Lessons Learnt from Listening to the Learners' Voices in HE- how do Students Reflect on Their use of Technology for Learning?

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Abstract The importance of the Learner's Voice and thus of listening to students' views has been evidenced in various high profile initiatives in the UK. The work presented here is from the JISC funded Learners' Experiences of E-Learning programme Phase 2 Learners Journeys STROLL project. Theses projects were set up in 2007 to investigate *inter alia* the changing views of students in their use of technology to support their learning.

The **STROLL** (**ST**udent **R**eflections on **L**ifelong e-**L**earning) project recruited a range of students from both Higher and Further Education backgrounds with the aim of researching the students' experiences of learning in a technology rich environment and their progression in their use of learning technologies over two years. STROLL has been a largely qualitative study with students participating from across the University of Hertfordshire (UH) and Hertford Regional College (HRC) by recording their own video and audio diaries of their learning experiences. Using the students' choice of camcorder, web camera, or digital voice recorder they recorded their daily learning experiences of using technology. The project started in March 2007 and completed in March 2009.

The project's aim was to research and document the students' answers to the following questions:

• 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?

This paper presents the findings in terms of the students' answers to the above research questions, including the key themes discovered through the project. The discussion includes the following findings; reliance on technologies, especially multiple types of technology as a ubiquitous part of the students' lives both study and leisure, importance of the Managed Learning Environment (MLE) to their studies, and the importance of access to the MLE (StudyNet) when off campus.

Introduction

"Learner experience research now encompasses not just the impact of blended / online courses and institutional technology provision, but also

the influence of the rise of personal ownership of technology (especially laptops and mobile phones) and the availability of free online tools (e.g. Facebook, Skype, YouTube)" (Sharpe in print, 2009)

In 2005 Sharpe et al. revealed that little research had been carried out to include learners' views of their experiences in e-learning subsequently in 2006 Glasgow Caledonian University and the Open University in the UK developed innovative methods for researching into e-learners practice and experiences, through the JISC funded Learners' Experiences of E-Learning Phase 1 (LXP1). Results from these projects have been widely reported e.g. (Creanor et al., 2006) and indicated that the students involved in the research exhibited increasing confidence in their use of technology for learning. The current research reported below followed on from the JISC Phase 1 Learners' Experiences of E-Learning projects building on these earlier research models and outcomes, and considering different aspects of students' learning journeys over 18 months.

The Methodology of the STROLL Project

The STROLL project consisted of four student constructed reflective diaries, at roughly six monthly intervals as well as a set of focus groups, and some telephone interviews. All of these were analysed using qualitative methods. An optional online profile returned a set of quantitative data. 54 students enrolled on the project, of both genders (34 female, 20 male), between 18 - 52 years old. The volunteers were from 18 different programmes of study, from over 8 different ethnic groups, 23 students based in FE who would progress to University of Hertfordshire (UH) degree programmes with the majority of these studying at HRC. 31 students were enrolled on programmes based entirely at Hertfordshire

The diaries were typically recorded over a five day period. The students collected a set of diary questions devised according to project research questions and the technology of their choice to record their diary (camcorder, web camera, and digital voice recorder). Each day's diary consisted of a brief recording in the morning and a longer daily reflection in the evening. Section 2.1 below reports on the results and the number of students who used each technology type.

In addition, during the summer of 2007 telephone interviews were carried out with the students who had participated in the first set of diaries. These used Beetham's 'Interview Plus' methodology (referred to by Creanor et al., 2006). Subsequently, four focus groups were conducted between January and March 2008 by a researcher independent of the project. Twenty students chose to participate in the focus groups, whose discussions were analysed for comparison with the diary transcripts.

Managing a large amount of potential data required a careful strategy for analysing it and checking for comprehensibility. Consequently the data from the diaries was first transcribed, and then colour coded according to the main project themes. Concept maps were created for each student's diary detailing

their reflections on learning from the transcripts; further colour coded concept maps of quotes relating to the research questions above were then created from the transcripts. Finally Nvivo software was used to support and track the large quantities of data and as a means of ensuring that data could be checked by another researcher to ensure it had been correctly allocated to themes.

The Student's Choice of Video and Audio Diaries

The project team had originally intended that all STROLL participants would use a web camera to complete their diary. However, not all the STROLL students wanted to use this technology. The team also had access to a small number of camcorders loaned from the Blended Learning Unit at UH and a number of digital voice recorders. Figures 1, 2, 3 and 4 show how students changed in their choice and their use of the diary capture technologies.
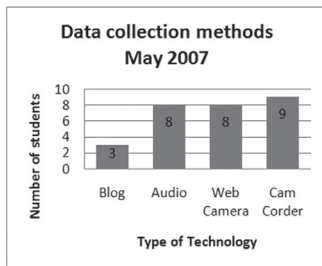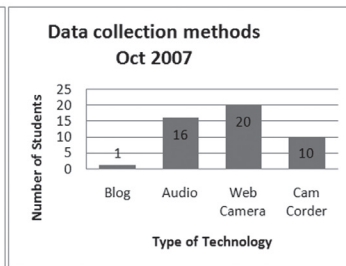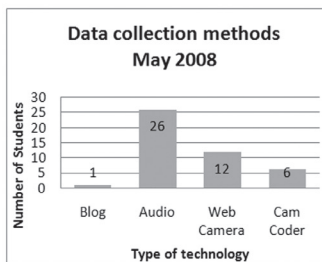

