

**Using tablets and other
technology in research-
inspired teaching**

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University of Bath

02/03/16

Outline

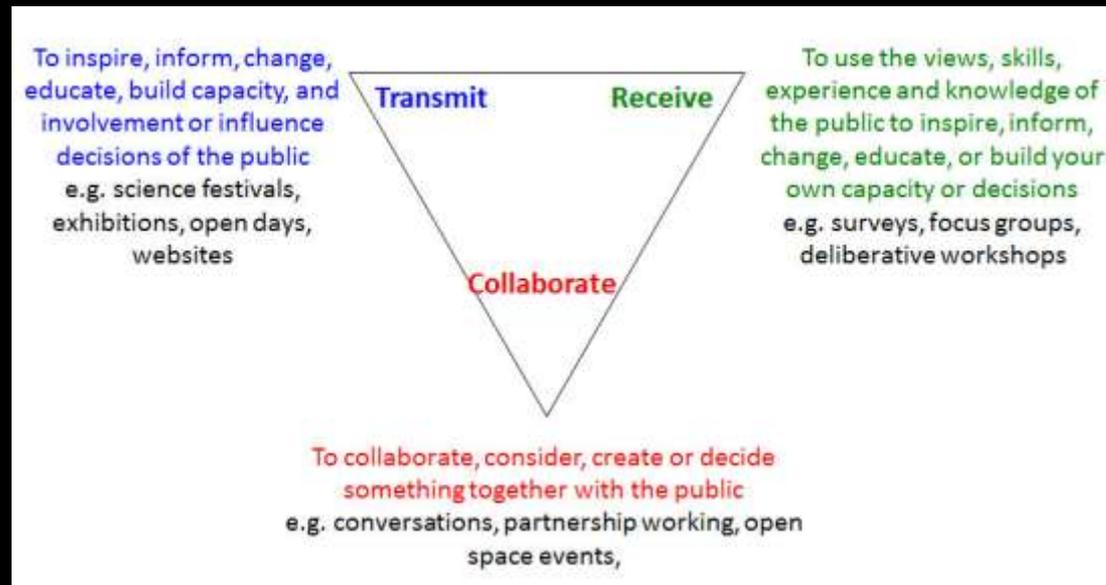
- Public engagement
- Research-inspired teaching
- Flipping the problem class
- Lecturing with an iPad
- Demonstration

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Benefits of public engagement

- Transmit, receive, collaborate.



- Great for impact statements/pathways to impact.
- Looks good within your department/faculty.
- Tell your friends and family what you are up to.

Public engagement

- Worked with:
 - The Public Engagement unit
 - Press office
 - The Conversation
- Start off small:
 - Ignite talks
 - Bath taps (14th-19th of March)
 - Café scientifique etc

Locusts coverage

The screenshot shows a mobile news application interface. At the top, the 'MailOnline' logo is displayed in a large, stylized font. To its right, the text 'Science & Tech' is visible. Below the logo, a navigation bar includes links for 'Home', 'News', 'U.S.', 'Sport', 'TV&Showbiz', 'Australia', 'Femail', 'Health', 'Science', 'Money', 'Video', 'Travel', and 'Fashion Finder'. The 'Science' link is highlighted. Below this, there are links for 'Latest Headlines', 'Science', and 'Pictures', along with a 'Login' button. A 'YOU MIGHT LIKE' section features six article thumbnails with titles such as 'Do You Know If You Had PPI? You Can Find Out For FREE*', 'FreedomPop Offers Free SIM Cards to Try Low Cost Mobile Ph...', 'Groundbreaking Laser Eye surgery Technology Sweepi...', 'Jim Rickards Warns: Next Financial Crash Imminent', '25 Photos That Almost Broke The Internet', and 'The Most Haunting Photos Too Horrifying To Be Believed'. The main article is titled 'The maths of a hundred million LOCUSTS: Researchers reveal how giant swarms of insects fly can in perfect harmony'. It includes a list of bullet points: 'Researchers have found that locusts interact with at least two neighbours', 'In small swarms, neighbours will communicate before changing direction', and 'As swarm size increases, locust direction is more likely to remain stable'. The author is 'CHEYENNE MACDONALD FOR DAILYMAIL.COM'. Below the article, there are social media sharing icons for Facebook, Twitter, Pinterest, Google+, Email, and Print, with a '39 shares' count and a 'View comments' link. At the bottom, there are buttons for 'Like Daily Mail', 'Follow @dailymailtech', 'Follow Daily Mail', '+1 Daily Mail', 'Download our iPhone app', and 'Download our Android app'. The interface also shows a search bar, a battery level of 81%, and a 'Today's headlines' and 'Most Read' section at the very bottom.

