

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

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Centre for Research in Digital Education & Learning, Teaching, and Web

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

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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.



<http://bit.ly/edteacher>



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'
- AI vs. automation





Teacher Function

- “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).
- Bayne, S. (2015). Teacherbot: interventions in automated teaching. *Teaching in Higher Education*, 20(4), 455-467.



Google Scholar

Alerts

Alerts for Gallagher.MichaelSean@gmail.com

Terry Anderson - new articles	Show up to 10 results	CANCEL
Sally Matthews - new articles	Show up to 10 results	CANCEL
author:Niall author:Winters - new results	Show up to 10 results	CANCEL
Andreas Hepp - new articles	Show up to 10 results	CANCEL
intitle:"digital education" - new results	Show up to 20 results	CANCEL
postdevelopment theory technology - new results	Show up to 10 results	CANCEL
allintitle: critical mobilities - new results		
James Ash - new articles		
Jeremy Knox - new articles		
"Larissa Hjorth" - new results		
Manuel Gámez Guadix - new articles		

if this then that

Feedly > Google Spreadsheet

By dougatba

Disconnected

If new article tagged Thurs3_4, then add row to spreadsheet in gallagher.michaelsean@gmail.com's Google Drive

By mseangallagher

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If new article tagged Wed1_2, then add row to spreadsheet in gallagher.michaelsean@gmail.com's Google Drive

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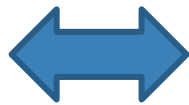
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Archive Favorite Tweets

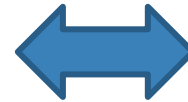
By joeyfeith

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if this then that





If somebody has some experience it is easy to follow a suitable course. One can either search by topic, language etc.. For users with less experience the possibilities are challenging.



There are many courses offered by universities without additional payment. The general criticism that MOOCs are not free and additional privileges are only accessible after payment. Hodgkinson- Williams and Trotter describe maldistribution.





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





Why is this work necessary?

* some of the imaginaries of edtech in HE are grim (depending on how you feel about teachers)

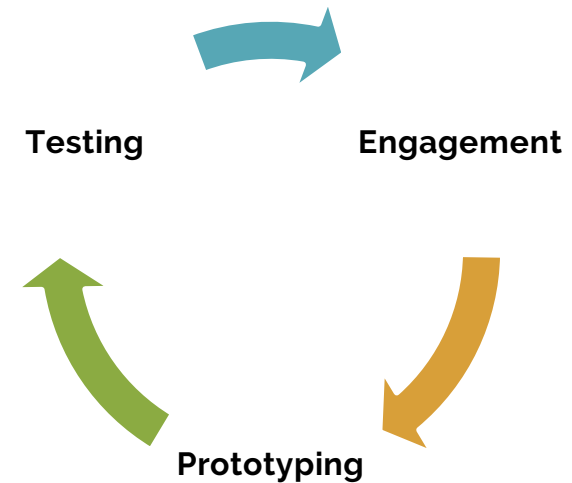


Expanding the Teacher Function

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.





In five years, the classroom will learn you.

TODAY, NEARLY
2 IN 3 ADULTS
WORLDWIDE HAVEN'T
ACHIEVED THE
EQUIVALENT OF
A HIGH SCHOOL
EDUCATION.



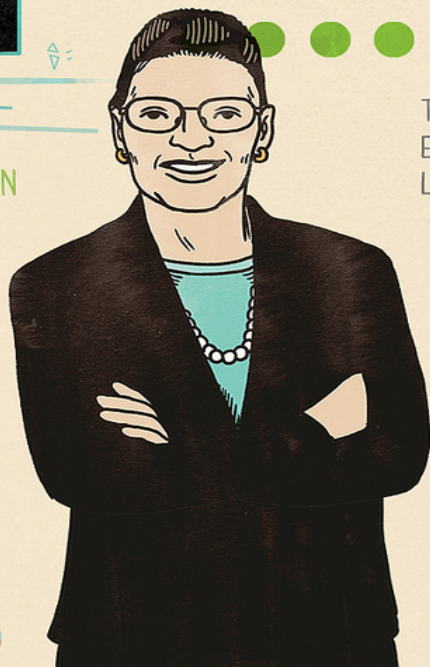
THE CLASSROOM WILL CREATE
A SYLLABUS BASED ON INDIVIDUAL
LEARNING STYLE AND PACE,
NOT ON AN ARBITRARY TEACHING
SCHEDULE.



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.



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 KATHARINE 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.



