Building the Future Students' Blended Learning Experiences from Current Research Findings

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Abstract:
Between March 2007 and February 2009, the Joint Information Systems Committee (JISC) funded a Learners' Journeys project at the University of Hertfordshire. This was part of their second phase of investment in research into the Learners' Experiences through their E-Learning Programme and was known as LXP2. STROLL (STudent Reflections On Lifelong e-Learning), as the Learners' Journeys project was known, researched into the experiences of current undergraduate students in Higher Education (HE) and Further Education (FE) primarily through a series of diaries constructed by student volunteers. Using video and audio recording to capture students' own reflections on their learning and their use of technology over the 2 year period the project data has offered many reflections from students on their use of technology for both learning and leisure. Building on this and other recent research data, the authors now suggest that for many HE students, technology has become a ubiquitous part of their lives to the extent that they may own or access regularly multiple items of personal technology that are used interchangeably for learning and leisure, including their computers and their mp3 players.

At the University of Hertfordshire access to technology enhanced learning has included use of the managed learning environment (MLE) which is called StudyNet. This MLE has been highly praised by the campus-based undergraduates and especially those participating in STROLL for making their learning accessible wherever and whenever they want to access it. In this paper we explore how academics might learn from the experience of these current students and their reflections on becoming effective learners supported by technology. This research indicates that technology can be a vital support for students in their complex balancing act between their busy studying, working and personal lives and the students have enthusiastically reported that technology is a key enabler for them. This paper presents the ways in which students use technology in HE and raises the questions of how institutions might support some of the diverse needs of future students.

Keywords: Student experience, blended learning, technology use, reflection

Introduction

In her Foreword to 'Rethinking Pedagogy for a Digital Age' (Sharpe & Beetham, 2008), Diana Laurillard commented that: 'Education is in an interesting phase between its 'ICT-free' past and its 'ICT-aware' future.' (Laurillard, 2008). This phase may only be valid for a short time more as the pace of technological change accelerates and the effects of ICT and their

influence on the provision for schools and universities are felt throughout the UK education sector. Research conducted since January 2007 by among other organisations, Educause (Oblinger and Oblinger, 2007)and ECAR (Caruso and Salway, 2007) has highlighted that the generation of 18 year olds entering HE as undergraduates at the end of the first decade of the 21st century is both more technically knowledgeable and confident than any previous intake of students and that they generally have very high expectations of what technology might be available to them and how they could use it to access their learning. For these students the presence of a managed learning environment (MLE) or course management system in some part at least is now an expectation rather than an addition for their undergraduate learning. This is illustrated through a comment by a final year Humanities student at the University of Hertfordshire in May 2009 who said:

> *'My sixth form had an e-learning system, which had much better functionality than the version of Blackboard™ used at X university where my friend studied.'*

Ellis and Goodyear make a similar point when they assert that; ' the use of ICT in higher education makes it possible for universities to offer students much more flexible access to learning resources…but it also encourages students to expect such flexibility' (Ellis and Goodyear, 2010, p2). So students' access to technology and their 'media-habits' have been changing rapidly in recent years, (e.g. Demos, 2007 and Conole et al, 2006). However, as Sharpe and colleagues from the wider research group in the JISC LXP2 research have commented: 'the concept of e-learning as course related technology provided by an institution provides only a narrow perspective of the technology use of learners today.' (Sharpe et al, 2009)

A confident expectation of access to high quality learning technologies and competence in its use are however not at all the same thing and whereas various studies may report on high levels of confidence in the use of technology to support learning, others are concerned that this may mask a failure to develop other skills such as critical thinking and analysis (e.g. Maidment-Otlet, 2008). Beetham and colleagues from their recent research into digital literacy have articulated that: 'many learners lack general critical and research skills: 'digital scholarship' is poorly communicated and modelled in many subject contexts.' (Beetham et al, 2009)