MailOnline Science & Tech

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Daily Reckoning

25 Photos That Almost Broke The Internet
LifeHackLane

The Most Haunting Photos Too Horrifying To Be Believed
CheckThisYo.com

The maths of a hundred million LOCUSTS: Researchers reveal how giant swarms of insects fly can in perfect harmony

- Researchers have found that locusts interact with at least two neighbours
- In small swarms, neighbours will communicate before changing direction
- As swarm size increases, locust direction is more likely to remain stable

By CHEYENNE MACDONALD FOR DAILYMAIL.COM

PUBLISHED: 20:49, 10 February 2016 | UPDATED: 20:50, 10 February 2016

9 November

Locust swarms... the fields, who rely on research to help explain... Dr Christina University

When a swarm of locusts narrows in on an area, the effects can be devastating. Each locust eats its own weight in food every day, and in Africa, the Middle East, Asia, and Australia, these swarms grow exponentially, with tens of millions of locusts plaguing an area at a given time. A team of British researchers has developed an algorithmic model to better understand how these pests behave, and the model could be used to help curb their destructive migrations.

Scroll down for video

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Today's headlines Most Read

The Conversation



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9	Ana Cecilia Dinerstein Associate Professor in Political Sociology	87,506	1	13
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Things I learned

- Don't be afraid to be sensationalist as long as you are factual.
- Draft a press release well in advance.
- Pitch to The Conversation.
- Keep on top of things as the publication day approaches.
- Prepare thoroughly for any media interviews.
- Know the key (3) points you want to get across and the plugs you want to get in.

Cats Coverage

The

Scientists unravel the mystery of the “Hitler – cat”

07/01/16 om 10:31 - Bijgewerkt om 10:30

Wetenschappers hebben de oorzaak van de grote witte vlekken op de buik en kop van katten, honden en andere dieren ontrafeld. De ontdekking leidt mogelijk tot medische doorbraken voor ziektes bij de mens.

351
KEER GEDEELD



Sommige onfortuinlijke katten die lijden aan het 'witte vlekken'-syndroom worden op sociale media wel eens 'Hitler-katten' of 'kitlers' genoemd vanwege de ongelukkig gepositioneerde grote witte vlekken op hun vacht.

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Things I learned

- Consult with your fellow authors and fight for recognition of your contribution.
- Local radio has very different priorities to national radio.
- The internet loves cats.
- Social media can dramatically boost your readership.
- Get lucky – Preparation meets opportunity.

Where to go for more info

- Public engagement website:
<http://www.bath.ac.uk/marketing/public-engagement/>
- Promoting your research through the media.
Wednesday 9 March, 1.15 - 2.30pm:
<http://www.bath.ac.uk/marketing/public-engagement/get-involved/pe-conversations/>
- Press office:
<http://www.bath.ac.uk/marketing/teams-services/communications/press-office/index.html>

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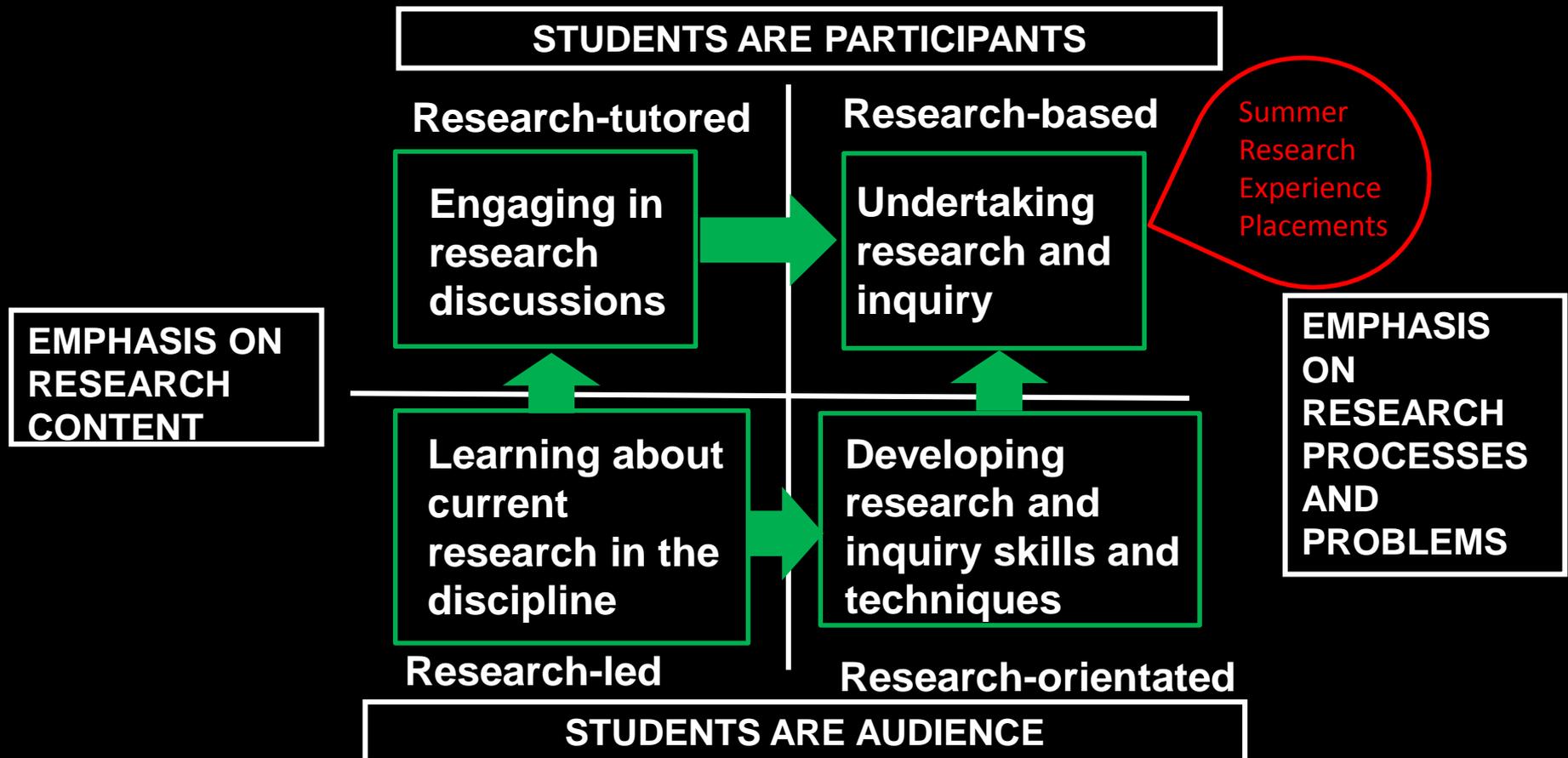
Research inspired teaching