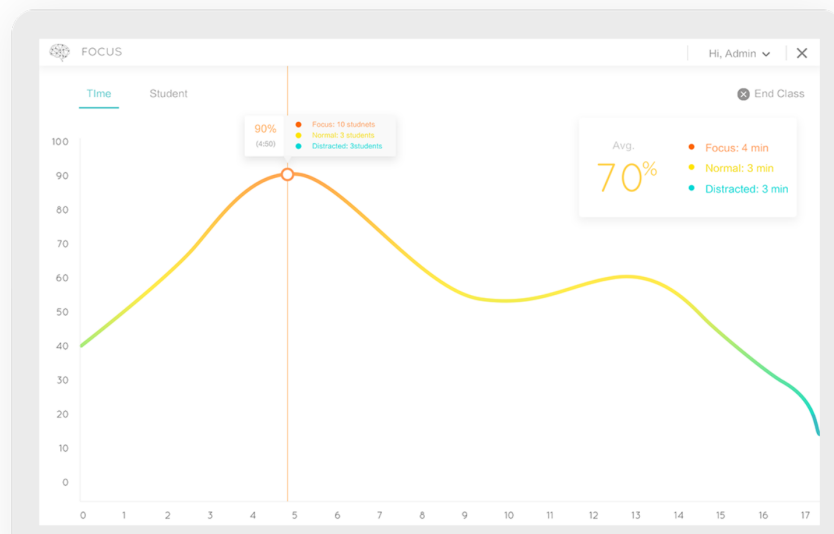


HOME PRODUCTS ABOUT

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](#)

CATEGORIES [Biometrics News](#) | [Financial Services](#) | [ID for All](#) | [Iris / Eye Recognition](#)

Iris biometric technology from [IrisGuard](#) is being used to provide identity verification for refugees in Iraq under a partnership between mobile wallet Zain Cash and the United Nations High Commission on Refugees (UNHCR).

Zain Cash is an Iraq-based mobile wallet, and subsidiary of regional telecom Zain Group, and will provide money transfer, electronic bill payment, and funds disbursement in Iraq with the new EyePay Cash platform, developed in partnership with IrisGuard. Iris



Emerging ID Technology Helps Refugees, at a Cost to Privacy

DHS and UNHCR are Sharing Biometric Data of Refugees

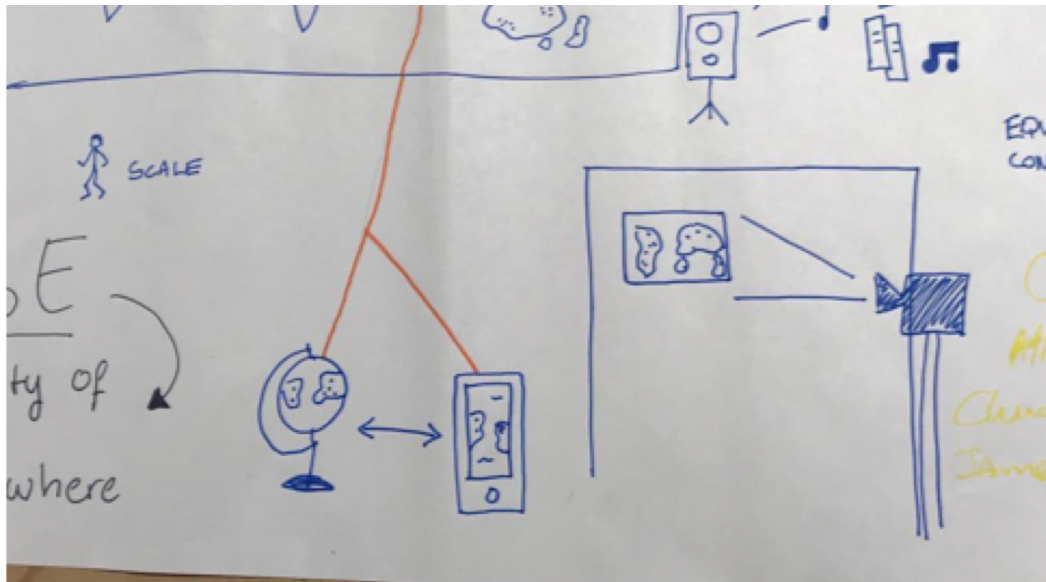
Posted on August 23, 2019

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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 face, fingerprint, and iris data. These profiles





