Please use the chat to introduce yourselves

Only the host and speaker camera/microphone will be on during this session

We look forward to starting shortly

#DEseminars

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The teacher function and automation: findings from a bot project

Dr Michael Gallagher, Dr Markus Breines, Myles Blaney
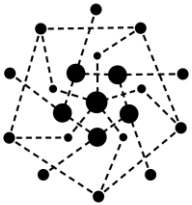Centre for Research in Digital Education & Information Services Group

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Current state

Adoption in service and wider support space

- Admission Bots (Admithub, Gecko Engage adopted by various US institutions)
- Campus Assistants (Beacon Bot @ University of Staffordshire, Genie @ Deakin University)

Ambiguity in the teaching space

- Duolingo: practice conversations
- Bolton College: Ask Ada
- F'x: teach people about AI bias
- Georgia Teach: Jill Watson
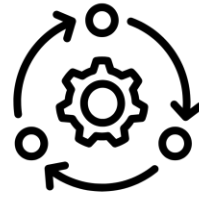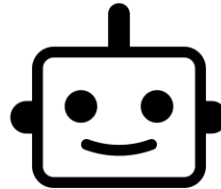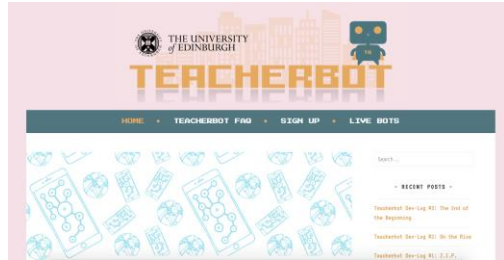
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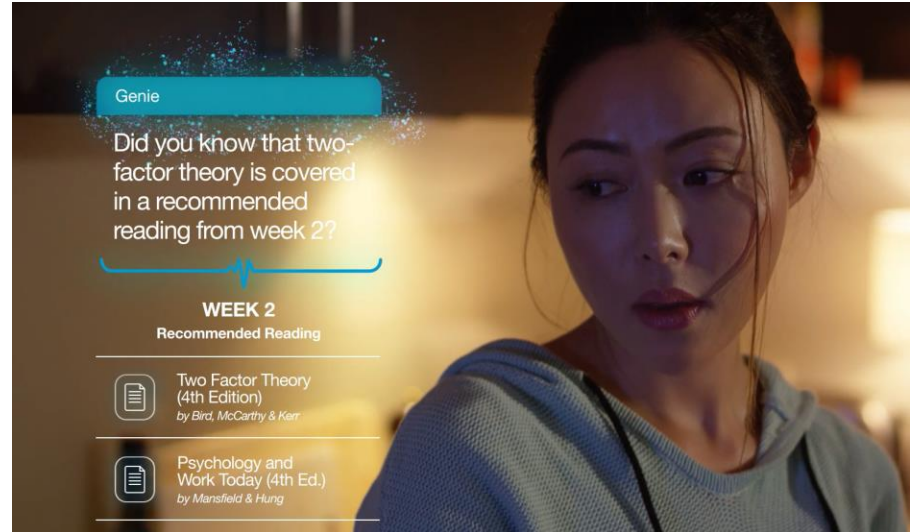
Defining terms

- Automation, AI, bots
- We started from bots but merged into automation
- Why we haven't touched on AI overall
- Why we have touched on specific aspects on AI (natural language processing)
- Delivery method *might* be a bot

Where does this sit in existing work?

Teacherbot
(2015)

"teacher function: assemblage of teacher-student-code that might be pedagogically generative"

Manifesto for Teaching Online
(2011-)

'Automation need not impoverish education: we welcome our new robot colleagues.'