University of Bath Education strategy: “offering a research-enriched, practice-informed academic portfolio which is intellectually challenging and internationally relevant”

University of Bath strategy: “High quality research and high quality teaching are inseparable in our thinking. New ideas, digital data resources and world-class research facilities enrich our learning environment.”

Research inspired teaching

The research-teaching nexus (Healey and Jenkins, 2006)



Research inspired teaching

Benefits for students:

- Gives students real word context.
- Makes areas of the course more memorable and relevant.
- Media coverage provides an accessible introduction for students.
- Deeper learning by through application not just rote memorising.
- Students begin to think like experts.

Research inspired teaching

Benefits for you:

- Students become more engaged and interactive.
- Engaging our students in research causes us to reflect on our practice and learn from them.
- Students gain insight into your research and will want to find out more.
- Leads to research experience placements/PhD students.

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Flipping

- “Flipping, or inverting the classroom, is a teaching methodology that swaps some of the material and activities from the face-to-face classroom session (usually lectures), with work previously done outside the classroom.”
- “The primary motivation comes from asking the question “what is the most effective use of the face-to-face classroom time with the lecturer?””

Flipping - Before

- ILO's were out of line with material being delivered:
ILO 3: "how stochastic biological models can be efficiently simulated using a computer."
- Material taught didn't match summative assessment.
- Problems taught for 25 mins and pre-written code run through for 25 mins.

Flipping - After

- Pre-recorded solutions with commentary on iPad/panopto and put on moodle.
- Students can go over problem class many times until they understand without the usual classroom pressures.
- Spent problem class reconstructing code from scratch with students in apprenticeship-style.
- Encouraged interactivity with students helping to reconstruct code in real time.
- Feedback: “Use of ipad Videoing problem sheets and then doing code in problem class.”

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Lecturing with an iPad: Alternatives

- Whiteboard/Blackboard
- Visualisers
- Slides
- Transparencies

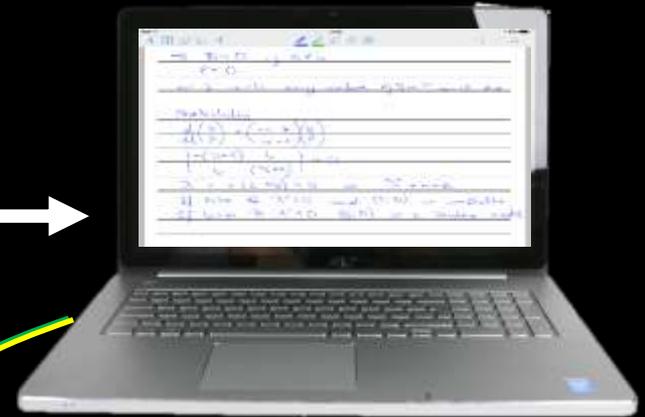
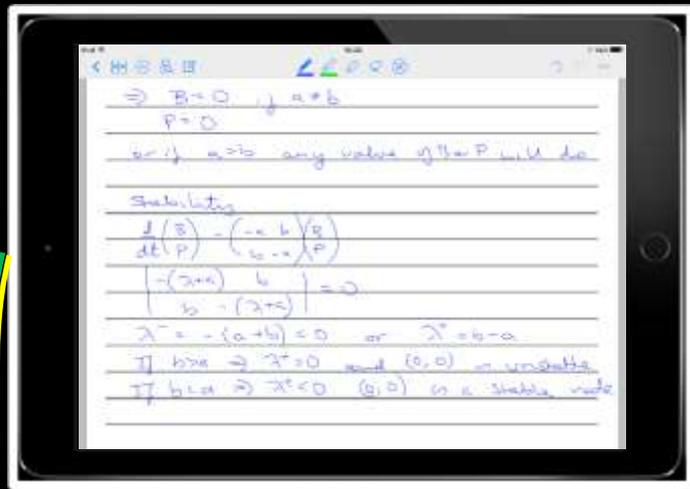
Lecturing with an iPad: Pros