**Alternative imaginaries:
building the future**

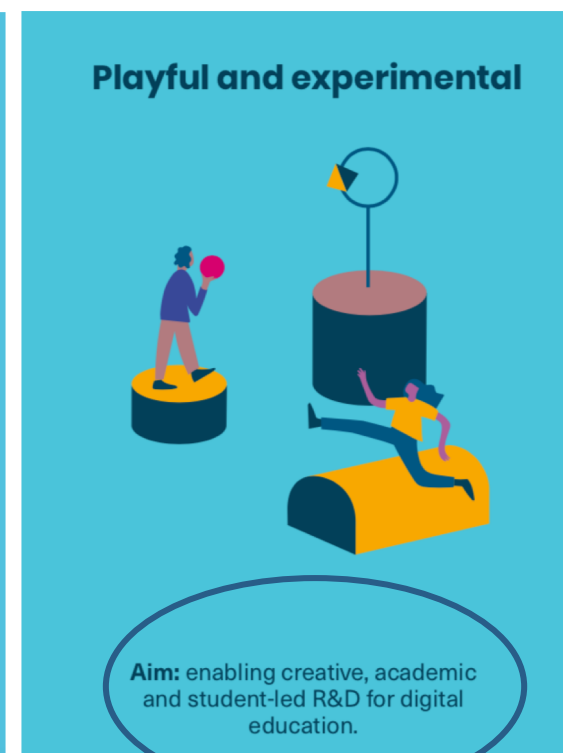


Co-designing a values-based future for digital education at The University of Edinburgh.



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.'





Manifesto for Teaching Online (2016)

'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





padlet

Michael + 14 @ 4h

IDEL 2019: Technology and the Teacher

Expanding the Teacher Function

My Favourite Things bot @FavThingsBot

After exploring many different Twitterbots, this still remains my favourite. This bot assembles text in more or less the correct rhythm and rhyme to create lyrics which fit with the tune of My Favourite Things from The Sound of Music. I particularly like it as the words do scan and I love singing along using the Twitterbot's words as I often enjoy making up my own words for songs. 🎵

I'm not convinced it has any specific practical use apart from demonstrating how you can make up new lyrics to an existing melody. Fun though!

Jane

My bot of the week: @tinycarebot

This bot sends you reminders every hour for self care. Some are very cute, and it did make me look away from the screen every now and then and I even found myself getting up from my desk for a glass of water after it's reminder. :)

Joy Christensen

Tweet my Cloud Bot @TwitCloudBot

This bot creates a word cloud of all your most commonly tweeted words! My cloud really was an eye opener when I looked at the Bigger words reflected more on the aspects that didn't really made me unique from my own perspective but I guess not the perspective of the Bots. Try it out!

Here is my cloud

Dima Kandalaft

Deep Question Bot @deepquestionbot

Having trawled through the web to see what interesting bots that were out there I saw this one and kept coming back to it, for no other reason other than I found it amusing. Really asking those deep rooted questions like 'why must a newspaper be rolled?' and 'Why must a chowder be a soup? Is a bisque a soup as well?' Despite 'not being on the Twitter' myself, I did find it quite amusing looking through these. It does waste a lot of time instead of studying!!!

Marcello

Bot in the Woods @botinthewoods

@congressedits used to be my favorite, it showed anonymous Wikipedia edits that are made from IP addresses in the US Congress. It has been suspended... no comment.

To get over my anger on that, I like @botinthewoods. It generates animated GIFs of strolls through a forest.

Auto Charts (@autocharts)

I like to imagine topics and issues in mind maps, diagrams, charts and other graphic

@year_progress

The time flies they say. Interestingly, on Tweeter there's a bot whose aim is to remind you about it. @year_progress generates a progress bar for the year ahead. Thus, it demonstrates its followers the percentage of time they've sort of used this year. For some it looks like a call to action, for some an annoying reminder, the rest simply ignore this bit of data in the chaos of