The ubiquitous presence of technology in undergraduate and postgraduate students' lives has been explored *inter alia* through the variety of recent projects from the JISC Learners' Experiences of Learning Phase 2 projects, which are currently available online (JISC Learners Experiences projects, 2009). Here, the authors explore first of all examples of our own students' uses of technology to support their learning from across the age range of incoming undergraduates. This includes those who had not benefitted from the growth in recent funding for education in the UK and the subsequent IT developments in the secondary education sector because they were registered as 'mature' students i.e. over 21 at the start of their studies. The paper also considers the benefits that technology can bring for the

non-standard students and those for whom the existence of 'all day, every day' online access to their learning materials is an essential support in enabling them to complete their studies. Finally the authors suggest how these findings can be drawn together to support a meaningful engagement by the institution with learning technologies for students of the future

Background to the STROLL project

The STROLL (Student Reflections on Lifelong e-Learning) project was a 2 year JISC part-funded project between March 2007 and February 2009, which captured a range of learners' experiences from their learning journeys through Higher Education (HE). 54 undergraduate students, enrolled at either the University of Hertfordshire (UH) or Hertford Regional College (HRC), volunteered to take part. The project focussed on students' engagement with technology to support their learning but the project team were keen to ensure a wide spread of programmes and backgrounds from among the students. In fact only a small minority were registered on technology based degrees and there were as many nursing students as computer science students taking part. The University of Hertfordshire's own bespoke managed learning environment (MLE), StudyNet is central to e-learning provision and strategy at the university and widely used, with in excess of 9.3 million log-ins recorded for staff and students in the 2008/2009 academic year. The project aim was to examine the changing nature of the student learning experience with technology over a longer elapsed period of time than was necessarily being measured by other projects in the Learners' Experiences programme. The main research questions addressed by STROLL were:-

- How do learners experience change through their learning journey?
- How do students use and make choices about their time?
- How do students use e-learning tools to support their learning?
- How do students use their personal technologies?

A brief introduction to the STROLL project methodology

The STROLL (<http://www.tinyurl.com/5vvqom >) approach was learner led and focussed on the collection and analysis of qualitative data through the use of video and audio diaries from students' own regular recordings about their changing learning experiences. The diaries were recorded for a week at a time at 6 monthly intervals between June 2007 and October 2008 to provide a series of snapshots of their learning experiences and their use of technology over an eighteen month period. Students could choose to use camcorders, webcams or digital audio recorders for recording their diaries. In addition telephone interviews were held between the 1st and 2nd diaries during summer 2007 to provide clarification of the analysed data. Additionally a series of focus groups were held midway through the project to provide alternative ways of confirming the general impressions from

the diary data. In a previous paper for EJEL in Volume 7 Issue 2, the authors have discussed the early stages of the project (see Jefferies and Hyde, 2009) and details of the diary methodology used have already been discussed (e.g. Jefferies, Hyde and Bullen, 2008). In addition to a large amount of qualitative data assembled and analysed throughout the two years of the project some quantitative data was drawn from the online questionnaires completed by the majority of the participating students and was used to support statistical analysis of, for example the demographic differences among the students.

Students' experiences of using technology to support their learning: changes and choices

The learners taking part in STROLL demonstrated a general enthusiasm for all sorts of technology to support their complex social and study lives. We have already mentioned that they were studying on a diverse range of programmes. They were all registered for a programme of study located on one of the Hertfordshire campuses so none of them could be described as 'online learners' in the usual sense of following a distance learning programme. All the students owned mobile phones, 74% owned their own computer and 88% accessed the internet daily. These figures may in fact be on the low side for other UK HE students when compared with data from the recent Ipsos MORI poll for JISC of UK HE students (JISC, 2007) which indicated that only 4% of students in HE did not possess their own PC. Of our students even those who were registered as studying full time were likely to have at least one and often multiple part-time jobs. All of the students claimed to access the internet regularly for learning support and most expected to be continuing their studies outside the traditional 9am to 5pm Monday to Friday window when classes were normally held on campus.

As the following students' comments from their diaries indicate, they showed an increasing confidence and reliance in using technologies as they settled into university life with a willingness to expand their use of learning technologies. This was true even if they had not previously encountered learning technologies prior to their university programme, to support research and to access online journals.