- Lectures can be uploaded quickly.
- Can efficiently switch between media.
- Great for large lecture theatres.
- Great for back referencing to earlier parts of lectures.
- No focussing problems.
- No “moving sheets up and down.”
- Facilitates flipping.
- All the features of pen and paper and more (e.g. colours, highlighters, laser pointer, blank screen).

Lecturing with an iPad: Cons

- Requires (lots of) practice.
- Set up is difficult and requires time each lecture.
- Lots of gear needed – expensive.
- Doesn't get significantly better feedback from students.
- Need a special pen/stylus (although you can get away with your finger).

Lecturing with an iPad: Set-up



Feedback

- “I don't think the use of the ipad enhanced learning.”
- “I like the iPad with the two screens showing old and new material.”
- “I prefer the iPad/visualiser as white board pens are usually quite low on ink.”
- “not visualiser as writing tends to go off the screen and is not very clear.”
- “As long as the lecturer is writing at the same time as us I have no preference”

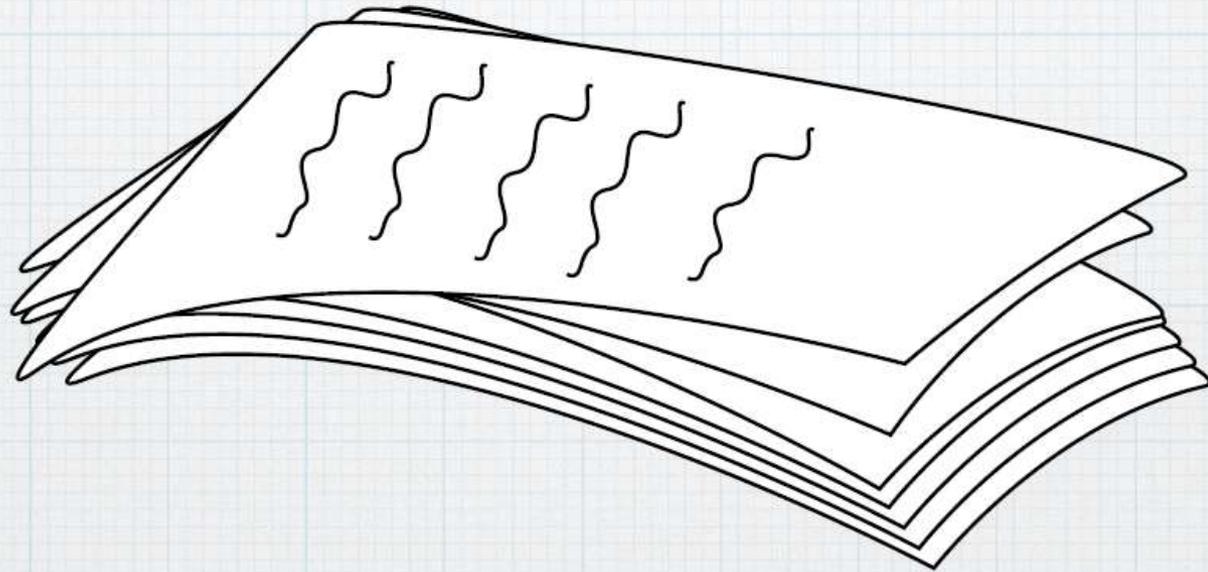
Feedback

- “iPad writing seems clearer.”
- “Prefer white/black board as easier to read.”
- “No preference.”
- “Prefer whiteboards – if I fall behind I know it will still be somewhere on the boards.”
- “Standing up and writing on the board is more engaging.”
- “Perhaps it makes it less interactive as the lecturer is just sat writing/talking.”

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Does it take too long to mark assignments?



Faculty Technology Enhanced
Learning event
Wednesday 9 March 1.00 - 2.30
CB 4:1



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