

Foresight for Digital Development in Education

Mike Sharples
Institute of Educational Technology
The Open University

Life-changing Learning

Drivers for change

“...providing the 100,000,000 **university places** now needed by young people in emerging economies desperate for HE. This will double by 2025...” (Diana Laurillard, Professor of Learning with Digital Technologies, University College London)

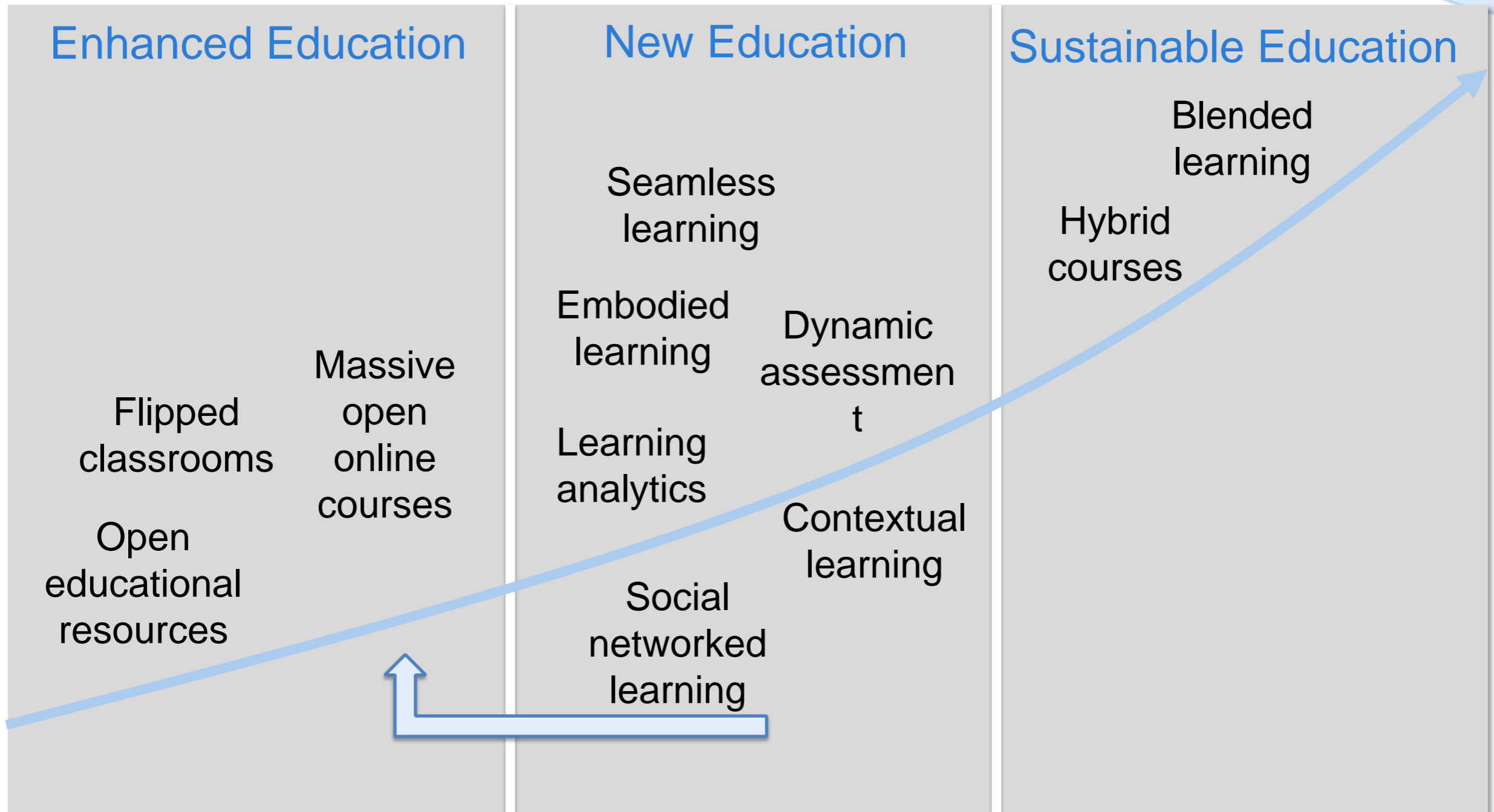
“The **demand for education** will continue to rise; we cannot afford to scale up at the current per student cost, in any sector, in any country.” (Laurillard)