Manifesto for teaching online 2016 ✳ Online can be the privileged mode. Distance is a positive principle, not a deficit. ✳ Place is differently, not less, important online. ✳ Text has been troubled: many modes matter in representing academic knowledge. ✳ We should attend to the materialities of digital education. The social isn't the whole story. ✳ Openness is neither neutral nor natural: it creates and depends on closures. ✳ Can we stop talking about digital natives? ✳ Digital education reshapes its subjects. The possibility of the 'online version' is overstated. ✳ There are many ways to get it right online. 'Best practice' neglects context. ✳ Distance is temporal, affective, political: not simply spatial. ✳ Aesthetics matter: interface design shapes learning. ✳ Massiveness is more than learning at scale: it also brings complexity and diversity. ✳ Online teaching need not be complicit with the instrumentalisation of education. ✳ A digital assignment can live on. It can be iterative, public, risky, and multi-voiced. ✳ Remixing digital content redefines authorship. ✳ Contact works in multiple ways. Face-time is over-valued. ✳ Online teaching should not be downgraded into 'facilitation'. ✳ Assessment is an act of interpretation, not just measurement. ✳ Algorithms and analytics re-code education: pay attention! A routine of plagiarism detection structures-in distrust. ✳ Online courses are prone to cultures of surveillance Visibility is a pedagogical and ethical issue. ✳ Automation need not impoverish education: we welcome our new robot colleagues. ✳ Don't succumb to campus envy: we are the campus. ✳ Written by teachers and researchers in Digital Education. University of Edinburgh - www.de.ed.ac.uk
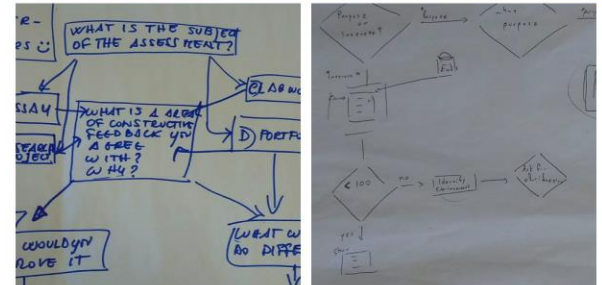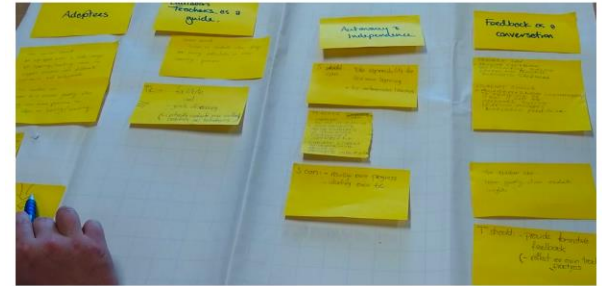

Near Future Teaching
(2017-2019)

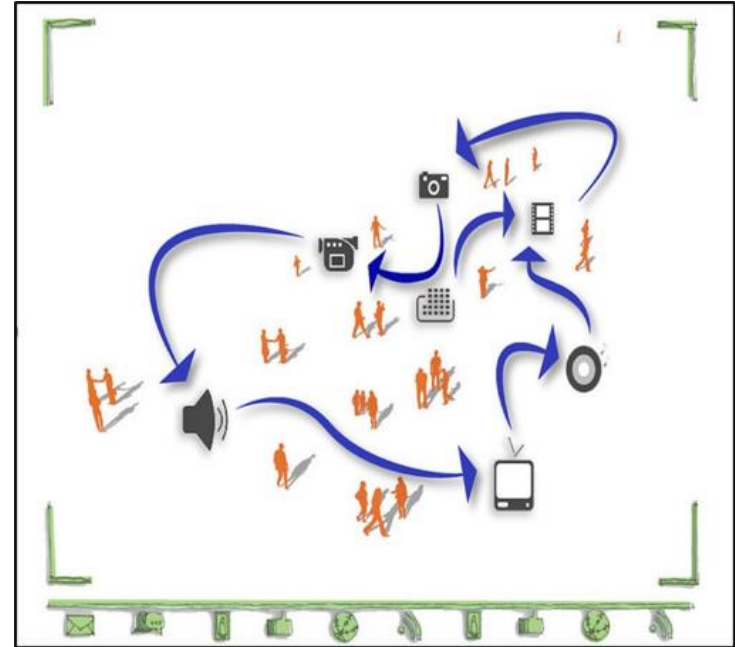# Expanding the Teacher Function

(2019-)

- Participatory approaches
- Events with students and staff
- Supplementary data collection
- Surfacing what this tells us about teaching, pedagogy, institutional values
- Generating use cases
- Evaluating
- Prototyping
- Piloting

Approach

- University of Edinburgh will (or can) determine what it wants for itself.
- Participatory student and teacher-led research and development
- Consultation vs. Community engagement
- Meaningful use of this involves community buy-in

Evaluation Criteria

1. Expanding the teacher function: pedagogically generative
2. Expanding the research function
3. Expressions of university values*
4. Potential (positive) impact on the student and teaching experience
5. Ethical
6. Reinforcing teacher as critical and creative practitioner
7. Technologically feasible
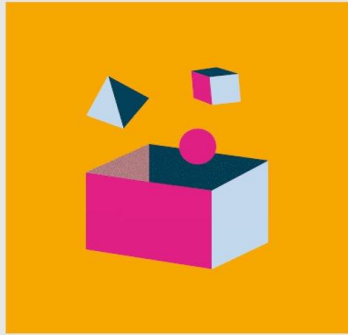
Experience over assessment

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.
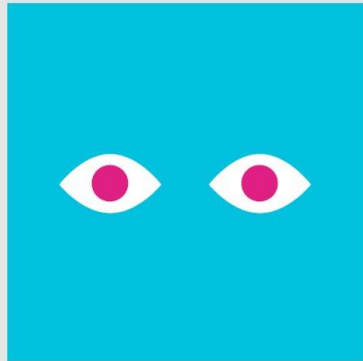

Participation and flexibility

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.

