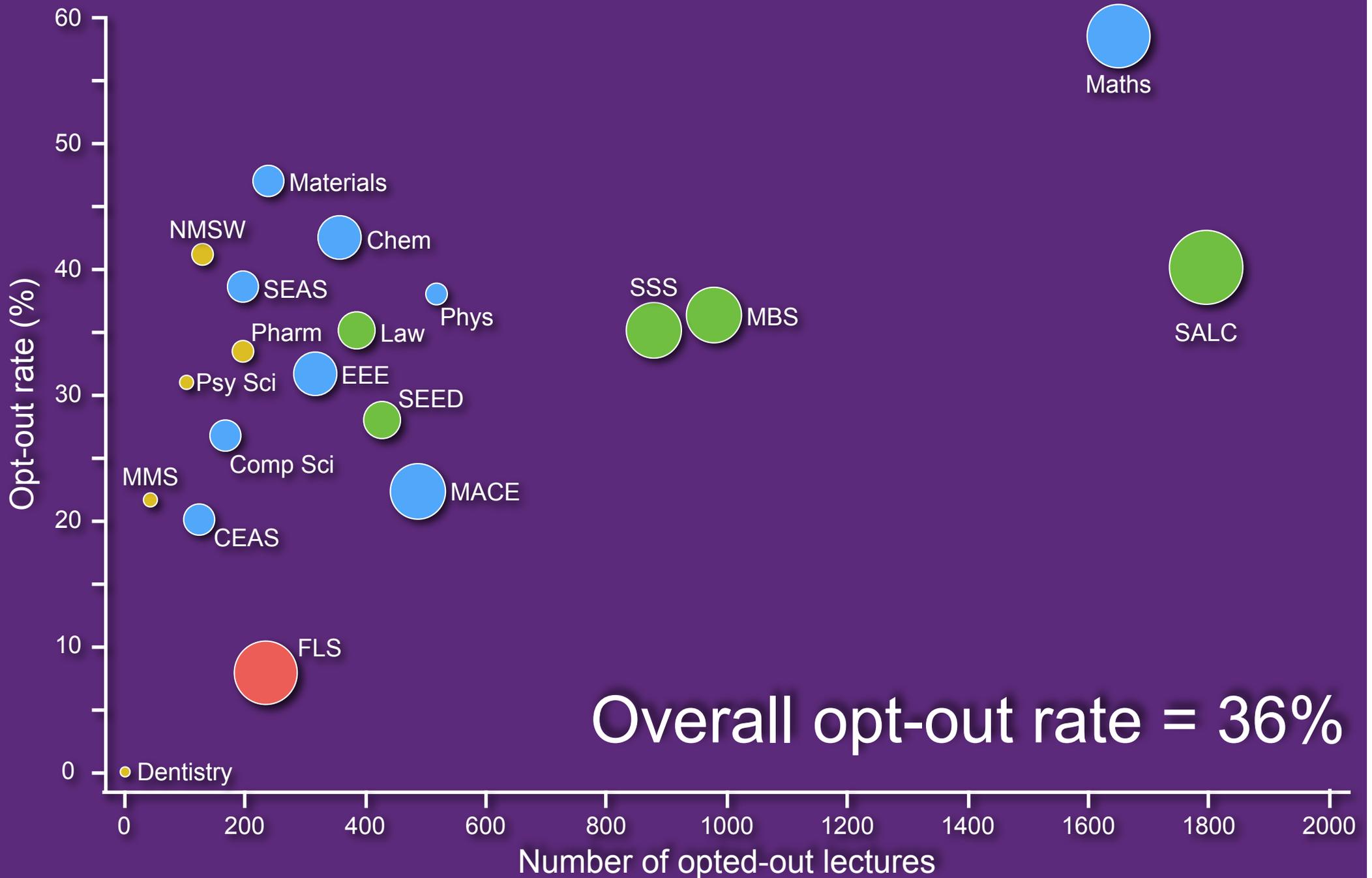


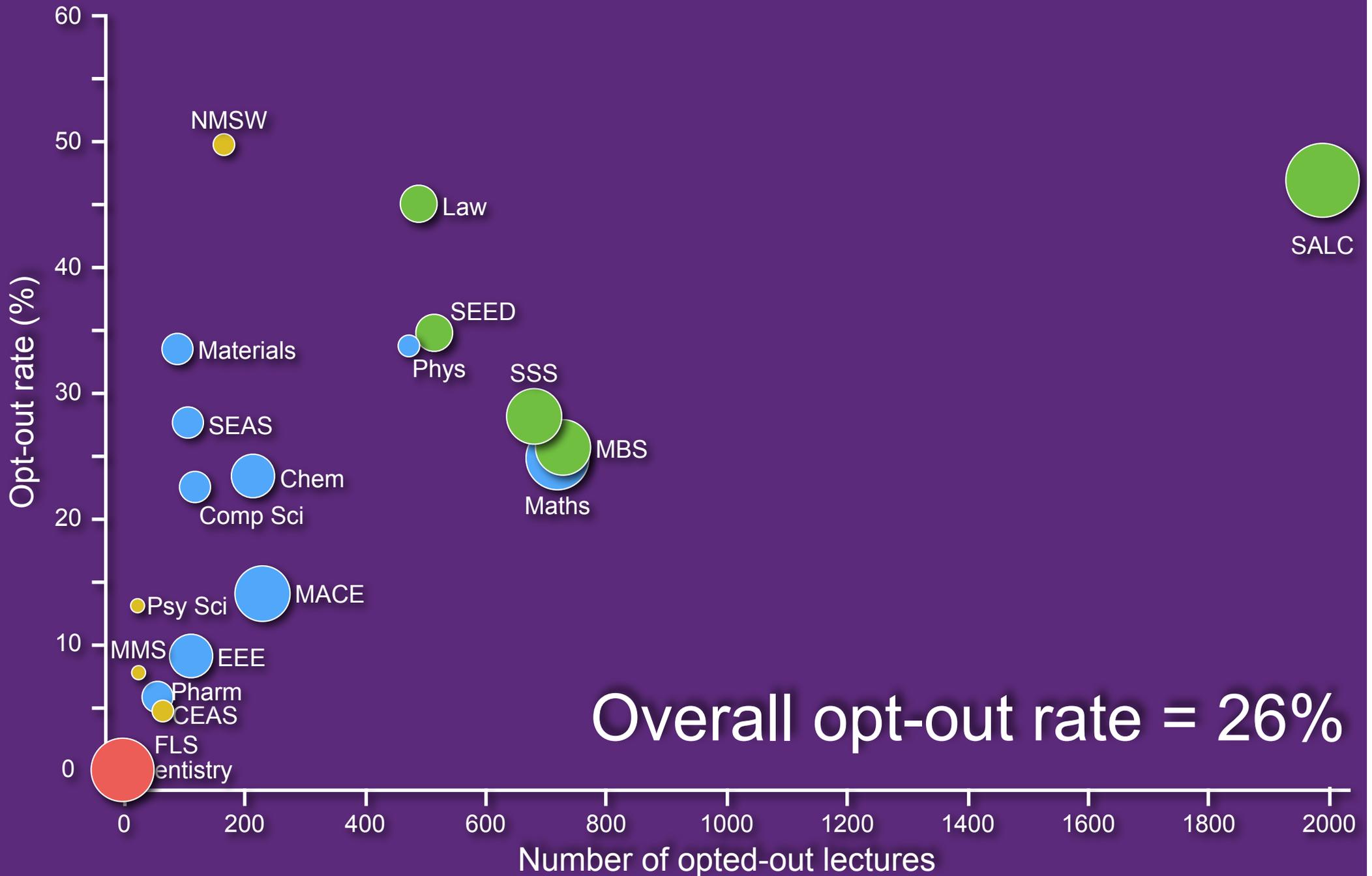
Opt-out rates

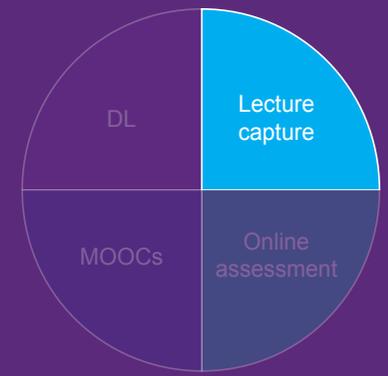
- Recordings are only made if information about a module and its teaching staff are held within the timetable and staff have had the opportunity to opt-out
- No questions asked for opt-out reasons
- Overall opt-out rate for 13/14 was 36%
 - School opt-out rates varied between 9% (91% of possible activities recorded) to 57% (43% of possible activities recorded)
- Overall opt-out rate for 14/15 was 26%