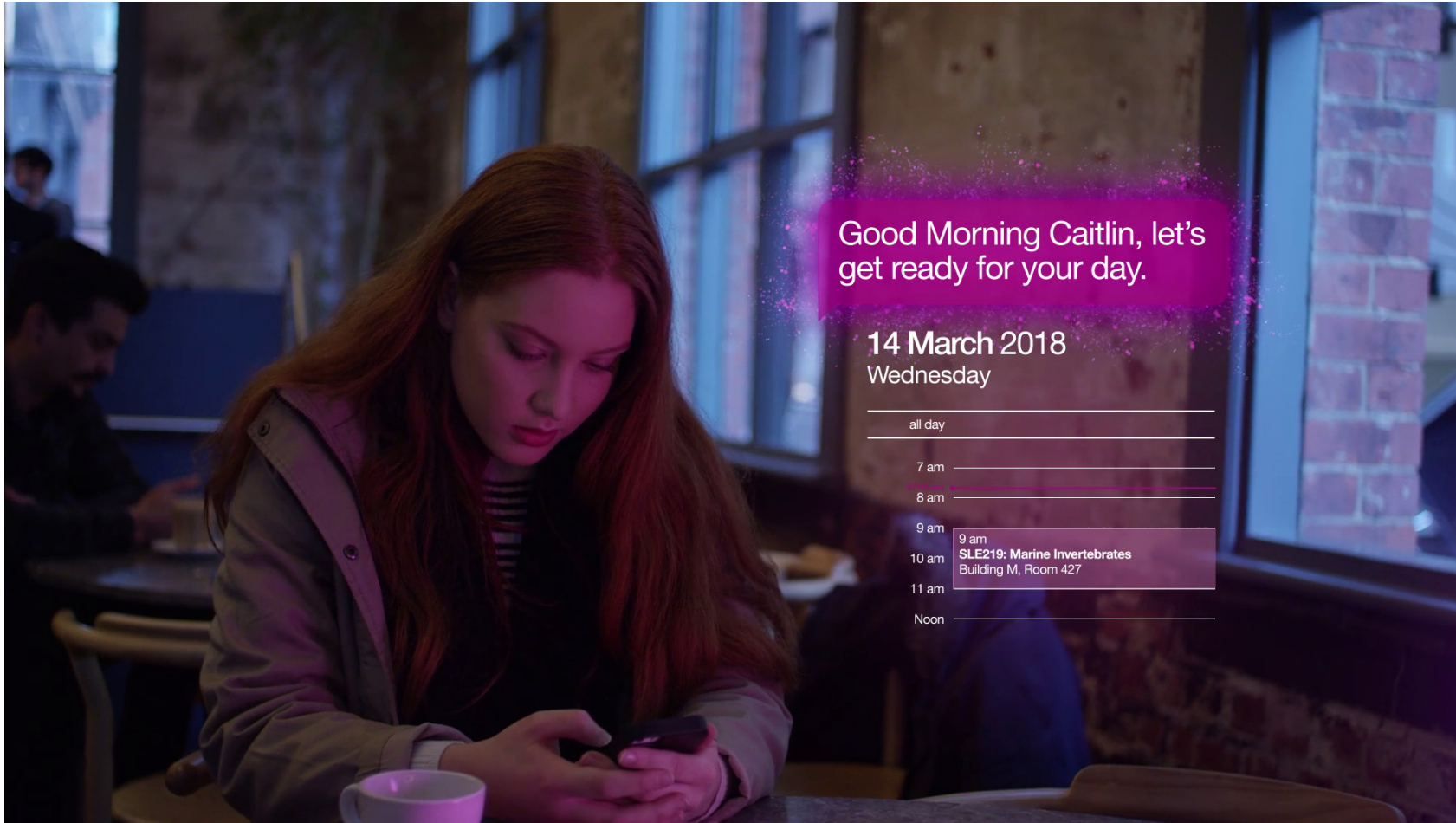
@TinyCareBot

I'm with Joy on Tiny Care Bot. We are exposed to so much information on a daily basis. Any new

Every Color Bot @everycolorbot

Just a really nice bot that tweets every colour. It looks at the hex code in the last





Good Morning Caitlin, let's
get ready for your day.