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.

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.

Findings

1. We thought we were finding bot things, but we found other things: mobilities
2. Use cases
3. Narratives of teaching
4. Critical pedagogy

Key finding #1: use cases

Breines, M. R., & Gallagher, M. (2020). A return to Teacherbot: rethinking the development of educational technology at the University of Edinburgh. *Teaching in Higher Education*, 1-15.

Four use cases

1. Onboarding bot (expanding teacher function)

2. Grouping bot (scaling)

3. Initiating collaboration bot (creative)

4. Tutorial bot (scaling)

Photo by Dan-Cristian Pădureţ

Key finding #2: narratives of teaching

Gallagher, M., & Breines, M. (2020). Surfacing knowledge mobilities in higher education: reconfiguring the teacher function through automation. *Learning, Media and Technology*, 1-13.

Reconfiguring teaching practice

'perceived opportunities being posed by automation expressed largely in terms of **discretion** (separating components of the teacher function), **liberation** (freeing teachers to do more 'human' tasks), **visibility** (what impact this discretion and liberation might have on visibility) and **transparency** (the need to surface the discrete elements of the teacher function, whether human or automated).'

Design, Diversity, and Horizontalism

'...indicate is largely a tension between algorithmic automation and a position of the teacher function as a high-value low-volume engagement with **diversity**, a "radiating out" of horizontalism, rather than a vertical scaling-up (Escobar, 2019) of existing educational provision aligned to global performance indicators.'

Key (meta) finding #3: critical pedagogy

Gallagher, M.; Breines, M. & Blaney, M. (2020). Transparency, (in)visibility, and hidden curricula: surfacing critical pedagogy through contentious edtech. *Postdigital Science and Education*.

1: Transforming High-Volume Low-Impact Activity to High-Impact Low-Volume Teaching Practice

2: Humans Are Humans and Bots Are Bots and Why It Is Alright to Be Invisible
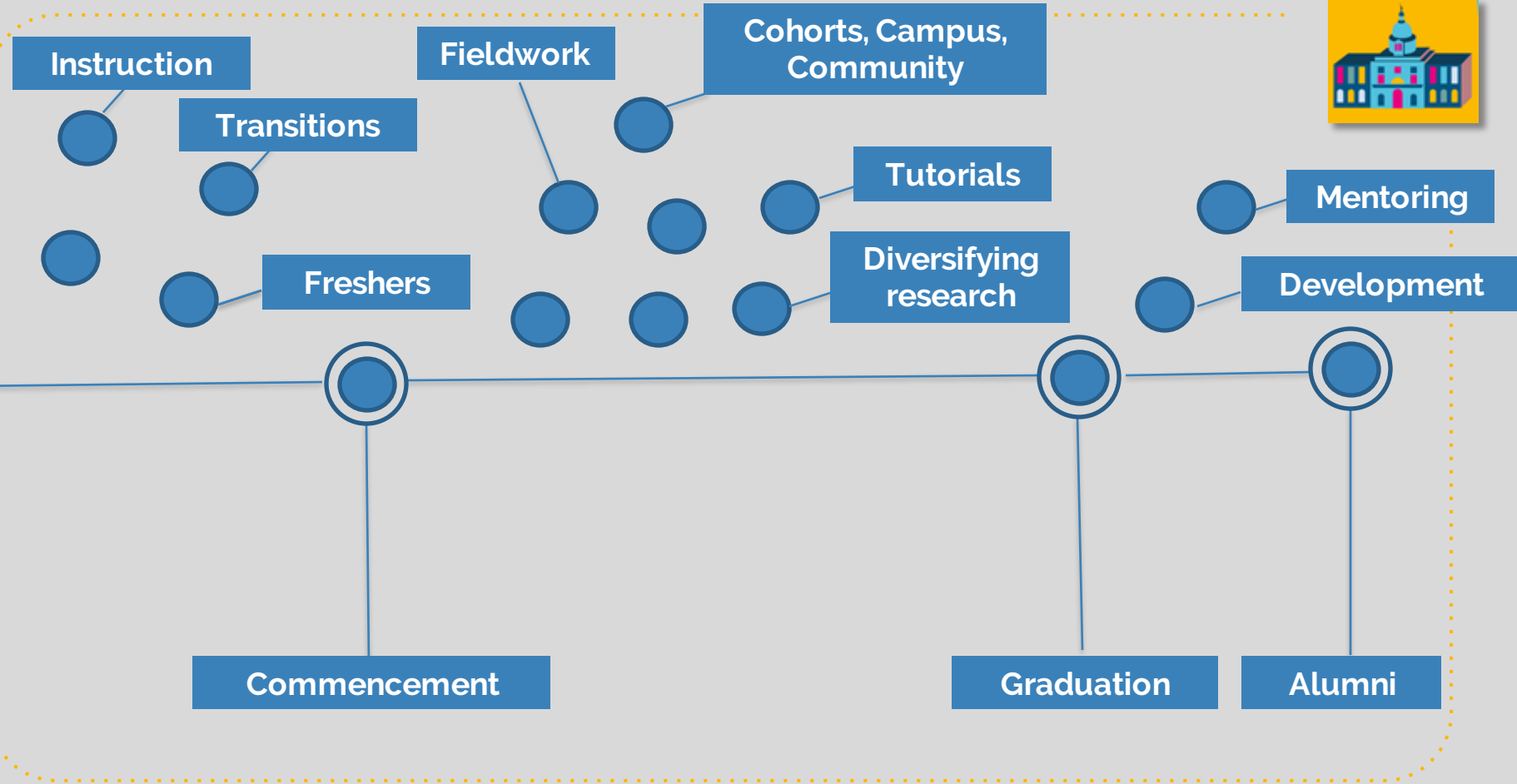
3: Hidden curriculum and transformative practice