2013 Opt-out rates

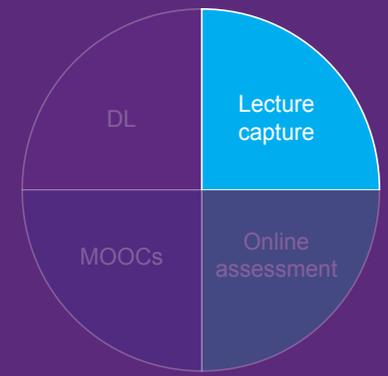






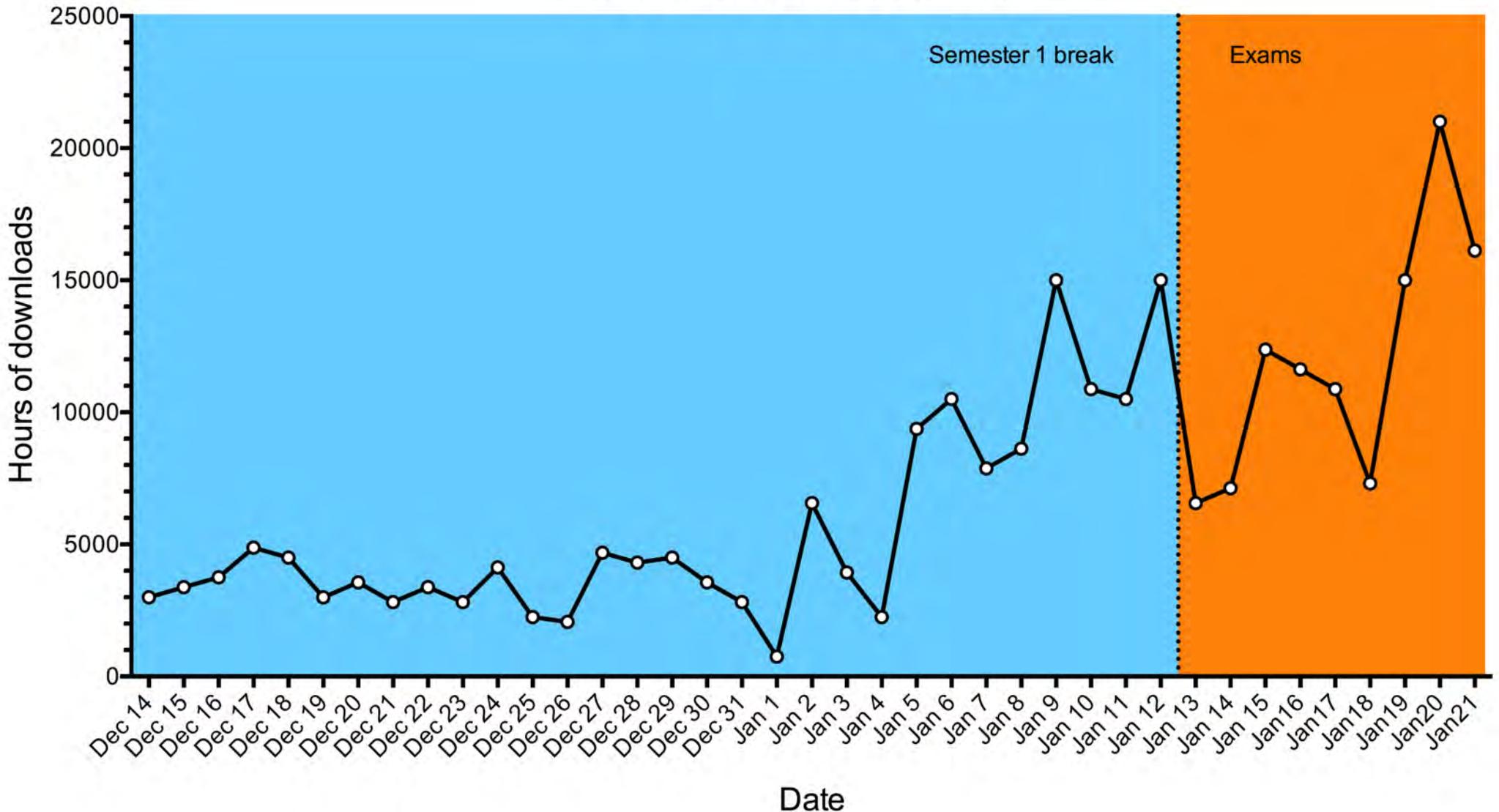
Use of recordings

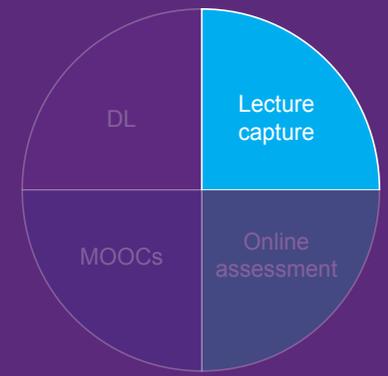
- Recordings are to augment the lecture experience rather than substitute for it
- There is extensive use of the recordings during revision periods
- Well over 1,000,000 student downloads in 2013/14
- More expected this year



Use of recordings

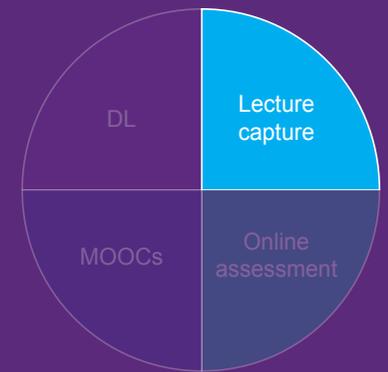
Lecture capture downloads





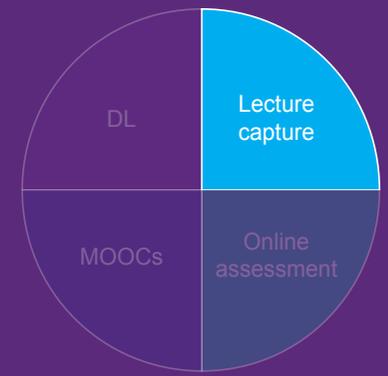
Student feedback

- Positive feedback about the service and its use:
 - “The lectures being recorded and available as podcasts was a God send”
 - “Podcasts have proven to be invaluable to me and my learning, especially at times of revision”
