‘Using Mobile Devices to Enhance Learning, Develop Skills and Foster Graduate Attributes’

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Objectives of Workshop

• 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 in curricula.
Context: Literature

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

- 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)

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

Form a line up of all workshop participants ...

– by date of birth Jan 1st to Dec 31st
   You have 1 minute

– Your understanding, experience and application of mobile technologies to enhance student learning
   You have 1 minute
Project Outline

• 3-year National Teaching Fellowship project
• Funded by the Higher Education Academy in the UK
• 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
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"
Graduate Attributes

1. Can mobile apps be contribute to graduate attributes?
2. Can mobile apps be mapped against graduate attributes?

“the skills, knowledge and abilities of University graduate, beyond disciplinary content knowledge which are applicable to a range of contexts” Barrie (2004)

“Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents of social good in an unknown future.”

Bowden, Hart, King, Trigwell & Watts (2000)
Reading Graduate (1999)

• Demonstrated scholarship appropriate to their level of award in their chosen discipline(s)

• Demonstrated the ability to communicate effectively both orally and in writing

• Acquired appropriate IT and information handing skills

• Acquired the skills and aptitude necessary for a lifetime of effective independent learning

• Acquired the skills to manage effectively their career and gain appropriate employment

• Developed personally in ways, which will enrich their lives and facilitate a full contribution to society in the future
Graduate Attributes

e.g. UK Institutions such as Edinburgh, Wolverhampton, Glasgow, Aberdeen, Manchester, Keele, Sheffield, The Queen Mary, Oxford Brookes identified their institutional graduate attributes ranging in 3 to 10 statements

Retrospective mapping against :- Oxford Brookes University, UK

- Academic literacy
- Research literacy
- Critical self awareness and personal literacy
- Digital and information literacy
- Global citizenship
Apps

- Dropbox, SugarSync, Copy
- GPS Log, GeoSpike, CityMaps2Go, Google Earth,
- PollDaddy, PollEverwhere
- Twitter, Skype, Evernote
- Skitch, Splice, Fotobabble, Panoramio, Photosynth, Flickr, Camera
- Pages, Numbers, Keynote, GoodReader, Mendeley
- iTalk, iCelcius, iGeology
<table>
<thead>
<tr>
<th>Academic literacy</th>
<th>Research literacy</th>
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<tbody>
<tr>
<td><strong>mapping</strong></td>
<td><strong>WWW</strong></td>
</tr>
<tr>
<td>GeoSpike</td>
<td>Polldaddy</td>
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<tr>
<td>GPS Log</td>
<td>PDF-reader</td>
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<thead>
<tr>
<th>Critical self-awareness &amp; personal literacy</th>
<th>Digital &amp; information literacy</th>
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<tbody>
<tr>
<td>Skitch</td>
<td>Audio recorder</td>
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<td>Twitter</td>
<td>Pages</td>
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<td>Fotobabble</td>
<td>Keynote</td>
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<tr>
<td>Splice</td>
<td>Video recorder</td>
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Key: >50%; >75%; <50%; Suggested apps
Twitter

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

- Student reflections
- Fieldwork observations
- Reflections on partnership meetings
- Guidance, Ethics
- Storify the conversations
Real Time Voting with Mobile Devices?

PollEverywhere
- Poll via text, twitter or link (QR code)

Which of the following mobile devices have you/your Department used during fieldwork?

Text a CODE to 020 3322 5822
Tweet @poll and a CODE
Submit a CODE to http://PollEv.com

<table>
<thead>
<tr>
<th>Device</th>
<th>Votes</th>
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<tbody>
<tr>
<td>iPad</td>
<td>13402</td>
</tr>
<tr>
<td>Other tablet</td>
<td>13725</td>
</tr>
<tr>
<td>iPhone</td>
<td>13729</td>
</tr>
<tr>
<td>Other smartphone</td>
<td>13733</td>
</tr>
<tr>
<td>LiveScribe Pen</td>
<td>13745</td>
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</tbody>
</table>
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
Case Studies

Stott et al. (2009)  
Virtual Field Guide

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

France et al (2013)  
Mobile devices and Undergraduate research

Welsh et al. (2012)  
Geotagging photographs

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 & France (2012)  
Smartphones and fieldwork
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”
Lessons Learned

Guidelines for Bring Your Own Device (BYOD):

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

• Mobile devices have the potential to contribute to a range of graduate attributes, increasing the student skill set and raising awareness to the opportunities offered by mobile devices.

• 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 device 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.
Action Plan

• What have I learnt?
• What I am going to do next?
  – What will I have changed in 6 months?

• What 3 things can you feedback to other colleagues and students about using mobile technologies?
Further work?

- What are the impacts of mobile technologies on student learning?
- How can mobile technologies support assessment?
- Can students relate the use of mobile technologies to their learning styles to promote an effective learning strategy?
- Is there potential for BYOD in mainstream learning?
- To what extent would students engage with BYOD autonomously?
References


• Cremona, J. (2011) Fieldwork experiences Keynote *Enhancing Fieldwork Learning Showcase* Event 16th-18th September 2011, Margam FSC Discovery Centre, South Wales


References