> *'My use of technology has changed dramatically over the past year… I am definitely using it more to support my learning now than I was a few months ago'*
>
> *'I have used the Internet a lot more this year than I did last year, especially for finding more academic research. Such as journals'*
>
> *'I've been using a lot more journals and journal articles for research data to support the books that I have been using that I get from the library. I can access it wherever I am via the Internet and using my computer*'

Students used a variety of their own technologies such as mobile phones and mp3 players creatively as an integral part of learning and frequently demonstrated an increasing maturity in their choice of technologies for online support through the period of the project.

They generally expected to use their own technologies instead of having everything provided for them by the institution. This has implications for resourcing at university level since many students do now own a laptop. Students would now expect the institution to provide support for their own portable technologies such as power sockets for powering up batteries and a wide ranging and reliable wireless network. This is in addition to a variety of learning and study spaces in their libraries and learning resource centres, where they can share material together in discussion collaboratively around one or more computers or associated technologies. Research into the use of online learning technologies by postgraduate students at Oxford University in a related LXP2 project indicated that for overseas students the available technologies at the institution were either pitied or applauded depending on the students' prior experiences in their undergraduate degree programme and their usual country of residence (Thema, 2009).

In contradiction to anecdotal findings found elsewhere in learner experience research regarding students' apparent shallow use of online search tools and techniques, many of the STROLL students experimented with different strategies for using technologies until they found one that worked for them. Thus even if they lacked confidence at the start of the diaries they had become competent enough in their use of technology by the end. The oldest participant at 53, reflected that she had moved on in her levels of both competence and confidence during the span of the project and no longer relied on her children to help her upload podcast files to her mp3 player as she had at the beginning. By the end of her degree she displayed greater confidence in using technology as a tool to support her learning instead of viewing it as a necessary evil to confront.

Technology was seen as an integral part of learning by the following students regardless of what they had used previously and regardless too of any age differences with current school leavers.

> *'I think nearly everything is IT focussed now, certainly everything you hand in has to be word processed, a lot of resources are now online.'*
>
> *'I'm a mature student so my learning before university was very limited especially in the technology used so… the variety of technology that can be used to aid learning is probably the biggest difference.'*
>
> *'The time I've spent on the computer has increased a lot… for 'A' levels most of it was hand written.'*

Developing as individual and independent learners has become a refrain for many of the students taking part in STROLL as they reflected on how they had changed in their learning. Independence and taking responsibility for their own learning emerged as being part of what it meant to be a student in HE.

> *'In the last year it has become more efficient and easy for me to use technology and as I go I expect it will get better.' (Student reflection from October 2008)*

> *'I feel Study Net is a great inspiration in the learning process. At college if I missed a class I would very rarely get the opportunity to catch up on what I had missed.' (HRC student completing their degree at UH)*

The importance of technology to students for living and learning every day

Alongside the issues of growing maturity in the choices that they made and the technology that they used, many STROLL volunteers indicated that their lives were busy and complex, with either employment or family responsibilities in addition to their studies. In order to manage this complexity they became more dependent on being able to access technology to support their studies, as these excerpts from their interviews show.

> *'... StudyNet has electronic journals and things like that so without the Internet...because I live in London I would have to travel all the way up to Uni every day or every time I want to take out the books or journals'*

> *'I dedicate my study time to night time when the kids have gone to bed. I start to study between nine in the evening and midnight'.*

This university now uses podcasts of lectures and seminars extensively for supporting students across some Schools and these are posted on module sites via StudyNet. Students report using the technology to aid their learning wherever they are even on the move, like the student below who listens to her podcasts as she drives home at the weekend.

> *'Pod casts...[I] just bought [a] car over the summer and I've got a radio which rigs up to my MP4 player so I am able to … play it when I'm driving'*

As already indicated StudyNet is widely used throughout the university by lecturers and students. It has therefore become an essential part of their learning experience for many students and plays a critical role in supporting learning. These words reflect the opinions of many of the participants.