Figure 1
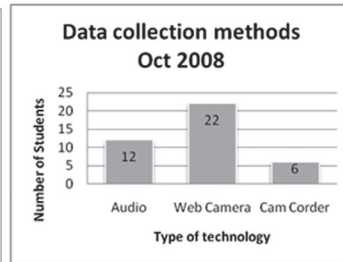

Figure 2

Figure 3

Figure 4

The four figures show that the use of Web camera and digital voice recorder were favourites for recording their reflective diaries. The project team realised that the camcorder produced the highest quality followed by web camera and digital voice recorder. They discovered that there was an increase in use of digital voice recorders over the timescale of the project as they were deemed easy to use, and the volunteers' facial expressions would not be seen by others. The wheelchair student with cerebral palsy found the fine motor skills required to use the web camera and camcorder meant that these were difficult to use with accuracy and for her the digital voice recorder was a better choice as she was "*more in control of it*".

Reliance on Technology as a Ubiquitous Part of These Students' Lives; Students' Views

The project team elicited many interesting findings from the vast amount of video and audio diaries over the 18 month period; there was a reliance on technologies, especially multiple types of technology as a ubiquitous part of the students' lives study and leisure, importance of the MLE to their studies, and importance of access when off campus. In the following sections student comments on the importance of technology and their different uses of it are given. The number of students in the overall project is relatively small so no broad generalisations are made. As mentioned in the introduction it is the different Learners' Voices which the project set out to record and explore.

Many students showed an increased confidence and reliance in using technologies as they settled into university life and showed a willingness to try out technology they had not previously encountered .

> *"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"* (Female, Law, FE-HE)

> *"I wouldn't say it's changed as much as I have developed using it...I am becoming more dependent on it I suppose and I'm using it more."* (Male, Computer Science, HE)

The University of Hertfordshire's MLE StudyNet has gone from strength to strength since its inception in 2001 and its use is almost universally praised by the students who took part in the STROLL project. It is a highly valued part of their learning on and off campus, and noted as their 'one stop shop', a central hub for their learning resources and support. StudyNet is now a ubiquitous part of the study experience at Hertfordshire.

> *"The University has got StudyNet and a lot of lecture notes and lecture slides and even video or audio version of the lecture and discussion forums and e-mail and messaging"* (Male, Business Studies, HE)

> *"... 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 [sic] every day or every time I want to take out the books or Journal"* (Female, Nursing Degree, HE)

The lifespan of the STROLL project has seen a dramatic growth in the use of social networking sites as a potential for supporting students in HE. The UH team noted that StudyNet already had ample provision for providing informal discussion alongside formal discussion options for each module, with wikis, and blog facilities.

"Really, we have our own sort of network there [in StudyNet], which I don't think the social network needs to fill in that gap" (Male, Computer Science, HE)

"…Actually I use Facebook a lot for communicating to people within my team. We use it as more a casual way [of keeping in touch]" (Female, Dip HE Nursing-Adult, HE)

Personal technologies whether laptops or mobile phones or MP3 players were used extensively and creatively by students. From the students who completed the learner's profile, all had mobile phones and 74% owned their own computer, 88% accessed the internet at least daily. The use of personal technology was often used to aid learning for example the use of an MP3 Player / Car stereo to listen to podcasts of lectures.

"Podcast [accessed through StudyNet] continues to be a great inspiration to the way I learn, I find it so helpful to listen to again and again" (Female, Radiography and Imaging, HE)

How do Learners Experience Change Through Their Learning Journey?

There appeared to be a change in the learners' journey though their time in FE and HE, students noticed that learning became more self directed and commented on their perceptions of an increased rise in their work load.

"I suppose how everything is more directed at you for learning and obviously you got lectures. But compared to college or school, it is much more directed at self learning, and students to involve themselves." (Female, Computer Science, HE)

"Be prepared for a big leap…the change from the HRC last year to the university this year to be huge. Just the sheer volume of reading that's required" (Female, Law, FE-HE)

As students progressed though their learning journey, their methods of research appeared to change from Google and Wikipedia to Journals.

"I think my learning has changed a great deal really. At the beginning I thought my assignment writing was good as I've got A- level in English but I've learnt through the last three years, that it has changed… I now use a lot more research, and a lot more data from research journals and journal writing" (Female, Dip HE Nursing-Learner Disabilities, HE)

Some students had reported sharp changes, such as the student below who went from using physical to digital media.