“Our sectors...should consider working more closely with employers to develop and promote **all** graduates with the wherewithal and confidence to be **digital entrepreneurs**” (JISC report, Technology for Employability)

“The new **global market** in education-at-a-distance will greatly shift the educational powers”. (Marcel Bullinga, Futurist and author)

Digital technologies alone can't solve these problems

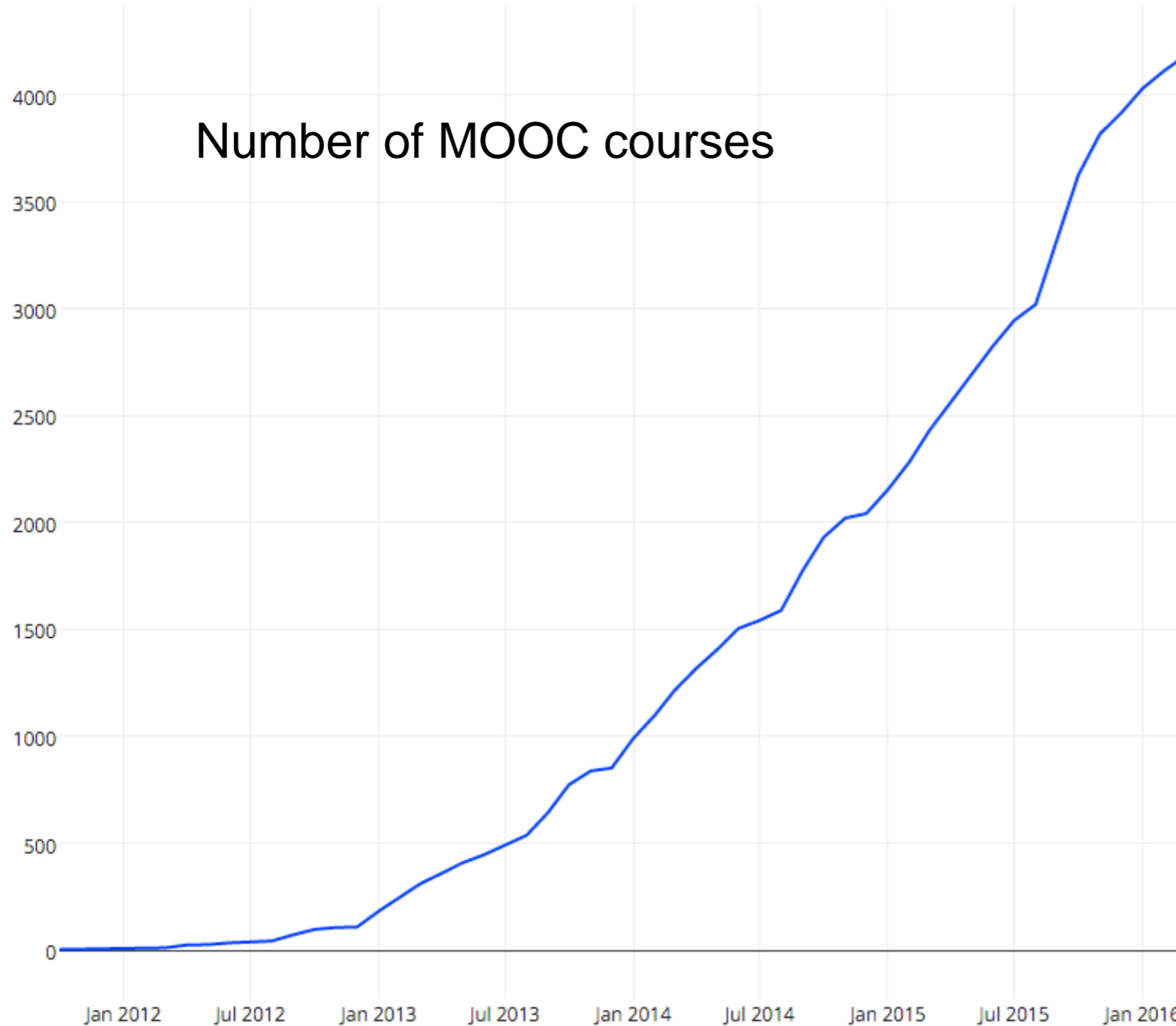
Digital development at scale



Enhanced education: MOOCs



Massive open online courses



- 35 million course enrolments worldwide
- Coursera (18 million learners)
- EdX (5 million learners)
- FutureLearn (3 million learners)
- 75% of courses in English
- MiriadaX (Spanish)
- FUN (French)

