Expanding the 'teacher function': speculative work on automation in teaching

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Near Future Teaching
Distance Learning at Scale (DLAS)
MSc in Digital Education
Centre for Research in Digital Education
Digital Education with Cara (Syrian refugee academics)
UKRI GCRF Urban Disaster Risk Hub
Digital Education in Nigeria, Tanzania, Uganda
Digital Education in Nepal
Digital Education in Lebanon
UN Habitat
The World Bank
GSMA
USAID
DfID
Gates Foundation
British Council
BBC Media Action
GIZ
Mastercard Foundation
MOOCs
Course Design
Emerging technologies
Digital pedagogy
Children and technology
Datafication
Open education
SDGs
Mobilities
ICT4D

https://www.de.ed.ac.uk/  https://www.ed.ac.uk/information-services/about/organisation/learning-teaching-web
MSc in Digital Education

World-class Masters programme that will challenge your thinking about education and technological change

Delivered fully online
Although this is a distance-learning course, you won’t be alone: you will have the opportunity to work closely with your fellow students and tutors in a properly supported, collaborative and vibrant online learning environment.

Critical and practical
The MSc in Digital Education gives professionals in higher and further education and training and development the practical skills and critical insight they need in this fast-moving and richly diverse field.

Research-based teaching
The MSc programme is delivered by experienced teachers who are also active researchers in the field. Our programme is linked to the work of the Centre for Research in Digital Education.
Automation

● the technique of making a (teaching) process operate automatically
● valuing an expanded teacher presence
● exploring how human and non-human teachers might work together in a teaching ‘assemblage’
Teacher Function

- “assemblage of teacher-student-code that might be pedagogically generative” (p. 465).
- teacher function= a combination of ‘living teacher presence’ working in tandem with ‘an assemblage of code, algorithm and teacher–student agency’ (p. 461).
If somebody has some experience it is easy to find a suitable course. One can either search by subject language etc. For users with less experience possibilities is challenging.

There are many courses offered by universities that allow students to obtain a certificate against additional payment. The general criticism that MOOCs are not effective is that additional privileges are only accessible after receiving a paid certificate.
Expanding the Teacher Function

- 2019-2020
- Research revolves around the 'teacher function' from Bayne 2015
- Many events with students and staff
- Supplementary data collection
- Generating use cases
- Categorising and analysing what this tells us about teaching
- Prototyping
- Testing
- Piloting
Expanding the Teacher Function

The future shouldn’t be designed by FB and Cambridge Analytica.

The University of Edinburgh will determine what it wants for itself.

This is teacher and student-led R&D.
Why is this work necessary?

* some of the imaginaries of edtech in HE are grim (depending on how you feel about teachers)
In five years, the classroom will learn you.

The classroom of the future will learn about individual students over the course of their education and help them master the skills critical to meeting their goals.

Today, nearly 2 in 3 adults worldwide haven’t achieved the equivalent of a high school education.

The classroom will create a syllabus based on individual learning style and pace, not on an arbitrary teaching schedule.

This system will level the playing field by ensuring that barriers to education become less of a factor for success.

"In five years, the classroom will learn about each individual student, and provide a tailored curriculum from kindergarten through high school and toward employment."

Dr. Katherine Frase
CTO Education, IBM

A system fueled by sophisticated analytics over the cloud will help teachers identify students who are most at risk, predict their roadblocks and then suggest measures to help them overcome their challenges.
FOCUS EDU

Real-time Feedback

Focus EDU provides a portal for teachers to receive real-time classroom attention feedback. Teachers can easily reflect on their teaching methods and content to achieve further improvements in class performance.

Ben Williamson @BenPatrickWill 1d
With the OECD and all the major global policy influencers pushing social-emotional learning as the solution to workforce automation, expect massive growth in next few years in student emotion detection research funding & commercialization of student affects.
Intelligent campus

So how could it work?

Students enter their lectures as normal and take their seats with no need to sign in, scan ID cards or provide fingerprints. Once settled, a camera records the audience and forwards the image to a face recognition system. Individuals faces are recognised and matched with the student image held on the student records system. All students identified are recorded as present at the lecture. The camera records the audience several times during the session ensuring that the students attend the full lecture. Following the lecture the attendance record is then used to provide reports to the Home Office and the Student Loans Company as required. Also the attendance data is used to help build a picture of the students engagement and wellbeing along with course work submissions, recorded logins to university systems and a range of other data.

Ben Williamson @BenPatrickWill · Feb 28
Interesting glimpse into the work that's going on to promote #edtech in UK - quite a mix of government, business, research, funding, & social impact strategy, ie an edtech policy network in the making
Will AI replace university lecturers? Not if we make it clear why humans matter.

Cash-strapped universities might be tempted by AI tutors, but they cannot reproduce human creativity or insight.
https://www.wired.co.uk/article/china-social-credit-system-explained
UNHCR and Zain Wallet use IrisGuard biometrics for refugee aid disbursement

Aug 23, 2019 | Chris Burt

Emerging ID Technology Helps Refugees, at a Cost to Privacy

DHS and UNHCR are Sharing Biometric Data of Refugees

Posted on August 23, 2019.