"The Invisible Man." by Chaotic Good01

Discussion

1. Student journey and teaching spaces
2. Next steps
3. Conclusion

Instruction

Transitions

Fieldwork

Cohorts, Campus, Community

Tutorials

Mentoring

Freshers

Diversifying research

Development
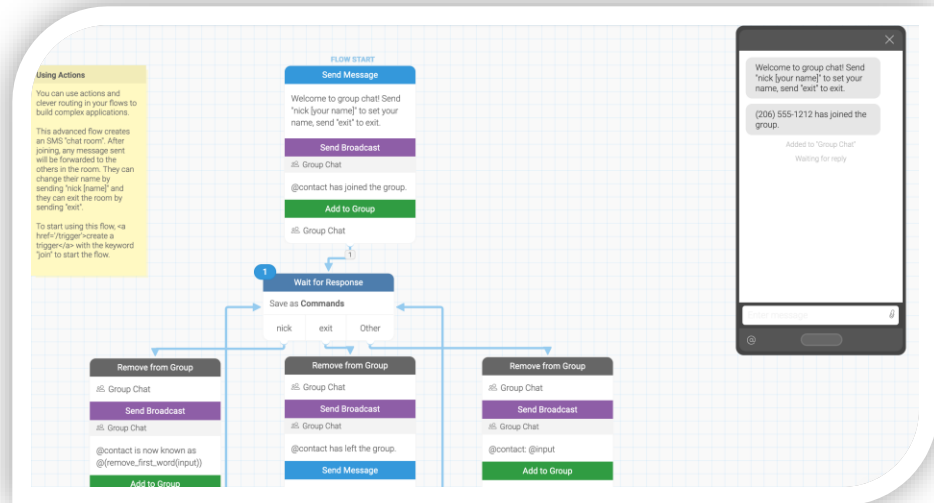
Commencement

Graduation

Alumni

Next steps

- Covid has shifted this landscape a bit: highlighting a gap
- Suggesting more need(?)
- Prototyping, testing, academic sponsorship, piloting
- Can we extend this approach more broadly?

Conclusion

- More ideas, many granular, most bespoke

- We need continuous engagement with community to continue to understand aspirations here. Are these cases still valid?

- Do we have ideas that can help or do we need to develop new forms of automation now in response?

#5 Fieldwork group interface (expanding teacher function)
#6 Fieldwork conversation bot (scaling)
#7 Diversifying knowledge (expanding thinking)

Outputs

Gallagher, M., & Breines, M. (2020). Surfacing knowledge mobilities in higher education: reconfiguring the teacher function through automation. *Learning, Media and Technology*, 1-13.

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