Source: ClassCentral

Enhanced education: MOOCs

Example: Understanding IELTS from British Council

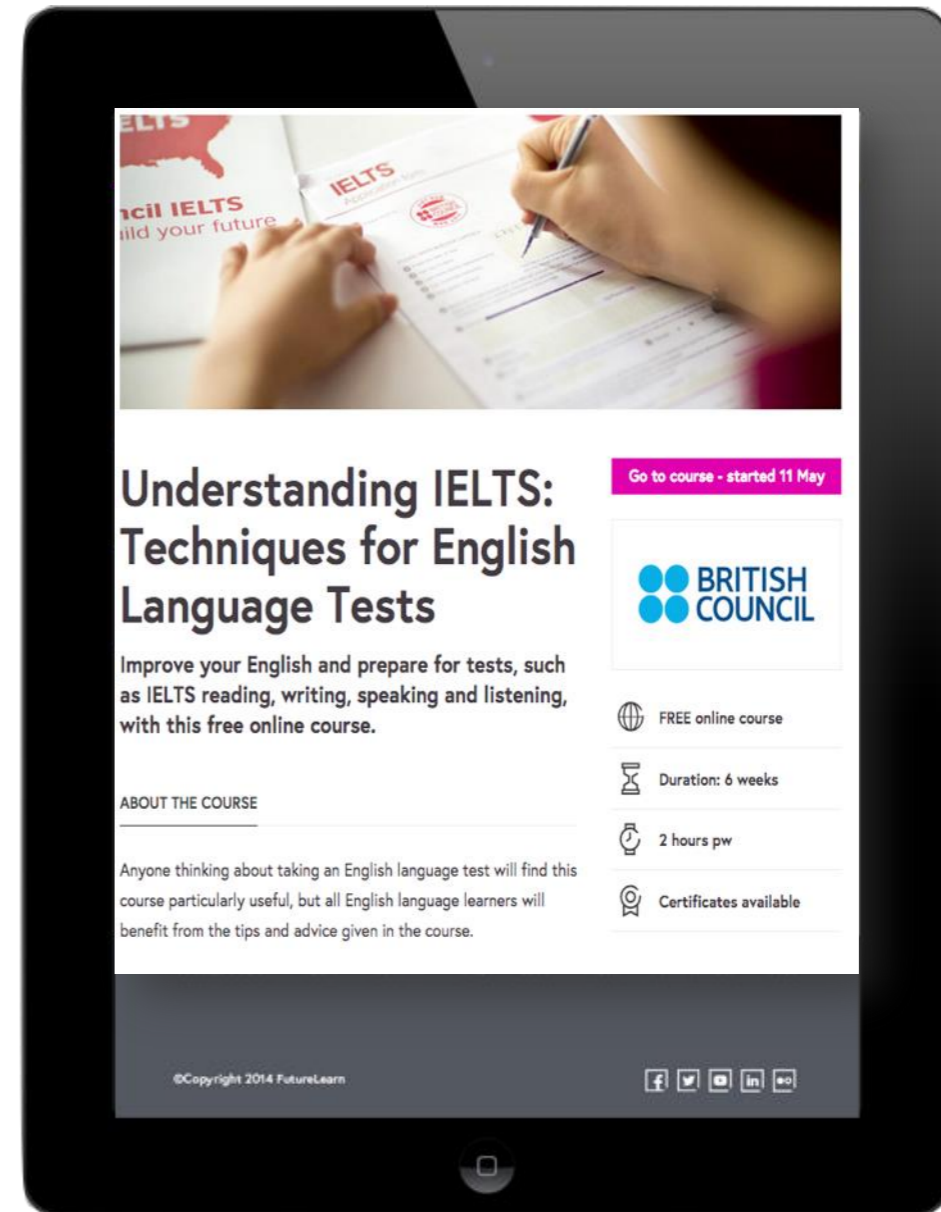
270,000 learners

From 190 countries

For many, their first time learning online

35% contributed to discussions

25% on mobile devices



Social networked MOOCs

1.2



[View transcript](#)

Download video: [standard](#) or [HD](#)

Exams and me

[+](#) 57029 comments

Meet Rob, the video tutor for this course.

In this video, Rob talks about how people feel about exams. Watch Rob and the other speakers.

Note: For all the videos on the course, you can download the transcript PDF by using the 'View transcript' link under the video player.

- Did you agree with any of the speakers in the video?
- How do exams make *you* feel?



Social networked MOOCs



1.2



[View transcript](#)

Download video: [standard](#) or [HD](#)

Exams and me

Meet Rob, the video tutor for this course.

In this video, Rob talks about how people feel about exams. Watch Rob and the other speakers.

Note: For all the videos on the course, you can download the transcript PDF by using the 'View transcript' link under the video player.

