‘Enhancing Fieldwork Learning with Mobile Technologies’

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Outline

• Objectives

• Context

• Apps & Evaluation
  • Student Comments
  • BYOD
  • Lesson Learned

• Concluding thoughts
Objectives

• An appreciation of how mobile technologies can enhance teaching practice

• To demonstrate potential transferability of technology into teaching

• An evidence-base on how to use appropriate learning and teaching strategies to integrate mobile technology into curricula.
Context: Literature

• Most undergraduate students coming into Higher Education have a smartphone or mobile device (Welsh & France, 2012)

• Morris et al. (2012) found students owned an average of 4.3 electronic devices that could be used for learning

• Recent undergraduate student study (Woodcock et al., 2012) found that many students who own smartphones are “largely unaware of their potential to support learning” but importantly, found that they are, “interested in and open to the potential as they become familiar with the possibilities”

• “the use of digital technologies changes the meaning of the learning activity, subtly or profoundly” Beetham and Sharpe (2007, p.33)
Social Media use in 2013

- Facebook: >1.15 Billion users (100 billion connections)
- Twitter: >500 Million users
- Google+: >500 Million users
- LinkedIn: >238 Million users
- Other:
  - Wikipedia: >14 million articles
  - YouTube: 3.5 Billion views/day, 60 hours/minute
  - Flickr: >6 Billion images, 87 million users

Sources from service providers and also [http://econsultancy.com](http://econsultancy.com) (Correct Feb/Mar 2013)
Poll Everywhere - Audience vote

How often do you use mobile devices such as iPads within your teaching?

- Never: 242095 (9 responses)
- Once a year: 242096 (7 responses)
- Once a term: 242097 (2 responses)
- Once a week: 242099 (8 responses)

Respond at PollEv.com/derekfrance or text a CODE to 020 3322 5822.
Answers to this poll are anonymous.
Project Outline

- 3-year National Teaching Fellowship project
- Cross-disciplinary: Geography, Earth and Environmental Sciences, Geology, Biosciences and allied subjects

Aims of the Project

- to enhance student learning in fieldwork through the use of technology
- to focus on hardware and software that may enhance learning
- to gather and share good practice of fieldwork
Use of Technology in Fieldwork

What might be the benefits?
Use of Technology in Fieldwork

What could be the barriers?
## Benefits/barriers of mobile devices

<table>
<thead>
<tr>
<th>Benefit</th>
<th>iPad</th>
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<tbody>
<tr>
<td>Data processing</td>
<td>✓</td>
</tr>
<tr>
<td>Skill development</td>
<td>✓</td>
</tr>
<tr>
<td>Post-fieldwork reflection</td>
<td>✓</td>
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<tr>
<td>Enhancing the learning experience</td>
<td>✓</td>
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<tr>
<td>Facilitate communication</td>
<td>✓</td>
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<table>
<thead>
<tr>
<th>Barrier</th>
<th>iPad</th>
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<tr>
<td>Cost</td>
<td>From ~ £300 Buy class set &amp; share? BYOD</td>
</tr>
<tr>
<td>Reliability/durability</td>
<td>Ruggedized case</td>
</tr>
<tr>
<td>Staff competence</td>
<td>Take a look at the EFL project website for examples of good practice....&amp; have a go!</td>
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<tr>
<td>Student concerns</td>
<td></td>
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<td>Staff preparation time</td>
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Fieldtrips: UK, Europe, USA

- **1st year Fieldcourse Devon, UK**
  - Skills Development (n=100+)

- **2nd year NYC, USA**
  - Human Geography & Agency interviews (n=12)

- **3rd year Naples, Italy**
  - Hazard management students Physical Geog and Geology (n=25)

- **Masters Students, URRA, Spain**
  - The (Un)Sustainable Challenge – fieldsites and visits (n=12)

**Assessment:**
- Variable; presentations, essays, reflective reports, podcasts
- Devices support assessment activities (*France et al.*, 2013)
iPads as field notebooks

- Investigate fieldwork apps

1. Geommeasure (field measurements)
2. Skitch (annotating field photographs)
3. Evernote (notebook)
4. Splice (video editing)
5. Geospike (travel journal)
You don’t have to be internet connected

and some other things that can be added or used

Airstash
external
WiFi memory

BadElf
GPS dongle
LiveScribe Pens

- Easy dictionary tool
- "Made synthesising notes easier"
- "Got key quotes for our presentation by referring back to the pen"
- An inexpensive tool students may decide to purchase for note-taking in lectures or interviews
General iPad Use

- “Easier data collection and instant data processing”
- "Collating, analysing and presenting data was more convenient and appealing"
- "Easier to use than expected"
- "Really useful for annotating maps and photos"
- "Over the week I got used to using the iPad at every chance and it enhanced my learning and skills"
- Dropbox, SugarSync, Copy