 - “Fantastic idea to have video podcasts for each lecture”



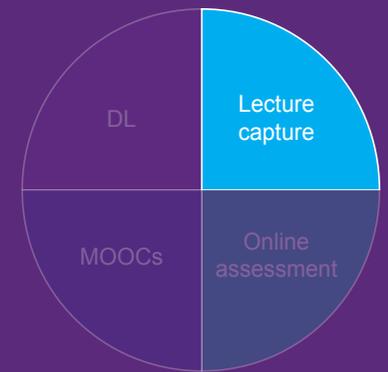
Student feedback

- Requests for modules not using the service to use it:
 - “The podcasting of Chemistry lectures would be a very helpful resource”
 - “It's also a big shame that the lectures are not podcasted”
 - “Podcasts for the lectures!!!!!!!!!!!!!!!!!!!!!!”
- Very few examples of negative feedback:
 - “Podcasts need improving..way too slow”



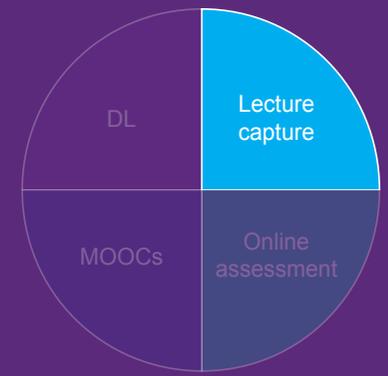
Current developments

- Oversight and governance of service now provided by academic steering group
- Additional locations - 340 teaching rooms equipped by October 2015
- In depth analysis of student performance in terms of recording use
- On-the-fly editing
- Camera recordings