14 March 2018
Wednesday

all day

7 am

8 am

9 am

10 am

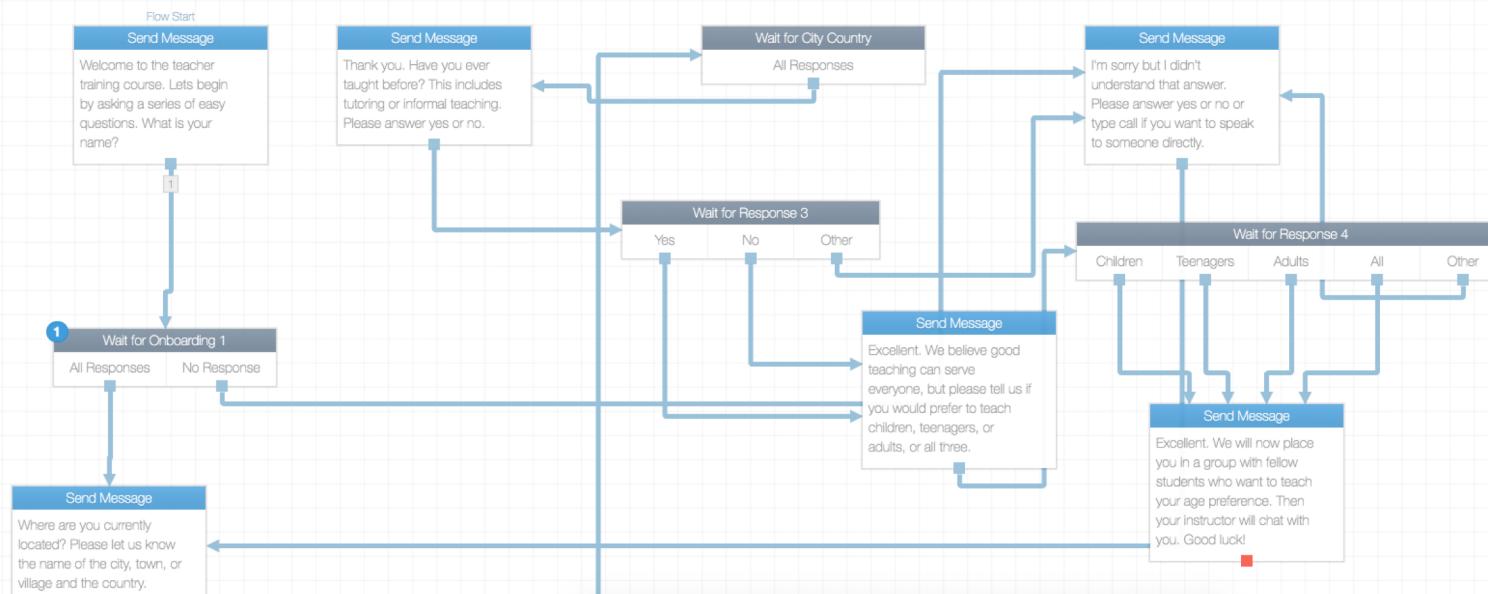
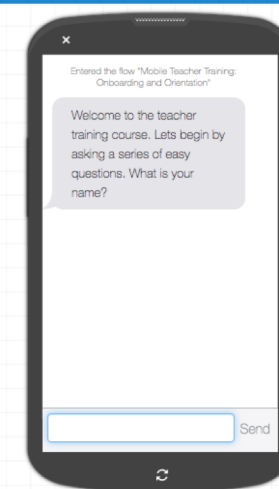
11 am

Noon

9 am
SLE219: Marine Invertebrates
Building M, Room 427

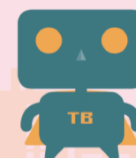


Mobile Teacher Training: Onboarding and Orientation





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TEACHERBOT

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[LIVE BOTS](#)



- RECENT POSTS -

[Teacherbot Dev-Log #3: The End of the Beginning](#)

[Teacherbot Dev-Log #2: On the Rise](#)

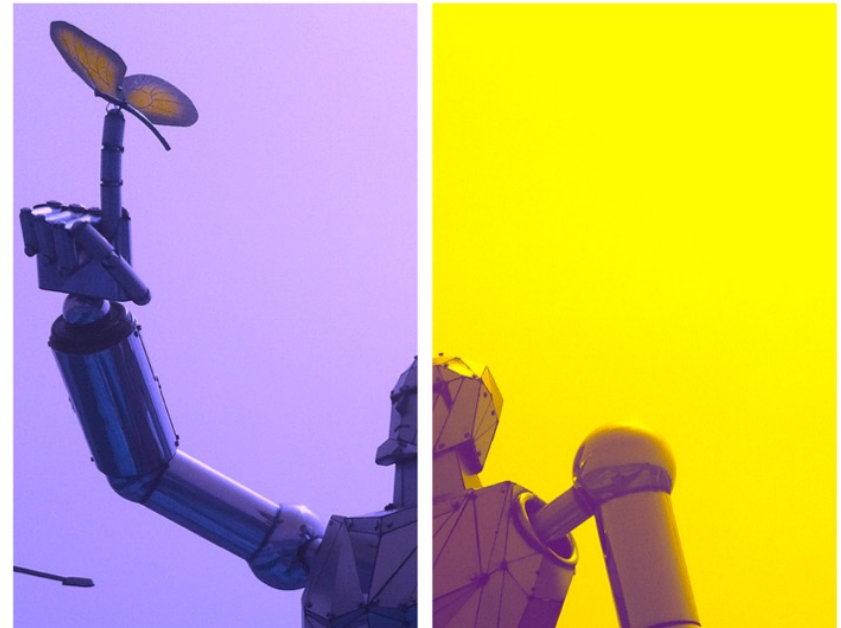
[Teacherbot Dev-Log #1: Z.I.P.](#)

<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)



Ross, J. (2017). Speculative method in digital education research. *Learning, Media and Technology*, 42(2), 214-229.

