How Do I... Effectively use Technology Enhanced Learning (TEL) in the classroom?

David Wooff
National Education Show 2015
Technology Enhanced Learning

Technology Enhanced Teaching
Technology Enhanced Teaching

Using technology to deliver something to a group of students that does not require them to engage technologically with the content, examples include:

- PowerPoint Presentations
- PREZi Presentations
- Watching a Youtube video clip
- Keynote
- Slideshare
Advantages

There are many advantages associated with technology enhanced teaching, some of these include:

• Work can be easily saved, modified and shared
• Can ensure uniformity between different classes
• Lots of existing examples and exemplars which can be used as a starting point
• Studies have shown that it can increase engagement of learners
There are a number of limitations and problems associated with Technology Enhanced Teaching:

- Hardware Problems – lack of access to rooms with projectors for example.
- Software problems, including lack of compatibility and errors which occur switching from PC to Mac based presentations
- Issues with internet access (if it’s a cloud based programme like Prezi)
Limitations

Over use - often called “Death by PowerPoint”.
Technology Enhanced Learning

Learning that takes place when the learner (the pupil) is required to use technology to access original material that furthers (or reinforces) their understanding of something.
Advantages

There are many advantages associated with technology enhanced learning, some of these include:

• Information can be accessed in a unique way
• Due to the technological interaction some pupils remember things better
• Possible to do, and experience, things that cannot be done in lessons by any other means
Limitations

There are a number of limitations and problems associated with Technology Enhanced Learning:

• Volume and cost of hardware and software – eg. have you got enough tablets for each member of the class to have one?
• Reliability; problems with battery life and wifi connections
• Seen as a gimmick, and pupils get distracted from learning by the interaction with something technological
• Staff knowledge and understanding to enable them to make use of the technology
Sources of Information
Reports into Technology Enhanced Learning

Does technology enhance learning?
SOME FINDINGS FROM THE TECHNOLOGY ENHANCED LEARNING (TEL) RESEARCH PROGRAMME

Using technology to improve learning in secondary schools
A small-scale study of the effect of technology on secondary school performance
Department for Education
January 2012

Flexible Pedagogies: technology-enhanced learning
Neil Gordon, University of Hull
January 2014
Books on Technology Enhanced Learning
Online Tools

- Quizzes
- Puzzles
- Presentation Software
- Repositories
- Blogs
- Survey Tools
- Drawing Packages
- Modelling Packages
Before we look at some examples that work:

• Not all Technology Enhanced Teaching or Learning tools will be of use to you – technology in this case is supposed to ‘enhance’ learning so if it does not – do not use it.

• Technology Enhanced Teaching and Learning applications introduced today will be superseded in around two years time, sometimes sooner!
QR Codes:

- Quick Response (QR) Codes; originated from an industrial application developed by Toyota to enhance, and ultimately replace, barcodes,
- Well established and reliable,
- Multiple free QR Code generators for different platforms (iOS, Android, PC),
- Multiple QR Code Readers available free,
- Can work on printed or digital media
27 dolphins were swimming in the ocean. 36 more dolphins joined them. Now, how many dolphins are swimming together?

36 skiers were skiing down the mountain. 48 snowboarders were going down the mountain. How many skiers and snowboarders were on the mountain?

57 musicians are in the orchestra. Some more musicians joined their rehearsal. Now 93 musicians are practicing. How many musicians joined the rehearsal?

Some ducks were floating on the lake. 13 new ducks landed and started floating. There were 51 ducks floating in all. How many ducks were floating in the beginning?

42 children tested for the their green belt. 21 children tested for their black belt. How many children tested in all?

Name: ___________________________ Date: ____________

Read Each Problem Carefully

Show Your Work

Scan to Check Your Answer

http://www.beautifulqr.codes.com

Generate
Augmented Reality

Geographical Trigger (a landmark or place)

Trigger Image
EXPLORING AUGMENTED REALITY

Catherine Bell and Nick Jones, Edge Hill University

In September’s edition of DIT Practice (Issue 3, 2015) David Worth and I wrote about how we were working with trainees on the Design and Technology (DT) Initial Teacher Training (ITT) course, using the notion of ‘Design Fiction’ as a catalyst for their design work, to explore the effective employment of Technology Enhanced Learning (TEL) such as the use of QR Codes, Pixar and Aurasma. The outcomes had a series of positive impacts, not only on the trainees’ teacher’s attainment, motivation and engagement but where trainees had engaged in aspects of the TEL, whilst on their teaching placements in schools the impact upon the student’s attainment and progress.

The adoption of Aurasma (http://www.thisisaurasma.com) was a key step in the process. The Aurasma app is a free download from the App Store or Google Play that turns your mobile device into a jump-off point for增强现实 (AR) content. The technology works by using the smartphone’s camera to capture a pre-recorded video or photo, which is then overlaid with AR content (images, text, video, etc.) when the camera is pointed at the real-world object.

This page image describes Aurasma’s application in educational settings. It begins with a short overview of Aurasma’s functionality and potential benefits. It then provides a case study of its use in a primary school setting, including a description of the steps taken by the teachers and the impact on student engagement and learning outcomes. The concluding paragraph highlights the potential of Aurasma as a tool for enhancing the teaching and learning experience, particularly in STEM subjects. It also suggests areas for further research and development in the use of AR technology in education.
Augmented Reality – Generate Your Own!

1. Download Software
2. Determine Trigger (Place or Image)
3. Record or Obtain Video or Audio Item to link to trigger
4. Link Video or Audio Item to link to trigger
5. Upload Video or Audio Item to your own “channel”

Work by Jennifer Jones, Bleak Hill Primary School.
Augmented Reality – Predefined
Augmented Reality

Setting up your own channel: more time consuming, more practice and more learning required on the part of the teacher – but potentially more flexible, more focused and more relevant to exactly what you want.

Using predefined Augmented Reality: quick and very easy to use, reliable and repeatable – often have to find a way on incorporating existing outcomes into your learning environment.
Technology Enhanced Teaching (Presenting)

- Why not use PowerPoint?
- What advantages are there in using a cloud based piece of software?
- Can all learners access the content?
- Is this the “bulk” of the teaching resource, or does it need to be supplemented with a handout?
- How can learners access this information after the lesson/session?
Final Observations

• Practice – make sure you know how to use it yourself, what the advantages are and what the limitations are
• Rehearse in the same venue under the same conditions
• Check the hardware and software to make sure it works; batteries are charged, internet access is available and wifi connections work
• Ask yourself – does this enhance what I’m doing for the whole class and all learners within it?

• Have a contingency; what if it doesn’t work?
Thanks for Listening

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