"I've gone from using pencils to do my drawings, to different mediums like digital media like Photoshop and Flash, and other programs like that. I'm using my pen tablet as well so it has really been quite a big change". (Male, 2D-Design, HE)

How do Students use and Make Choices About Their Time?

Students with families commented on how they had to fit in learning around their home lives. These students were heavily dependent on technology to support their learning, as course information must be available 24/7.

"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". (Male, Foundation Degree, FE-HE)

There are a few students who only worked a standard 9am-5pm Monday to Friday but in general as they progressed through university, they reported that they matured and realised they needed to prioritise studying over personal time and be flexible as study time became more highly prized.

"Basically I have three days a week of lectures now and those days are days that are dedicated to those lectures. So I'll usually do the reading for that lecture the week before...So Saturday and Sunday I work in one job, Tuesday and Wednesday I work in another job and Tuesday I have a third job … to pay rent and probably pay for all this technology" (Female, Combined Modular, HE)

How do Students use E-Learning Tools to Support Their Learning?

As this university uses podcasts extensively which are posted on module sites via StudyNet, students reported using the technology to aid their learning on the move, like the student below who listened to her podcasts as she drove home at the weekends.

"Podcasts...[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" (Female, Combined Modular, HE)

StudyNet is widely used throughout the university by lecturers and students and has become an essential part of their learning experience for many students.

"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." (Male, Computer Science, HE)

With the ability to work from home and university, students deemed it important to have the ability to transfer their files. The USB memory stick seemed to be the key for this.

"My little memory stick,[is my favourite technology] which I can carry about in my handbag and I can get things from home to University and vice versa." (Female, Radiography, HE)

Voice recognition software has been described as a favorite technology by some participating students;

"My favourite piece of technology that aids my learning is possibly voice recognition software and the reason I would like to say that is because I have a physical disability …I have an awful lot of reading to do, so rather than reading and making notes, I am reading and speaking my thoughts about what I'm reading and then I save it and print I". (Female, Computer Science, HE)

How do Students Use Their Personal Technologies?

Students used their personal technologies to aid their learning, for convenience. The student below used her mobile phone to download her lecture notes and annotated them on her phone in Lectures.

"Ooh I bought a new phone that's got the internet on it. so er, if I need... if I have woken up very late in the morning and don't have time to print up lecture notes, just go on the internet on my phone look them up there. Great fun. I've bought a new laptop. I have a new external hard drive which stores a lot more stuff on it so I can write and write and write and write for 1,000 gigabyte apparently and it stores on there." (Female, Combined Modular, HE)

One project student uses her mobile phone to video record her lectures, she is familiar with it and thus prefers to use it than to download the lecturer's video of the lecture.

"I am more likely to watch what I have recorded [on my mobile] than to log on to StudyNet and to go through the long procedure of finding something that could have easily been put in [by] a simple method." (Female, Extended Degree, FE-HE)

Discussion and Conclusions

The STROLL project has resulted in the collection and analysis of much fascinating data from listening to our own learners talking via audio and video diaries about the technologies they have used over an 18 month period to aid their learning. The learners at UH have a high dependence on the university's

MLE (StudyNet), there is great enthusiasm for its use, and it is used to facilitate 24/7 learning where studies have to be slotted between work, families and social lives. The MLE allows downloadable pod / video casts, lecture notes, presentations, personal blogs, group discussion areas. Students can also access their timetables, journals, and there is an ability to check book loan availability, and use a feature to renew books from the library. The MLE also provides email and personal messaging *inter alia*.

The STROLL volunteers have used a variety of personal technologies to aid their learning such as; MP3/4 players to listen to podcasts on the go, laptops, mobile phones, games consoles, Google documents, voice recognition software, Dictaphones, TV, and much more. These technologies, are familiar, convenient and easily accessible, and many students already possessed them as their personal choice of technology for leisure.

The project team noted that as the learners reflected on their use of technology, they revealed the extent to which they now depended on technology provision for multiple academic and social reasons. One of the project's music students used his webcam to show all the technology that he uses in his room for learning and social use. This included a PC, MAC, Keyboard, Mini Keyboard, Mixers, Microphone, Nintendo wii, which had been linked together by his own network, another commented that:

> *"…this week it has really enlightened me [sic] that I am very, very highly dependent on the Internet and networks that the university runs."* (Male, Business, HE)

During the time period of the project there was a huge growth in the use of social networks such as Facebook, which was barely on the horizon in October 2006 when the project was originally proposed and was not mentioned by the LXP1 projects. In the later stages from October 2008 there has been a levelling off for some students' enthusiasm in its use. The project team reflected that social networks were used for informal communications with fellow university students as they said that the MLE StudyNet already provided a sufficient area for discussion and uploads.

Students use university provided and personal technologies for supporting their academic and social lives. Learners reflected that their chosen social network and the MLE would both be open on their laptop and they flicked between the two. Technology has become for most of these students an integral and ubiquitous part of their lives regardless of the programme of study for which they were originally registered.

Acknowledgements

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