> *'StudyNet, it is my favourite just because of how useful it is really...all my course notes are put on [it], and any assignments ...and class discussions, with your own little e-mail account, private messages as well...It has lots of features for my course and just fully supports me when I'm not in class.'*

How current students' experiences influence future students' use of blended learning

From the large amounts of qualitative data gathered from the students' reflections during the STROLL project, their comments have identified many aspects of current learning technology practice and experience which allow the authors to propose some guidelines for considering the future student experience. From the wider research field it has been asserted that: 'learners are immersed in a technology rich environment and make use of the technology available to them in a wide range of ways.' (Sharpe et al, 2009). Our students

have remarked on the changing landscape for learning especially for those who enter higher education with no prior experience of using technology for learning:

> *'The biggest change in learning I experienced will be because it's been such a huge gap between present education as a student and my previous one, technology has moved on so far from research done in the library with books with no on line facilities, now [its] at the click of a finger.'*

These students lived increasingly busy lives and would describe fitting their learning in among their other activities often as 'bite size chunks'. Relatively few of the students in this survey spent long periods of time studying a single subject but would tend to keep a number of different assignments or even essays on the go simultaneously. They might fit in less traditional student activities such as baking cakes and games playing, around their studying, leading to a complex mixture of the social and the academic, which was played out across the week. Into this mixture might be included a series of part time jobs and sometimes family responsibilities for children and running a home. However, a pattern emerged where the busier the students lives were then the more likely they were to be highly organised about the use of their time (whether this was as parents or in paid employment) and they would typically be using the internet in general and StudyNet in particular, as strategic support for completing their studies, often through the evenings and weekends.

> *'I would be working at 3 or 4 in the morning… regardless of where I was I could always get all my work…the ability to access the [university] network is what I've found most useful….It means at home, whatever time of day or night I could grab my files and start working.'*
>
> *'I'll finish my job on a Sunday afternoon and grab a take away pizza and then go online on StudyNet and settle down to studying through the evening'.*
>
> *'I have quite a regimented timetable that I use which outlines when I am going to be in lectures. I tend to spend time in college during the day until it's time to collect my daughter from school and I can snatch some time in the evenings I tend to have my weekend free for family time.'*

This maturing attitude to study was also articulated by those students moving from studying in an FE institution to completing their degree studies at the university campuses. They noticed that not only was the workload much increased but that they received far less close direction and guidance forcing them to study more independently.

> *'Be prepared for a big leap. I have found the change from the HRC last year to the university this year to be huge. Just the sheer volume of reading that's required, maybe that's just because I'm doing humanities course.'*
>
> *'Probably independence with learning [was] the biggest change, our course is very based on you doing it yourself'*

All the STROLL volunteers except for one commented highly favourably on the provision of the university's MLE, StudyNet and noted how essential it was for providing online support for their learning as this example indicates:

> *'StudyNet has become part of my life over the last few years. It is so easy to log onto and check up and see if I have got any e-mails and it is invaluable for keeping in touch with your peers and the work on the project [when] you are all in different places.'*

In developing policy ideas for creating a positive future student experience of blended learning in FE and HE from these student experiences, the importance of an embedded MLE which provides support for online access to learning materials has been one of the key findings and recommendations from STROLL. This may not be such a popular idea in UK HE circles currently, given recent discussion over the future of the MLE in the HE press and presumptuous reports that 'the MLE is dead'. For the University of Hertfordshire students the MLE has become so thoroughly embedded into the culture of teaching and learning that it is now seen by the overwhelming majority of students and academics as an essential tool for supporting online access to a wide variety of materials beyond the usual copies of class notes and slides. So in the view of the authors, reliable, accessible personalised portals to the students' learning materials are both highly prized and widely used by students whether on or off campus. This view is also supported by ongoing research among first year undergraduates at Edinburgh University which reported that: 'learners' expectations of the use of technology at university are generally high' (Hardy et al, 2009)