On-the-fly editing

- Use of a simple QR code displayed on the screen to indicate that the recording should stop
- While the QR code is present, no sound or video is captured
- The recording will now stop...
- ...and will now be back
- Already being heavily used especially at the start and end of recordings

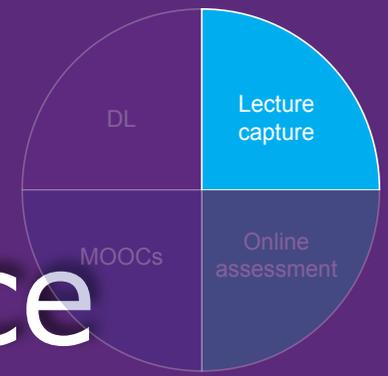


Cameras

- Chalk-boards and white-boards are a real problem for lecture capture
- Large capture area and small writing

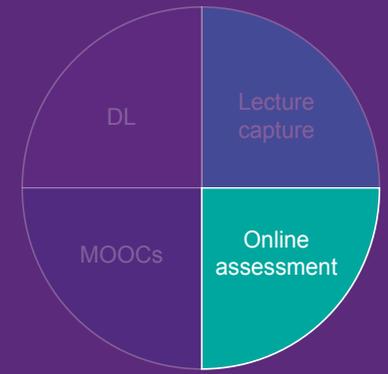


- Two LT fitted as pilot this year



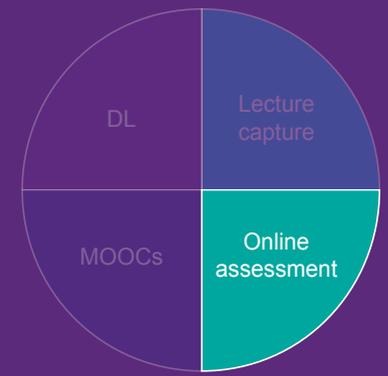
Lecture capture conference

- Matterhorn opencast conference 2015 will be held in Manchester this year
 - March 25th-27th
 - <http://www.rec-all.info>



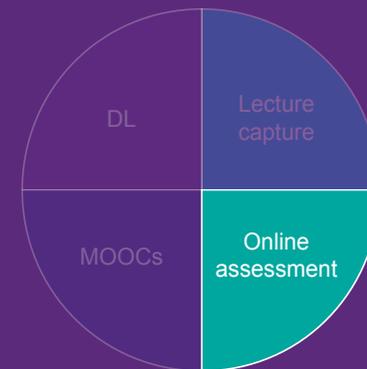
Online assessment

- Helps both **students** and teachers
 - Consistent, accurate results
 - Immediate feedback
 - Increased opportunities for students to act on feedback
 - No handwriting
 - Supports those who 'plan then write' and those who 'write then edit'



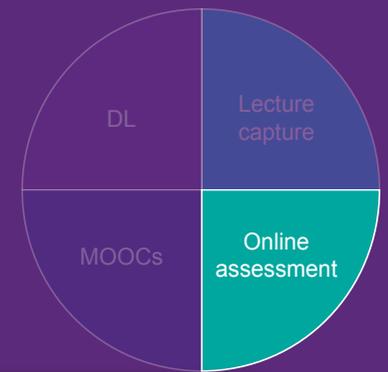
Online assessment

- Helps both students and **teachers**
 - Opportunities to combine human and computer marking - time save
 - Creative media and online peer and self-assessment
 - Evidence on the effectiveness of curriculum design and delivery
 - Legible, structured essays
 - Authentic assessments
 - Automatic paper handling