Expanding the Teacher Function

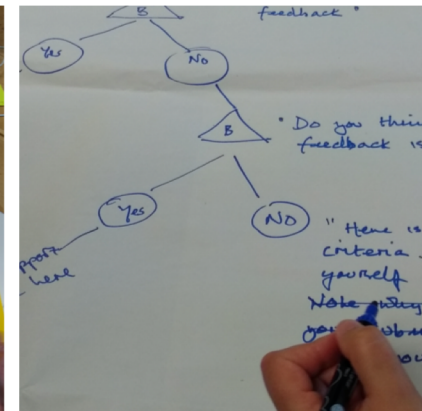
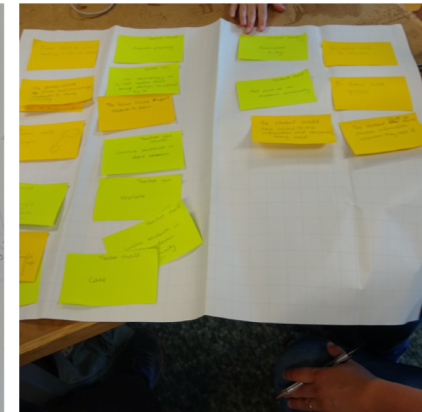
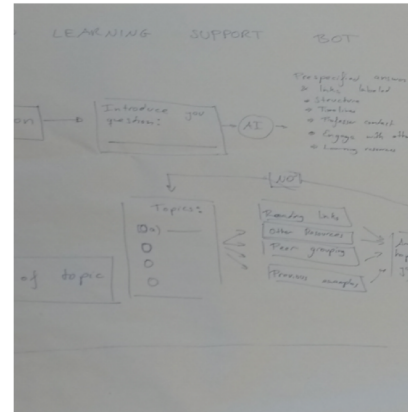


Teacher Function

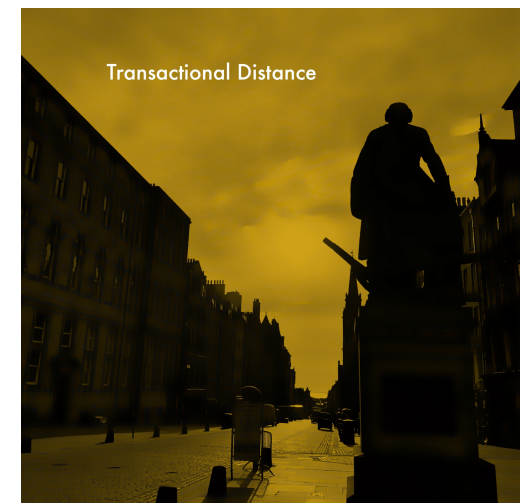
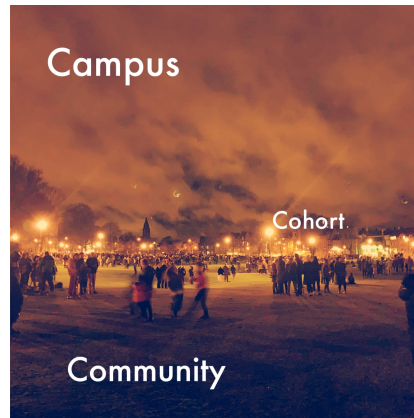
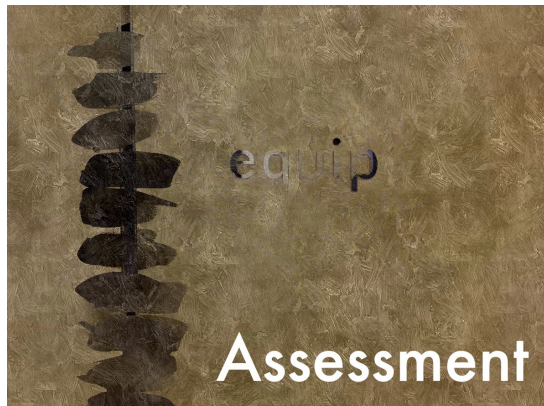
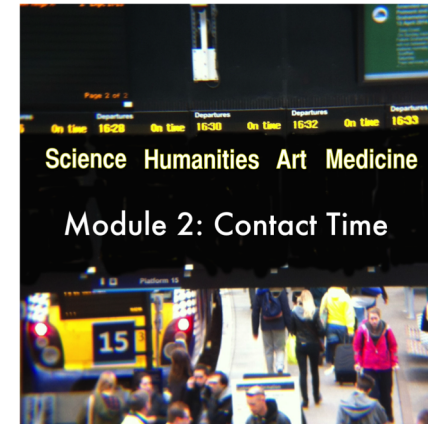
1. Scope/scale/space
2. 'Proper' teaching
3. 'Contact time'

