An Evaluation of e-Learning in Eastern and Western Europe

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Summary

The University of Wales Trinity Saint David in Wales has been collaborating with colleagues in Georgian State Universities to evaluate current levels of Technology Enhanced Learning (TEL) usage by staff and students in each institution. The objective was to create an informed picture of the future trajectory of TEL innovation for planning purposes across both regions.

This case study describes how detailed surveys of TEL usage by University staff and students were carried out in both Georgia and in Wales. The overall picture in both regions is that this is an important and rapidly-developing area of educational innovation that is as much driven by staff and student adoption of emerging technologies as it is by institutional provision.

Both staff and students are increasingly using their own devices to engage with teaching and learning. A further trend is the use of social media and online cloud-based resources for communications and access to online learning materials. This information is now being used in the formation of new TEL strategies across the institutions.

Key words

e-learning, pedagogic innovation, online delivery, Higher Education, European collaboration

Introduction

Jisc has defined e-learning as *'learning facilitated and supported through the use of information and communications technology'*, emphasising that it should be pedagogically sound, learner-focused and accessible (Jisc, 2007). This remains an adequate summary, but it needs to be recognised that the e-learning toolkit is evolving rapidly. The current key areas of development include the use of social media, online resources, cloud computing and user-owned wireless devices.

The focus here is on teachers and learners, their use of technology and their e-competence. It examines institutionally-provided technologies, particularly the online learning management system, as well as the use of generally available online functionality, social media and personal devices.

Methodology

The research question being explored in this study was:

To what extent is modern technology being currently adopted and applied in Higher Education teaching and learning practice in the different regions?

A secondary question was:

What do the research findings indicate regarding the trajectory of usage growth and potential future Technology Enhanced Learning strategies?

In preparation for the active research exercises in each region, evidence from the e-learning community was examined, particularly with regard to changes in learning design and delivery practice. From a pedagogic innovation point of view, UNESCO eloquently referred to '*the educational technology of the mind'* (UNESCO, 2005) when they analysed the phases of learning activity and how they were enhanced by the use of information and communications technology (ICT).

Jisc in the United Kingdom has sponsored a wide range of innovative e-learning projects and regularly shares the outcomes with the community of practice through the Teaching and Learning Practice Experts Group (Jisc, 2014).

Beetham and Sharpe (2007) provided a detailed analysis of how pedagogy was changing in the digital age and their observations have been reflected in a wide range of other research and publications (Toole, 2013; Toole & Khetaguri, 2011; Toole, 2011) that were taken into account when preparing for the work reported here.

Research in e-learning has usually focused on technological or pedagogical issues and may not necessarily provide evidence of how teachers and learners are actively changing their educational practice as new devices, online functionality and social media applications become available. The research work described here addressed this issue by conducting interviews to gather student/teacher stories on how they use and experience technology within their learning and teaching tasks. It gathered information about what kind of technologies they use, how they use them and why. In both regions, questionnaires were prepared for both academic staff and students. The questions were prepared on the basis of the considerations relating to digital literacy and e-competence, the responses then analysed and conclusions drawn.

The survey in each region involved responses from three universities (recently merged in the case of Wales as part of a regional strategy). For that reason, the outcomes are presented as comparable between the two regions. In each case, the students and staff sampled were self-selecting, but the results demonstrate coverage of all main curriculum areas and levels.

Both regions collected quantitative data, through surveys with students and staff, and qualitative data, through free text online responses in Wales and by face-to-face interviews in Georgia. Although not identical, the surveys covered the same key areas of TEL usage and enabled conclusions to be drawn about the relative trajectories of TEL development in the two regions. Examples of the questionnaires and the outcomes can be viewed online (Toole, 2014).

Outcomes

Wales

An online survey was carried out with staff and students in the University of Wales Trinity Saint David, which is a regional institution involving three previously separate universities, and responses from 184 staff and 360 students were received. The survey asked ten questions about the use of both institutional and personal technologies in both teaching and

learning practice. The questions for both students and staff were designed to draw out information about their personal usage and preferences and why they made the choices they did in the mix of the technologies they used. The questions began by exploring their current use of institutional virtual learning environment (VLE) and then their use of other online resources and personal equipment.