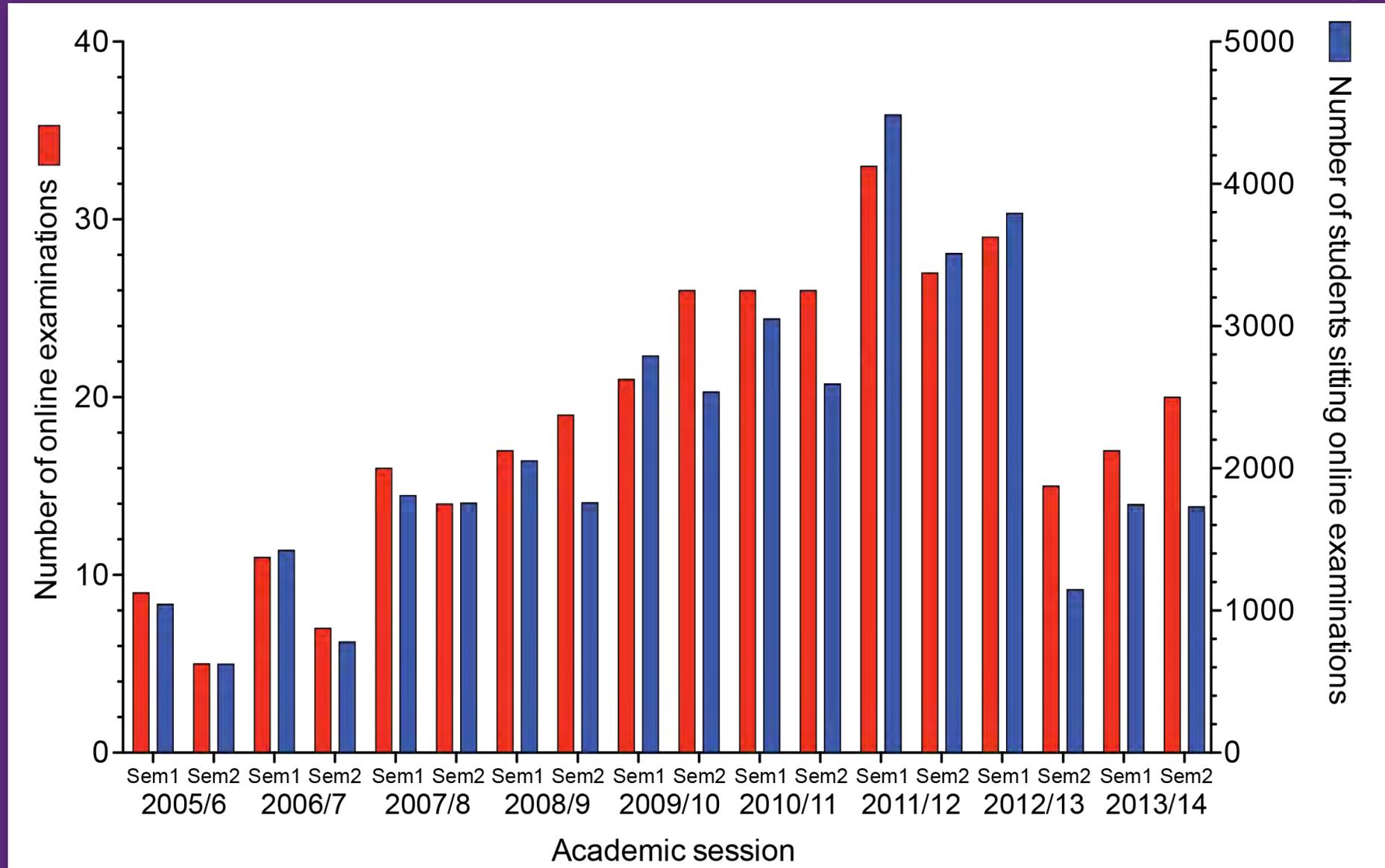


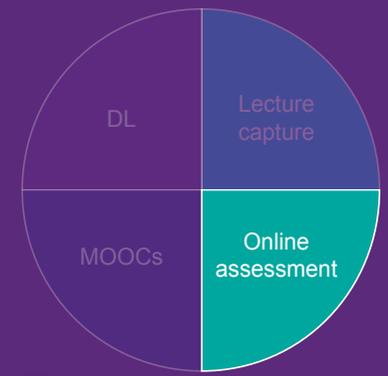
Online assessment

- Question types:
 - Multiple choice, fill in the blanks, short answers, essays *etc.*
 - Multimedia, chemical structures, Excel, Mathematica, SPSS, *etc.*
 - Open book exams
- eAssessment Desktop provides a secure environment for high-stakes summative exams