Teaching Sequences

1. Rethinking practice with or without automation
2. Redefining contact



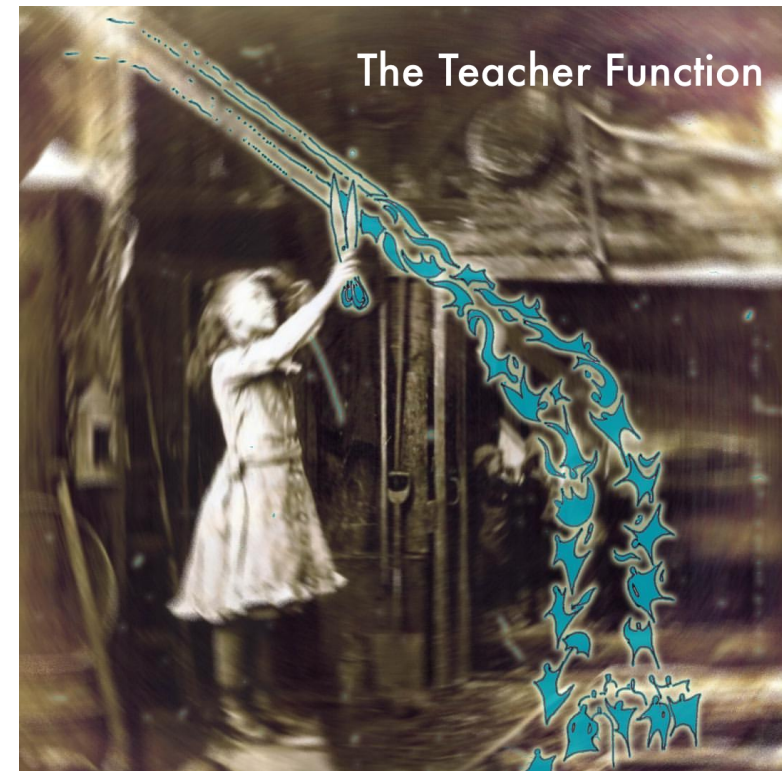
Typology



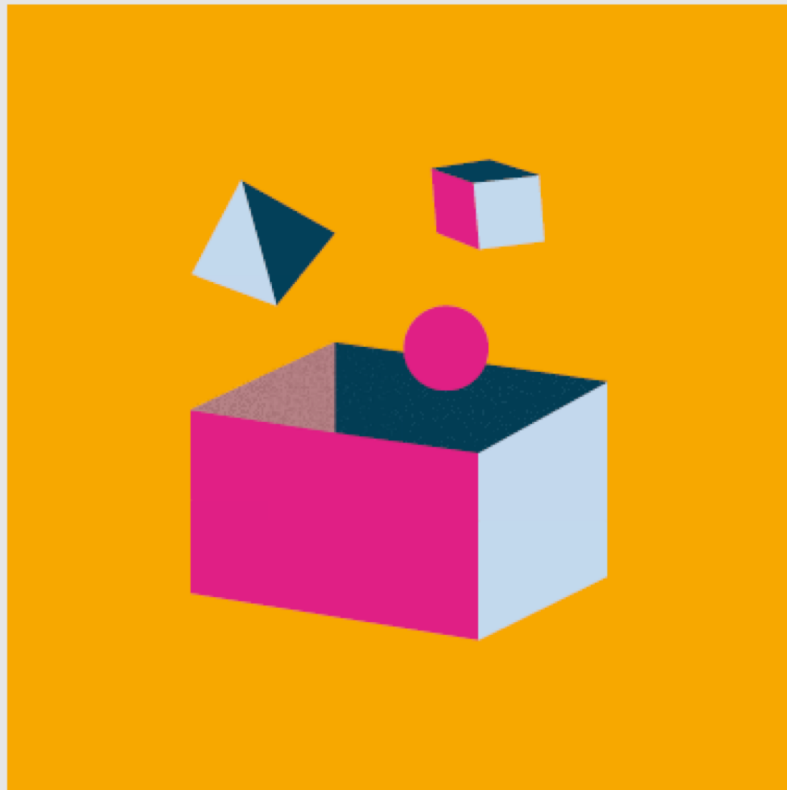


Evaluation Criteria

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.