- GPS Log, GeoSpike, CityMaps2Go, Google Earth, FieldworkGB

- PollDaddy, PollEverywhere, Survey Monkey

- Twitter, Skype, Evernote

- Skitch, Splice, Fotobabble, Panoramio, Photosynth, Flickr, Camera

- Pages, Numbers, Keynote, GoodReader, Mendeley, PaperShip, Google Scholar

- iTalk, iCelsius, iGeology
<table>
<thead>
<tr>
<th>GPS Log</th>
<th>Geospike</th>
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<tbody>
<tr>
<td><img src="image" alt="Available on the App Store" /> <img src="image" alt="Android App on Google play" /></td>
<td><img src="image" alt="Available on the App Store" /> <img src="image" alt="Android App on Google play" /></td>
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<tr>
<td>Log your adventures, great and small.</td>
<td>Travel blogging.</td>
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<tr>
<td>Instantly record location (using internal GPS), attach photos &amp; notes to create a ‘spike’</td>
<td></td>
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<tr>
<td>Automatically logs time &amp; date. No need for internet connection.</td>
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<tr>
<td><strong>Free version (GPS Log LITE):</strong> 5 spikes</td>
<td><strong>Free version:</strong> Public only spikes</td>
</tr>
<tr>
<td>Full version: £5.49 iOS £2.99 android Access to all logged spikes</td>
<td>Full version: in-app upgrade £3.99 Private spikes &amp; share with friends, more maps, wi-fi only uploads</td>
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GeoMeasure

GeoMeasure app; calculate the area /length of a field area
Skitch

Open the skitch app....and select either a photo from the camera roll or take a new photograph. Using the selected photo, add appropriate labels and annotations of your choice......
EDINA geo-referencing app

- Create a form online
- Download app to smartphone/tablet
- Login to Dropbox Account
- Start capturing data
- Sync to multiple devices & computer
Twitter

- Student reflections
- Fieldwork observations
- Reflections on partnership meetings
- Guidance, Ethics
- Storify the conversations
Storify - Fieldwork

Planning Project 435/535: Tweets and Images
Queenstown, New Zealand, May 12th - 16th, 2014
by derekfrance

GEOG290 Field School Handbook
Geog 290 Field School: Tweets and Images
Pounawea, New Zealand, April 28th - May 2nd 2014
by derekfrance
All fieldwork - Student perceptions of iPads in fieldwork

(Useful and Easy removed) www.wordle.net no. of quotes =184
Student Comments

Enjoyment:
“It was good, I found the iPad useful and I like using Skitch”
“Device access made us feel more connected to each other,[students], and we would have been lost without it”

Understanding:
“I am very much a physical learner, so I find writing things is the best way for me, taking notes, but I found the Splice video [on iPad] was there for reflection. Looking at my notes would not have the same level of reflection”

“Twitter brought a different dimension to fieldwork and the Tweets generated during the day fuelled discussions in the evening. This wouldn’t have happened if we had just written down our thoughts at the time”

Experience:
“I am not very good with new technology, but actually using them [iPads] in the field, showing how accessible they are and how multi-purpose they can be, [was beneficial]”
“I thought it made our presentation much more engaging and visual, presenting our data on the iPad”
Case Studies

Scott et al. (2009)  
Virtual Field Guide

France et al (2013)  
Mobile devices and  
Undergraduate research

Netskills (2011)  
Using QR codes to  
add layers of information to locations

France and Wakefield (2011)  
Digital storytelling

Jarvis & Dickie (2010)  
Video podcasting of field methods

Cremona et al. (2011)  
Using shared spreadsheets on Smartphones & Tablets

Welsh et al. (2012)  
Geotagging photographs

Welsh & France (2012)  
Smartphones and fieldwork
Do students want BYOD?

- Buying their own iPads
- As long as apps were available
- Set up in advance
- Students already using their own devices
- Own device is "easier to handle"
- Limitations/availability of devices
- Distraction - a personalised device
- Risk
Lessons Learned

Guidelines for Bring Your Own Device (BYOD):

• Take care that no students are disadvantaged
• Suggest apps in advance
• Need for preparatory sessions with students
• Risk - dependent on device ownership, location, activity, personal risk
• Web access/ Unfamiliarity/ Need for a back-up plan
• Overuse of technology / Distraction
• Make students aware of the pedagogic links
Concluding Thoughts

• Incorporating mobile devices into learning activities can develop and enhance digital literacy and enrich the student learning experience when applied strategically and pedagogically.

• With Smartphone ownership at a record high, Bring your Own Device (BYOD) is emerging as a concept which will allow students to choose their own platform for learning, but will offer real challenges to institutions and academics of how to support and enable such an engagement.

• Engaging students with mobile devices in a variety of learning settings and environments has provided new routes for communication and collaborative learning.

• Technology is no barrier to students….but probably is for staff.
References


References