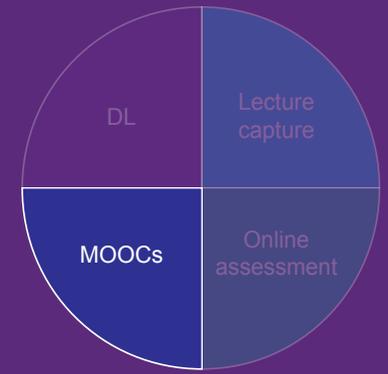
Summative assessment





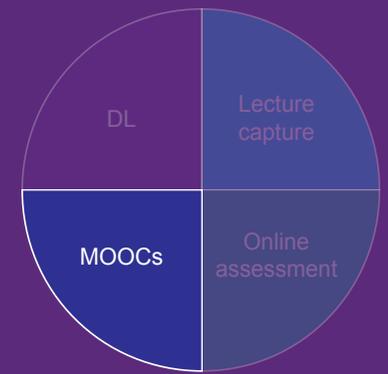
Summative assessment

- Last year over 3,000 students sat summative online exams
- No technical issues
- Can assess ~500 students in a single sitting
 - Stopford, Simon, Barnes-Wallace, Kilburn
- Working with Blackboard to improve the work-flow and interface



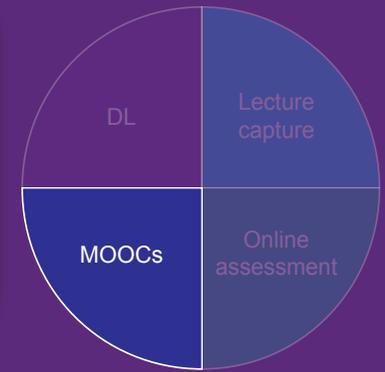
MOOCs

- Massive Open Online Courses
 - Set to change the face of HE - perhaps
 - Lots of hype (and hope)
 - UoM partners with Coursera
 - 5 MOOCs initially developed which are linked to strategic goals/aims of Schools
 - Courses run free of charge to participants
 - Showcase UoM teaching



MOOCs

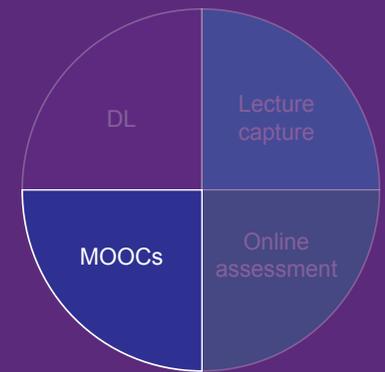
- Central project to deliver MOOCs that add benefit to The University
 - Strategic priority for School or Faculty
 - Lead onto (paid) registrations on other courses
- Each MOOC allocated up to £30k for development and delivery



Population health

- 6-week MOOC for healthcare workers
- Course ran between Apr 14-May 25
 - ~9,000 students from 172 countries
 - ~6,000 interacted with the material
 - ~1,500 went through to week 6
 - ~800 completed final assessment