While students have become used to regular and reliable access to online materials they do not express any wish to neglect the more traditional 'face to face' teaching and exchange of views in their programmes. The students in this report were registered on campus-based programmes and relished the opportunity of experiencing the 'both/and' option that a blended learning approach offered i.e. 'both face-to-face and online' learning were provided. The option ultimately of being offered an 'either/ or' alternative experience in terms of learning 'either online or face to face' was firmly rejected. Ellis and Goodyear also assert that: 'there is strong evidence that students however media-savvy they might be are keen to see a good balance struck between face-to-face and technology-mediated activities.' (ibid, 2010)

Our students led surprisingly (to the authors) complex and connected lives, indicating an increasing independence on technology in learning and living and also planning more carefully their use of study time. This was particularly noticeable as the STROLL project progressed and their final examinations approached. Indeed while the students here spent varying amounts of time studying they all reported planning more carefully their use of study time and taking ownership of their studies in HE as they matured. It has been suggested that students nowadays tend to adopt a shallow and superficial attitude to

searching for materials and using technology. Our findings indicate that as students mature in their learning and their general use of technologies through their undergraduate career they generally adopt more careful strategies for planning and managing their time and for determining how they are going to retrieve and use information to support their learning. An example of this is the students' widespread reported use of searching for journal articles online to support their research assignments. However there is no room for complacency and other research such as Beetham's had indicated that 'Learners' information literacies are relatively weak but learners have little awareness of the problem.'

Embedding an e-learning culture across an institution inevitably takes time; StudyNet was first introduced in 2001 and has been constantly developed alongside emerging technologies such as Web 2.0 accessible technologies over the intervening years. Alongside this development there has been a continuing programme of staff support and training for academics and student support staff. The incoming generations of students now expect to have e-learning access and support for their courses and praise its benefits. Sharpe and Beetham reporting on the JISC LXP2 project as a whole commented that: 'Learners clearly articulated their expectations of institutions to enable them to use technologies .... They have high expectations of institutions to provide robust, reliable and accessible technology.' Furthermore, academic staff are expected to be trained and able to use the available technologies as noted by Ellis and Goodyear (ibid, 2010, p44). Sharpe et al (2009) have commented that: 'There is a related need for staff development so tutors can be confident models and knowledgeable guides.' This point is further reinforced by Beetham et al (2009) 'Tutors are still insufficiently competent and confident with digital technologies for learning, despite evidence that learners are strongly influenced by their example.'

The ubiquity of technology use and the breadth of technology ownership should not come as a surprise given the current background of research into students' uses of technology. Technology use for learning is not however solely related to age and prior experience and we have not discussed here the wider issue of how mature students new to HE might acquire the necessary skills for accessing technology when they have missed out on them in their prior academic or working lives. One STROLL student volunteer in his late 20s reported never having had access to a personal computer before starting his university course but he had embraced using technology to support his learning with great enthusiasm. Other researchers (e.g. Beetham, Sharpe, Vuolo) have commented on the need for organized institutional support available both at the start of courses and throughout the academic year and a possible mentoring or 'buddy' system for the students who lack the confidence and competence to walk up and log on.

There is therefore no time for complacency in considering the use of technology to enhance learning. The past 3 years have seen the growth and impact of 'Web 2.0 technologies' on the world as a whole and the younger generation in particular. There has been something

akin to an explosion in the use of and an interest in social networking sites such as Facebook. Other research has indicated that students may be less keen on integrating their personal social lives with their study lives (Sharpe et al, 2009) and we have already seen that students' confidence may not be supported totally by their competence in using technology so that they need a strong steer from their tutors and lecturers. 'Institutions have to prepare themselves, and not just their learners, for an uncertain future.' (Beetham et al, 2009, p7).

Prof Sir David Melville was charged with considering how the experiences of the so called 'Google Generation' might drive change forward within their institutions through their use of and reliance on technologies to support their learning and social lives when he chaired the recent JISC-supported Committee of Inquiry and he suggested that: 'Students are in the forefront in the use of new technologies, and their experience and expectations have far reaching implications for institutions of higher education'. (JISC, 2008).

We would reiterate that point of view and encourage co-researchers to consider what we can learn from the current student experience of blended learning in HE and put the lessons into practice for future generations of students using technology to enhance their learning.

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