- Did you agree with any of the speakers in the video?

COMMENTS

Everyone | Following | [Most liked](#) | Your comments



Mike Sharples

Leave a comment... (plain text only, links will be auto-linked)

Post

Max 1200 chars



Tariq Abdal Qadr

The first thing I want is Rob's accent.

Like 173

[Follow](#) 11 MAY



© Chris Cavey (Lead Educator, Understanding IELTS)

Hi Tariq. You like Rob's accent?

Like 43

[Follow](#) 11 MAY



Tariq Abdal Qadr

Yes, very British.

Guys, I just created a group on facebook for those looking for another learner to practice their English, join the meetup...

<https://www.facebook.com/groups/1630061810540981/> (edited)

Like 31

[Follow](#) 11 MAY



© Chris Cavey (Lead Educator, Understanding IELTS)

:-)

Like 12

[Follow](#) 11 MAY



Aishah Alzubaydy

The British accent is my favourite as well and I've been trying to do it for nearly two years (edited)

[Follow](#) 11 MAY

Getting started with MOOCs



Education ministries:

Adopt an open source MOOC platform, e.g. Open edX, to produce free online courses

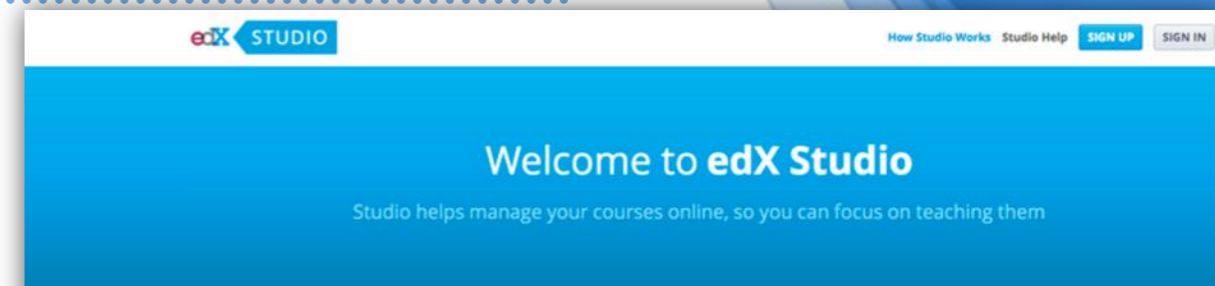
Support local software companies to develop innovative online courses – e.g. Geekie in Brazil

Institutions:

