Technology Enhanced Learning

UK's Teaching and Learning Research Programme

Technology Enhanced Research

The Technology Enhanced Research Strand is led by Richard Cox of the University of Sussex

Background

TEL projects focus upon enhancing learning and teaching through the use of technology. The TEL Programme's projects are varied in terms of the technologies they employ, the educational sectors they are situated in, and the curriculum topics that they address.

Some projects are creating virtual reality learning environments, some are developing innovative display-based interactive learning environments, others are investigating new modes of learner-system interaction and curriculum tools for teachers.

Technology has great potential for enhancing research and evaluation too. TEL systems can be 'instrumented' to allow the collection of rich learner-system interaction data. Interactions between learners' avatars in virtual environments can be recorded, for example. Visual gaze shifts can be recorded using unobtrusive eye-tracking systems and combined with computer screen recordings or interactions with input devices.

TEL themes

The technology enhanced research strand is part of TEL's research capacity building theme, one of the five themes at the heart of the programme.

The others are

- inclusion
- flexibility
- personalisation
- productivity

The Technology Enhanced Learning (TEL) programme

- We aim to understand and develop the roles of digital technologies in improving the quality of learning and teaching.
- £12m in funding from ESRC/EPSRC
- Runs from 2007 to 2012
- 8 major projects, 7 development projects
- Director: Richard Noss
- www.tlrp.org/tel

These kinds of measures can provide useful insights into learning processes and can be 'triangulated' with results from more traditional learning outcome assessments. A range of useful tools for analysing this kind of rich data are available and could be more widely known about and discussed. Examples are the growing 'educational data mining' movement and interesting developments in methods for visualising social networks.

Where does TER come in?

Unfortunately, the research potential of TEL systems is not always maximally exploited. Advanced TEL systems are sometimes evaluated using traditional approaches.

As an analogy consider Formula 1 car racing in the 1950's and 60's versus today.

40-50 years ago cars would be checked only when they stopped in the pits and lap times were measured by hand using a stopwatch and noted on clip boards.

In contrast today Formula 1 cars (and drivers) are instrumented with sensors that measure all aspects of engine, car and driver performance. Data is streamed to engineers in the pits wirelessly in real time and is recorded for later analysis.

In short the aim of this strand is to encourage projects to 'technology-enhance' their research and evaluations to the same degree that they 'technology-enhance' teaching and learning.

Strand Activities include

- a survey of technology-enhanced research in TEL projects has been conducted
- a workshop was held with an exhibition of technology-based research tools from open source and commercial organisations
- an online 'Answer Garden' is currently under development of resources on Technology Enhanced Research that will grow as more material is added

For more information see www.tlrp.org/tel/ter

T·L·R·P Technology Enhanced Learning

E·S·R·C Economic & Social Research Council

EPSRC Engineering and Physical Sciences Research Council