The questions included multi-choice answers as well as free text comments. The multi-choice responses enabled a quantitative evaluation across the institution, whilst the comments provided for a qualitative assessment of TEL usage and usability. The survey covered three HE campuses and one FE campus in this newly-merged dual-sector institution.

Key messages from the Wales survey include:

- On average, 50% of staff report that they use the VLE as a major part of the teaching mix, whilst 50% report limited or no use of the VLE in their teaching. Reasons for not using The VLE include finding the navigation and functionality frustrating, as well as having available (and using) the alternatives of email, Facebook, Google docs and other social media for online communications and document sharing;
- Where the VLE is used and course materials are available, 90% of students use it to access course information and teaching materials. The comments indicate that it delivers significant added value and flexibility to the learning experience, despite usability frustrations and lack of engagement by some academic staff;
- A third of HE staff and two thirds of FE staff report that they do not use the VLE for student assessment. However, the HE students report that when assignment submission and feedback is available online, 75% engage with it and find it beneficial;
- Only 25% of students use the VLE regularly for course communications (mainly email functionality). They rarely engage with the forums as they are seen to be poorly managed and lack purpose. The main non-VLE course communications medium is email, and Facebook makes a significant contribution to the communications mix;
- The use of non-VLE online resources in support of teaching and learning was clearly significant. The use of email communications was close to 100% and Facebook nearly 30%. The students reported that 48% used Google docs for collaborative working and there was widespread use of Google and Wikipedia for information gathering;
- The students reported that they used multiple devices to go online. Most had at least one smartphone and a wireless enabled laptop. A growing number used iPads and Android tablets. The majority used them in their learning: smartphones for email and Facebook; laptops and tablets to access the VLE and online resources; laptops also for taking notes in lectures and preparing assessment materials.

The conclusions drawn from the Wales survey outcomes were:

- Despite the issues to do with usability, the students value the VLE as an important vehicle for their learning journey. The any-time anywhere access to learning resources is regarded as a significant benefit, as is the ability to submit assessments online and receive feedback;

- The student comments indicate that they are increasingly using the web as part of their learning. They may be directed in this by their tutors and library staff, but the outcomes of the survey indicate that they are doing it anyway. Typically they use Google, Google scholar, Wikipedia, JSTOR, Open Athens and other information and resource applications;
- The student comments also indicate that they are increasingly using their own wireless-enabled devices to engage with their online learning resources. This points to a possible future scenario where such engagement is the norm and the conventional classroom model will need to adapt accordingly.

Georgia

The survey carried out in Georgia was similar in both structure and content to that in Wales. Whilst taking into account both pedagogical and technical issues in the exercise, the key focus was on the student and teacher experience and the benefits that new technologies were likely to bring to that in the future.

Questionnaires, again with ten questions in each, were delivered to academic staff and students in Georgian institutions, including the International Black Sea University (IBSU), Gori State Teaching University (GSTU) and David Aghmashenebeli University of Georgia (SDASU), covering their experiences of using technologies in their learning and teaching. This survey covered their experiences with technologies and the wider context of their studies and teaching. The questionnaire was completed by fifteen teachers and fifty students of these universities.

Additionally, several face-to-face interviews were carried out to gather student/teacher stories on how they use and experience their use of technology, why they chose the mix of technologies they use and their personal study strategies both alone and in collaboration with others.

Key messages from the Georgia survey include:

The conclusions drawn from the Georgia survey outcomes were that:

- Many teachers (and also their students) in Georgia are not well informed of recent and emerging Information and Communication Technologies in Learning and Teaching. However, the results of the questionnaire demonstrate that teachers who are comfortable with the use of ICT find it creative, motivating, stimulating and imaginative;
- The feedback from students has been positive and, in a number of areas, they have been shown to use technology more effectively in their learning than might have been expected. This reflects their growing use of online technologies and social media in their private lives and demonstrates a similar trend to that of students in Western Europe;
- The outcomes of the survey will be a valuable contribution to the development of a technology enhanced learning strategy in Georgia. There will be a mutual benefit for both regions to share their ideas for addressing the issues identified for improvement.