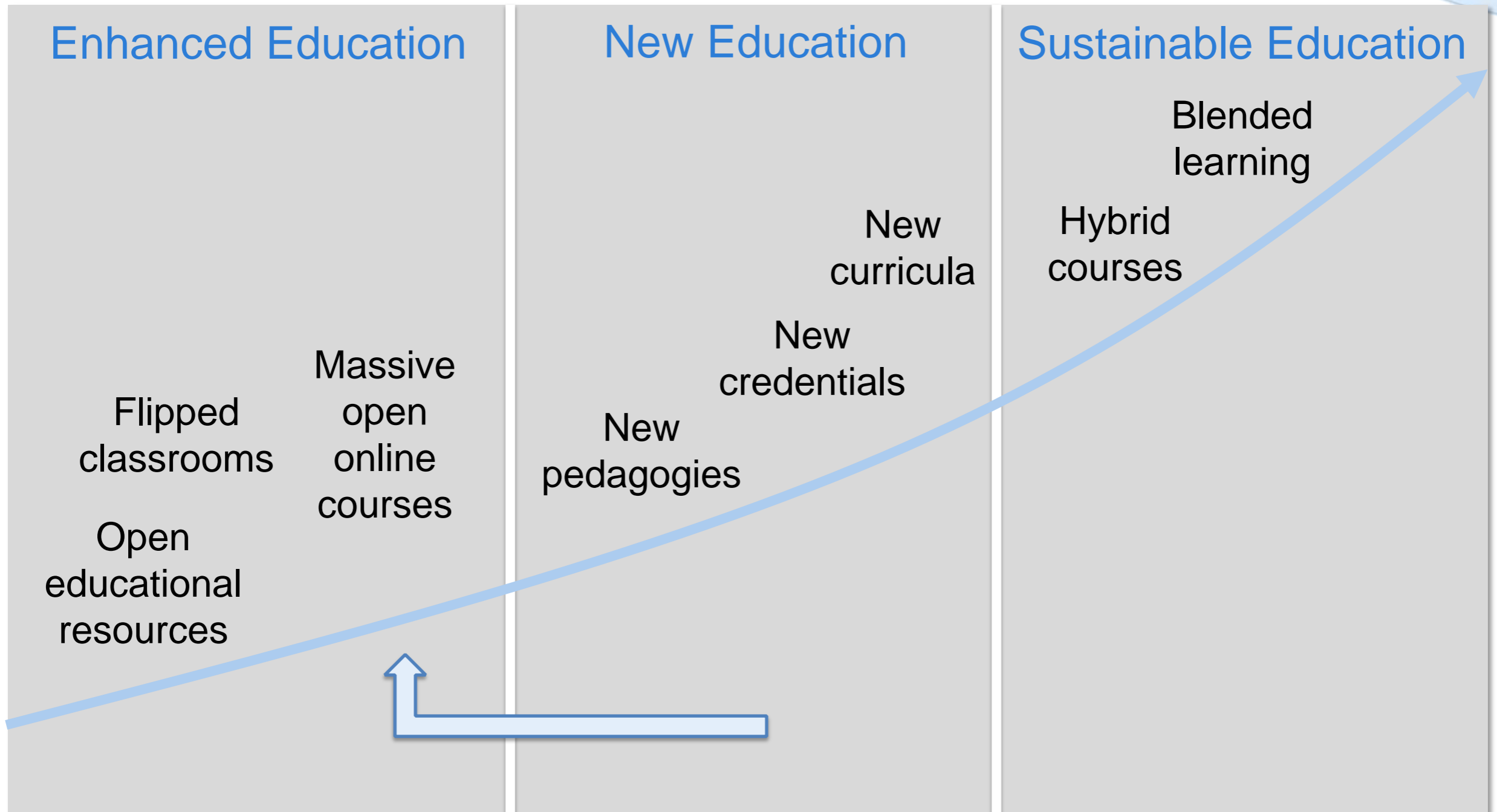
Join a MOOC provider (e.g. Coursera, edX, FutureLearn) and create open courses

Learners:

Find courses through an aggregator site such as ClassCentral (www.class-central.com)