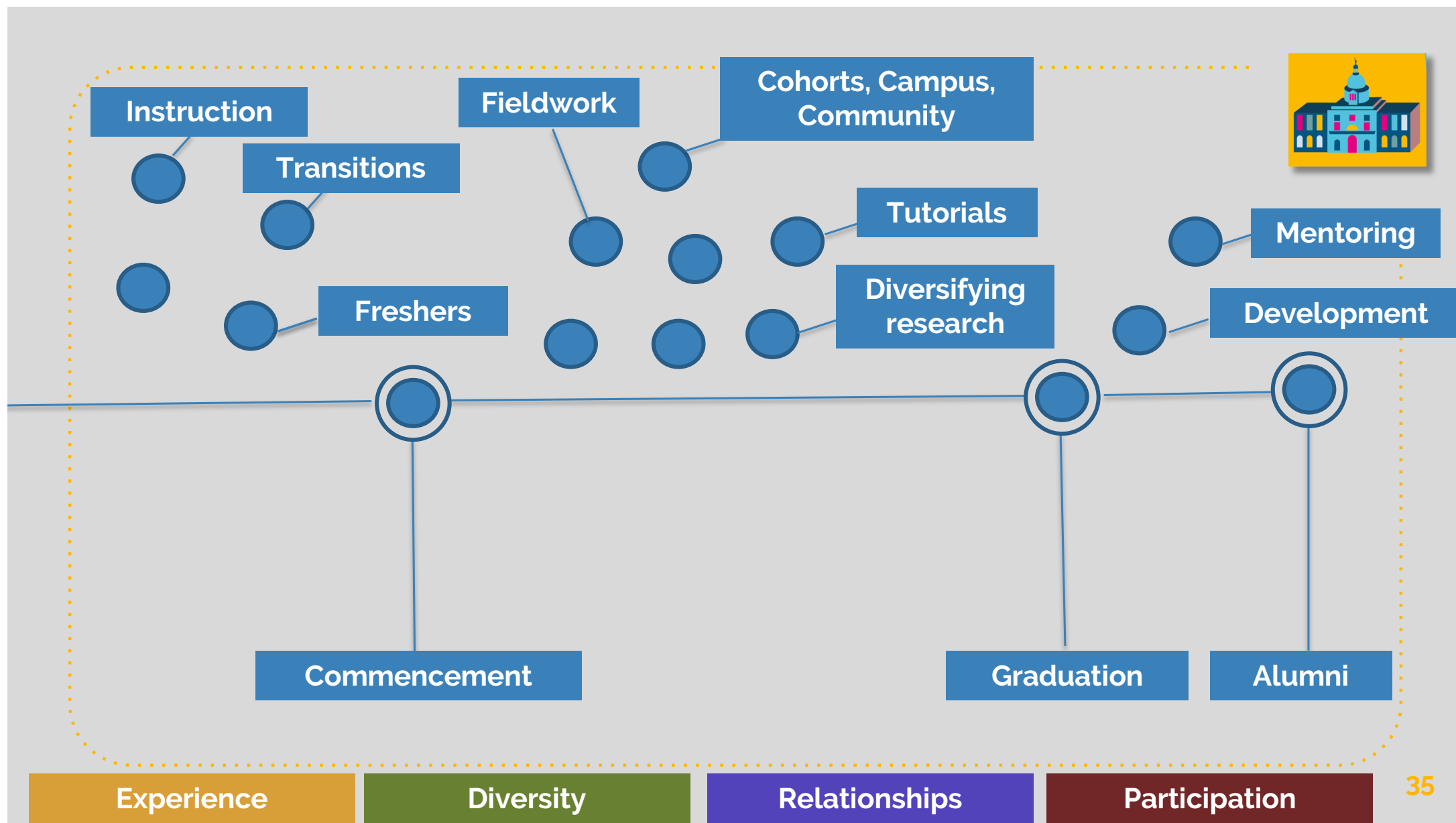
Teaching should be designed to provide the time and space for proper relationships and meaningful human exchange.



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	Fieldwork	Cohorts, Campus, Community
Instruction	Diversifying research	Development
Freshers	Tutorials	Mentoring
Support	Dissertation modularity	?
Demystifying the university	?	
?		

Experience

Diversity

Relationships

Participation



<http://bit.ly/edteacher>

Summing up



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

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