The US Department of Homeland Security (DHS) has been discreetly gathering the biometric information of tens of thousands of refugees, many of whom may never make it to America. According to a recent Privacy Impact Assessment, the information is being collected through a sharing arrangement with the United Nations High Commissioner for Refugees (UNHCR), which sends profiles to federal agencies when referring refugees for resettlement.

The profiles include biographic information like name and date of birth, in addition to fingerprint and iris data. These profiles...
Alternative imaginaries: building the future
Co-designing a values-based future for digital education at The University of Edinburgh.
Where does this sit in our near future?

'Critically evaluate and build capacity for high quality automated assessment and feedback appropriate to disciplines, as a way of augmenting and supporting human assessment.'

https://www.nearfutureteaching.ed.ac.uk/
'Automation need not impoverish education: we welcome our new robot colleagues.'
My Favourite Things
- #Staycation

*After* expelling every
toilet in the house, we
saw realising my Favourite
thing. We assembled the
of my Favourite
Things from The Bead of
Pleasure, which is as
the words do, as is. I
love singing a song
the words, as is. I
often enjoy making my
own words for songs. I
love enjoying it to
the specific practical use
from the word you can
make up your song to an
existing melody. Even though.

Tweet my Cloud Bot @TwitCloudBot

This bot sends a very small amount of your Tweets to
your email inbox. It’s like having Twitter on your
phone, but not. It’s great for keeping track of what’s
happening in your world.

Deep Question Bot
@deepquestionbot

I have used this in the past, but
I find it a bit of a chore. I think
I might start using it again,
but I’m not sure.

In my Cloud
Dee Kavaleh

I think this is a great idea,
and I’m thinking of using it
next time I’m in the
cloud.

In the Cloud
@cloudbot

I have used this in the past,
but I think it’s a bit of a
chore. I might start using it
again, but I’m not sure.

Guest Posts

This text is very long.

@guestpost

I like to imagine topics
and stories in my mind,
diagrams, charts, and
equations.

Audio Charts
@audiocharts

I like to imagine stories
and scenes in my mind,
diagrams, charts, and
equations.

Every Color Bot
@everycolorbot

I really like this bot that
counts down the days.
It looks at the new color at the end.
Good Morning Caitlin, let's get ready for your day.

14 March 2018
Wednesday

all day
7 am
8 am
9 am
10 am
11 am
Noon

BL219: Marine Invertebrates
Building M, Room 427
Mobile Teacher Training: Onboarding and Orientation

**Flow Chart**

1. **Send Message**
   Welcome to the teacher training course. Could I begin by asking a series of simple questions. What is your name?

2. **Send Message**
   Thank you. Have you ever taught before? This is included. Looking at informal teaching. Please answer yes or no.

3. **Wait for Response**
   Yes, No, Other

4. **Send Message**
   I'm sorry but I am unable to answer that question. Please answer yes or no or type text if you want to speak to someone direct.

5. **Wait for Response**
   Children, Teenagers, Adults, or Older

6. **Send Message**
   Excellent. We will now place you in a group with fellow students who want to teach your sign preferences. Then your instructor will chat with you.

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https://textit.in/
http://www.teacherbot.ed.ac.uk/
Expanding the Teacher Function

• The practices and pedagogies emerging in engagements with emerging technologies are poorly understood or in a state of ‘not-yetness’ (Collier and Ross 2017).

• ‘Working with the not-yetness of digital education means engaging with complexity, uncertainty and risk, not as factors to be minimised or resolved, but as necessary dimensions of technologies and practices which are unknown and in flux’ (Ross 2017: 214)

Expanding the Teacher Function

Teacher Function
1. Scope/scale/space
2. 'Proper' teaching
3. 'Contact time'

Teaching Sequences
1. Rethinking practice with or without automation
2. Redefining contact
Typology

- The Broader University Space
- Feedback
- Module 2: Contact Time
- Support
- Transcational Distance
- Campus
- Cohort
- Community
- Assessment
- equip
Evaluation Criteria

1. Expanding the teacher function: pedagogically generative
2. Expanding the research function: research generative
3. Expressions of university values*
4. Potential impact on the student and teaching experience
5. Ethical
6. Professionalising

Remix of Adam Diston: Cutting a Sunbeam (1886)
Experience over assessment

Learning should not be over-assessed and instrumentalised.

Teaching should share a focus on employability and success with an understanding of the value of rich experience, creativity, curiosity and – sometimes – failure.
Diversity and justice

Education should design-in meaningful diversity and real inclusion across all areas of activity.

All near future teaching should further social responsibility and global justice.
Relationships first

 Relationships, dialogues and personal exchanges between students and staff build understanding in a way that is not possible via transmissive forms of teaching.

 Teaching should be designed to provide the time and space for proper relationships and meaningful human exchange.
Participation and flexibility

The University community should cooperatively shape how – and what – it learns and teaches.

Flexibility for individuals, fluency across disciplines and cooperative responsibility for curricula should shape near future teaching.
Expanding the Teacher Function

- Transitions
- Instruction
- Freshers
- Support
- Demystifying the university
- Fieldwork
- Diversifying research
- Tutorials
- Dissertation modularity
- Cohorts, Campus, Community
- Development
- Mentoring
Summing up

1. Teaching is...
2. Contact time
3. Diversity/diversifying
4. Time and temporal orders
5. Peripheral participation
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