New education



New education



New in the 1990s	New in the 2010s
E-learning	Technology-enhanced learning
Online learning	Blended learning
Virtual Learning Environments (Blackboard, WebCT)	MOOCs
Media-equipped teaching rooms	Flexible learning spaces
Desktop computer rooms	Bring Your Own Device (BYOD)
Re-usable learning objects	Open learning and student-created media
Collaborative learning	Social networked learning
Personalised learning	Adaptive learning
Evaluation of learning gains	Evaluation of learning transformations

New education

www.open.ac.uk/innovating

Annual Innovating Pedagogy report

Explores new forms of teaching, learning and assessment for a digital world

To guide teachers and policy makers in productive innovation



New education



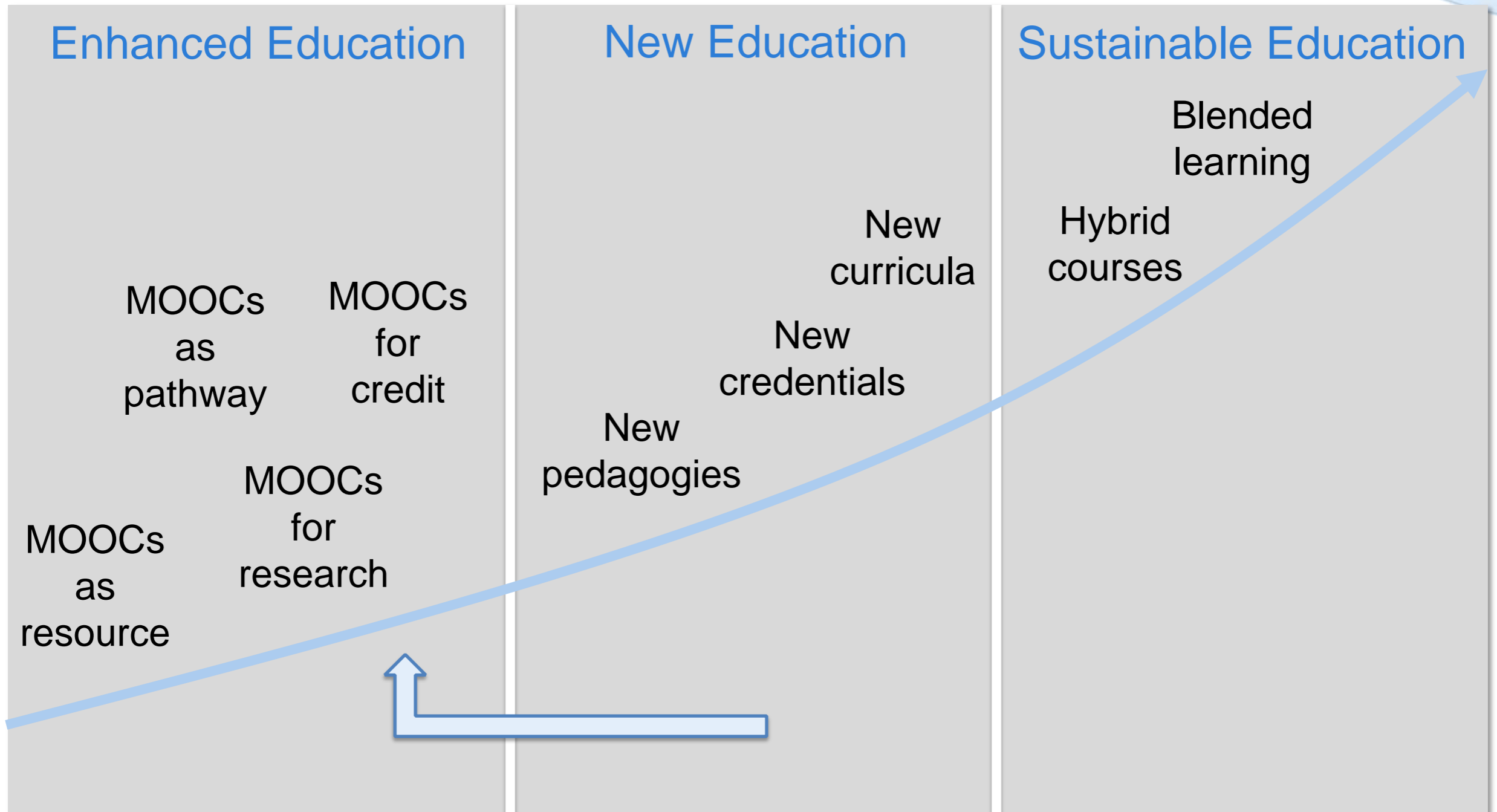
INNOVATING PEDAGOGY 2015

<p>CROSSOVER LEARNING</p> <p>LEARNING IN INFORMAL SETTINGS SUCH AS MUSEUMS OR MEETUPS</p>	<p>LEARNING THROUGH ARGUMENTATION</p> <p>LEARNING BY ESTABLISHING AND REFUTING CLAIMS</p>	<p>INCIDENTAL LEARNING</p> <p>UNINTENTIONAL LEARNING THAT CONTRIBUTES TO LONGER TERM LEARNING PATHS</p>	<p>CONTEXT-BASED LEARNING</p> <p>LEARNING FROM EXPERIENCE BY INTERPRETING NEW INFORMATION BY RELATING IT TO WHAT WE ALREADY KNOW</p>	<p>COMPUTATIONAL THINKING</p> <p>LEARNING THAT BREAKS LARGE PROBLEMS DOWN INTO SMALLER ONES</p>