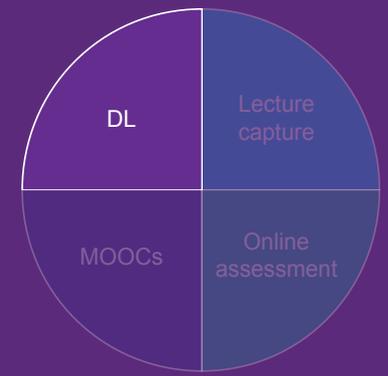




UoM MOOCs

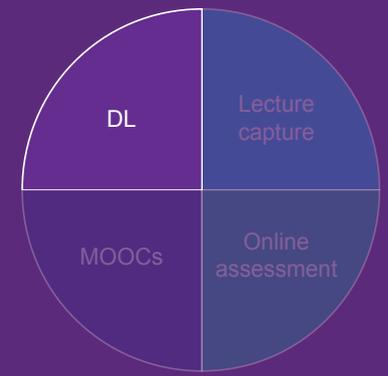
MOOC	Enrolled	Active	Awarded Pass	Awarded Distinction	Countries
Introduction to Population Health	8,848	6,048	786	--	172
Water Supply and Sanitation	17,096	10,249	202	866	184
Introduction to Physical Chemistry	14,867	10,455	148	320	158
Global Health and Humanitarianism	6,660	4,207	397	--	165
	47,471	30,959	2,719		(184)

- Feedback from all very positive
- Second MOOC call now out



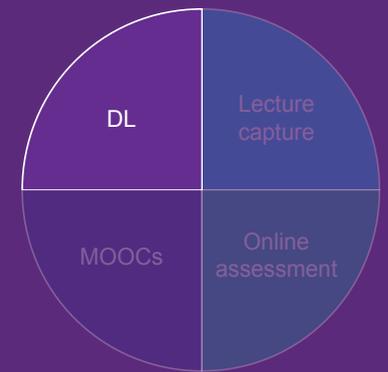
Distance-learning

- Why do we do DL?
- Benefits to **students**:
 - Study at a time, pace and place convenient to individual needs
 - Learning integrated into existing professional/personal/domestic commitments
 - Cost-effective mechanism of studying



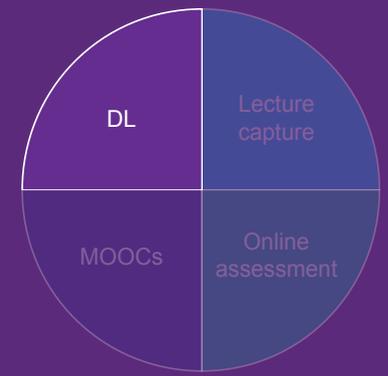
Distance-learning

- Why do we do DL?
- Benefits to **The University**:
 - Financial contribution
 - Possible change in on-campus applications
 - Global footprint
 - Lead in technology-assisted learning
 - Widening access



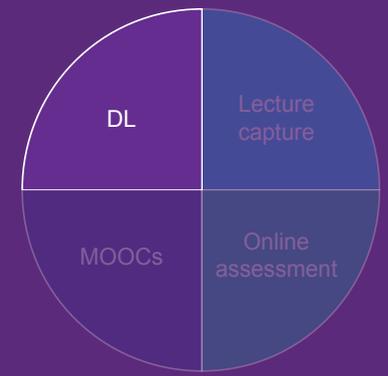
Distance-learning

- UoM delivers a wide range of UG, PG and CPD programmes through DL or blended approaches
- Over 7,000 students registered on DL programmes at UoM
- DL is a big activity both in terms of student numbers and revenue
- Joined up approach to move away from 'cottage industry'



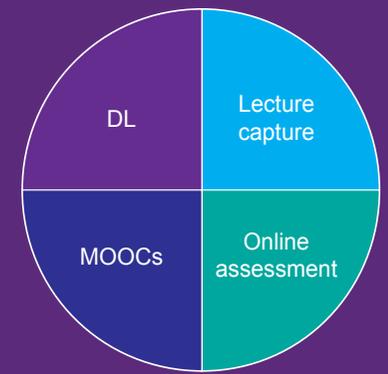
Distance-learning

- University has agreed to invest in the expansion of distance-learning
- Prof. Pam Vallely is the new Academic Director for Distance Learning
- Seeking to appoint a partner to help with the delivery of an expanded portfolio of DL programmes
- Aiming to deliver new suite of programmes by Sept 2016



Distance-learning

- Small central team will coordinate activity between UoM and any possible partner
- New programmes can come from any field but must undergo rigorous market research
- Likely to be Masters level (2 year part time?)
- Blended courses strongly encouraged



Summary

- UoM is a world leader in some aspects of online education...
- ...and is playing catch-up in others
- Strategic importance of online and DL for both on- and off-campus students is now well understood
- Next few years will be critical in consolidating where we are and moving forward

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Any Questions?