A synthesis of messages

These outcomes can be brought together to allow some pragmatic decisions to be made about the future of technology enhanced learning and what this implies for regional and institutional strategy. These can be summarised in the form of responses to the original research questions.

To what extent is modern technology being currently adopted and applied in Higher Education teaching and learning practice in the different regions?

Positive messages emerged from the surveys, but they also identified barriers to progress that need to be addressed. The positive messages included:

- the continued development and refinement of regional and institutional strategies and infrastructure for ICT in support of learners;
- the growing use of ICT by teaching staff and a clear momentum driven by ICT champions;
- the 'bottom-up' drive by students who are quick to adopt new online applications and resources that add benefit to their learning experience.

Remaining barriers include:

- unreliable/incomplete institutional technical infrastructures and software applications;
- lack of staff expertise in the creation of engaging online learning materials.

Future trends and developments:

What do the research findings indicate regarding the trajectory of usage growth and potential future Technology Enhanced Learning models?

Indications of the trajectory of future growth include:

- the growth in use of social media in learning and learner support;
- the adoption of social media for accessing learning resources and collaborative working;
- the growing availability of wireless access and students' use of their own wireless devices in their learning.

The outcomes from the Georgian and Welsh staff and student surveys were compared by the joint research team to identify and learn from the similarities and differences. It was agreed that the continued trajectory of ICT and web-based resources was impacting on educational delivery in both regions and that the degree of exploitation was following that trajectory. However, the pace was different and this was influenced by the availability of technologies and supporting infrastructure in each of the regions, as well as by the established educational cultures.

An important message that emerged from the research was that the students were key drivers in the process and had a particular influence over the use of their own technologies and social media in their learning. In that regard, there was no difference between two regions, only in their access to the new technologies as they emerged. The following comments were typical of both cohorts:

'I use Google and Wikipedia to search for information and it is pretty easy to tell whether the information is useful or correctly sourced.'

'My class uses Facebook to communicate about the course. This is really useful because nearly every student checks Facebook at least once a day.'

'We all use shared Dropbox drives and Google docs to collaborate and we use Facebook/email to keep in touch and send things to each other.'

'I use my phone to check Facebook and email for notifications on lessons and/or any changes in timetables etc. I use my laptop for my work and research.'

This emphasises the importance of access to WiFi and ubiquitous Web access for the modern student. Both regions recognise this and, although at different stages in their educational provision and infrastructure development, have a common goal of TEL embedding.

Conclusions

This case study has described the outcomes of concurrent TEL surveys in collaborating regional institutions in Eastern and Western Europe. Both surveys were carried out in order to inform the regional and institutional TEL strategic and implementation planning and to contribute to horizon scanning for future developments. The work demonstrates how TEL in both regions is an important and rapidly-developing area of educational innovation, although there is a need for continued momentum towards embedding as the culture of education adopts the emerging technologies.

A major success factor in this will be staff and student expertise in the use of the technologies and the stability of the technological infrastructure itself. The surveys indicated that, to some extent, the students were solving the problem for themselves by using their own wireless devices to access the internet and using cloud-based resources to communicate and collaborate.

Digital literacy and e-competence are clearly pre-requisites on the part of both staff and students for the successful implementation of TEL. However, the evidence presented here does indicate positive and planned activities aimed at achieving those skills on the part of both staff and students.

The collaborative work reported here between Georgia and Wales is indicative of the benefits of sharing expertise in the European Community, of which there are many other examples (Newrly, Pede & Toole, 2010). The whole area of ICT usage in education is clearly developing and is an active topic in global educational communities. The outcomes of these two surveys are offered as a contribution to that debate.

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