<p>LEARNING BY DOING</p> <p>LEARNING WITH AUTHENTIC TOOLS AND PRACTICES</p>	<p>EMBODIED LEARNING</p> <p>LEARNING THAT INVOLVES SELF-AWARENESS OF THE BODY INTERACTING WITH THE REAL OR SIMULATED WORLD</p>	<p>ADAPTIVE TEACHING</p> <p>USES DATA ABOUT A SPECIFIC LEARNER'S PREVIOUS LEARNING TO CREATE PERSONALIZED PATH</p>	<p>ANALYTICS OF EMOTIONS</p> <p>UNDERSTANDING STUDENT MINDSETS IN COGNITIVE AND NON-COGNITIVE ASPECTS, INCLUDING FRUSTRATIONS, DISTRACTIONS, EVEN EYE TRACKING</p>	<p>STEALTH ASSESSMENT</p> <p>AUTOMATIC DATA COLLECTION IN WHICH ACTIONS ARE CONTINUALLY COLLECTED TO THEN PRESENT NEW, APPROPRIATE CHALLENGES</p>

SHARPLES, M., ADAMS, A., ALDZE, N., FERGLISON, R., FITZGERALD, E., GAVED, M., MCANDREW, P., MEANS, B., REMOLD, J., RIENTIES, B., ROSCHELLE, J., VOGT, K., WHITELOCK, D. & YARNALL, L. (2015). INNOVATING PEDAGOGY 2015. OPEN UNIVERSITY INNOVATION REPORT 4. MILTON KEYNES: THE OPEN UNIVERSITY.



Sustainable education



Sustainable education



Hybrid courses

Learners take an open MOOC course linked to a degree program

New alliance of 6 universities from Australia, Europe, US, Canada to accredit MOOCs

Pay a fee to take an exam and get course credit

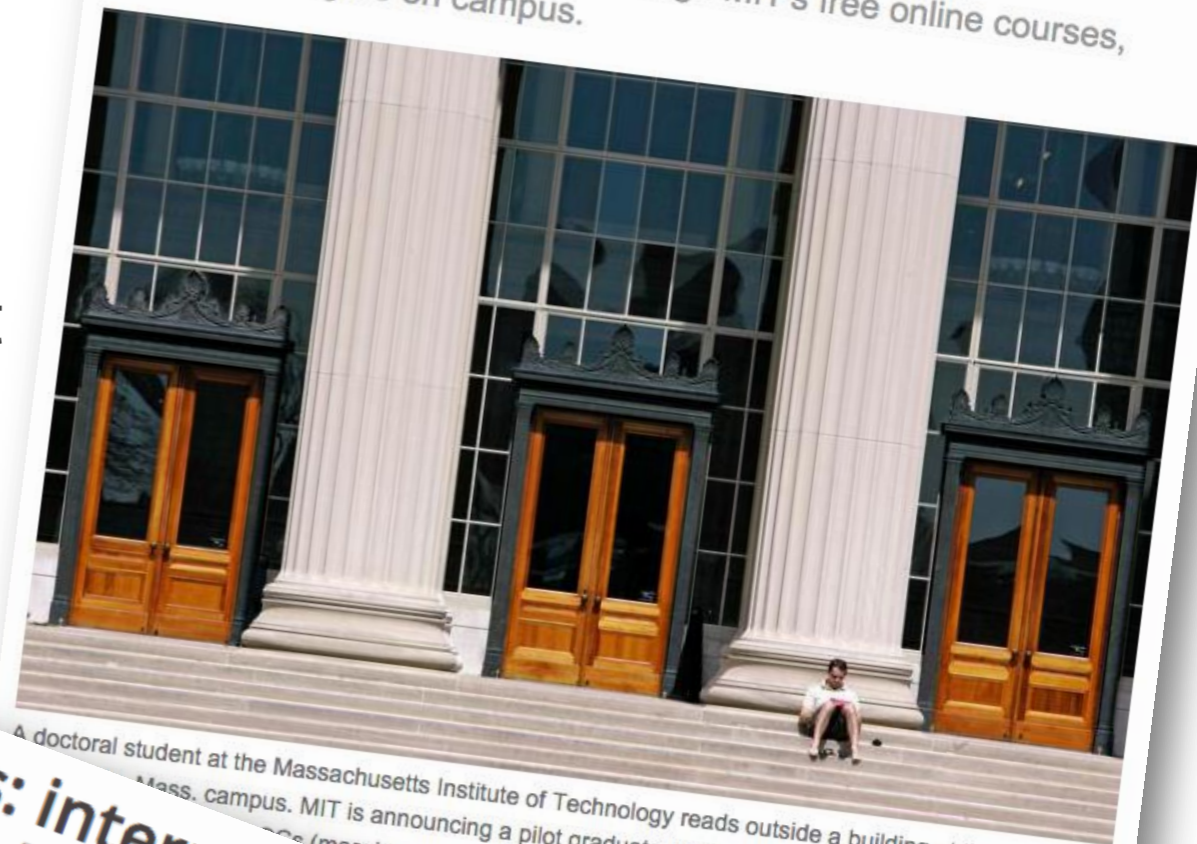
Courses at much lower cost than standard university tuition fee

Pay for additional services such as online tutoring

Progress onto a campus or online degree course

MIT Makes Big Change to Free Online Classes

Students can soon earn credit through MIT's free online courses, finish grad degree on campus.



Mooocs: international credit transfer system edges closer

Six universities in talks on global credit transfer system for online courses

Sustainable education

Blended learning



THE UNIVERSITY of EDINBURGH

Schools & departments

Search

Moray House School

Graduate School

Blended learning

The following courses are taught only through blended learning, which means that some sessions are face-to-face on campus and others are online. The online elements involve collaborative discussion groups, online lectures and tasks you do by yourself or with other students remotely. The blended nature of the courses means that there is a wide mix of students on them: teachers who are studying part-time while working and full-time campus-based students.

- Education for All
- Collaborative Working in Children's Services
- Specific Learning Difficulties: Dyslexia
- Specific Learning Difficulties: Co-occurring Difficulties

New landscape for education

- Hybrid courses
- Blended learning
- Connecting formal and informal education
- Social networked learning
- Adaptive learning technologies
- Learning analytics
- Global marketplace



Drivers for change

“...providing the 100,000,000 university places
MOOCs, hybrid courses, blended learning

“promote **all** graduates ... to be digital entrepreneurs”

Social networked learning

“The new global market in education-at-a-distance will greatly shift the educational powers”.

Learning analytics, adaptive learning

