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Networks and locations for student learning

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This article examines the significance of place and location at a time when mobile and networked technologies allow students access from a diversity of contexts. The article reports a cultural probe exercise. Over a 24-hour period, undergraduate students received SMS text messages and recorded answers to a fixed set of prompt questions using a small hand-held video camera or a notebook. Our findings provide limited evidence of changes in student practices in relation to the adoption of mobile network access. Students still use the kinds of learning spaces they used 10 years ago despite the increased availability of wireless access to the internet and the increased ownership of mobile devices. An area where there has been significant change is in the social character of students’ engagements with networked technologies and the integration of the mobile phone, social networking and other social technologies into the everyday fabric of student life.

Keywords: Net Generation; Digital Natives; millennials; student experience; learning spaces; higher education

Introduction

The idea that the internet would change learning practices was sketched out in the late 1980s and early 1990s. Harasim et al. writing about network learning suggested that:

Network learners of the future will have access to formal and informal education of their choice, wherever they are located, whenever they are able to participate. … The network learner will be an active participant … learning with and from experts and peers wherever they are located. (1995, 273)

Such hopes are not uncommon today (Tapscott and Williams 2010) and it is still an open question as to why the changes associated with the affordances of network technologies have been so slow to appear (Bates 2010). One possible answer is that the affordances of technologies have to be actively appropriated
by their potential users (Bachmair, Pachler, and Cook 2009). In the case of higher education, this would include the educational institutions and the staff and students who were participants in the process.

As education and learning move into networked and mobile settings design, attention has to be focused on those points where choices can be made between the variety of tools, services and resources because both digital and material forms become available as alternatives (Goodyear 2009). Networked learning takes place in learning infrastructures, which are ensembles of digital and material forms, adding to the complexity of design (Jones and Dirckinck-Holmfeld 2009). Simple choices between online and face-to-face, or between distance and local, become increasingly complex as educational designs blend a variety of components in a variable geometry. Nardi and O’Day (1999) have discussed the concept of local habitation in the context of an ecological view of technology. By local habitation they mean settings in which individuals have ‘an active role, a unique and valuable local perspective, and a say in what happens’ (Nardi and O’Day 1999, ix). Nardi and O’Day emphasise connections and action in those ‘spheres where we have knowledge and authority – our own information ecologies’ (1999, x). This located and relational view of technology identifies the way in which technologies are multi-functional and the same apparent configuration can have different meanings for users of the technology. Their claim is that local participants co-construct the identity of technologies through their patterns of use and the location of a technology is defined in terms of its position in a network of relationships. The discussion by Nardi and O’Day draws a contrast between most people’s distance from national policy and their capacity to influence in their own home, classroom or workplace.

At the beginning of the new millennium, Crook conducted research focused on what was then a novel group of students which he described as ‘partially virtualised’ learners located in a traditional residential campus (Crook 2002, 294). Crook was researching and writing when extensive networking of student residences was relatively new and much of the rhetoric around the application of digital networks to education focused on the virtual campus and the potential threat to place-based and campus-located education. The term he used to describe the networked study bedroom was a ‘learning nest’. He warned against idealising this space and against the ideas that suggested learners were held back from an enthusiastic embrace of new technologies by institutional barriers.

Crook reported that the use of computer-based collaboration was modest and the joint activity that took place between students was in their study bedrooms or located around routine social interactions, such as over a meal. He reported that the majority of students discussed their work in and around time-tabled sessions such as walking between classes and lectures or in chance encounters. Formal meetings with staff and other students were rare and the formal use of discussion boards, text conferencing and email for
debate was limited and only 5–7% of incoming email was study related. The heaviest use of networked technology was of ICQ (an Instant Messenger) to exchange short messages, though Crook suggested that ‘the use of this tool was largely limited to playful purposes’ (2002, 302). Finally, Crook noted that the focus on the networked computer, and the graphical interface which provided a single site for working, might lead to greater distraction and the intensive use of a networked computer was not always well focused on the curriculum.

The educational process he described was focused on institutional requirements, the lectures, classes and assessment that took place around the supplied technological infrastructure. It is striking that technology usage did not have a large social component and this suggests a contrast with current use of social networking sites and indicates that a revisiting of student practices using networked technologies might be of value. Crook found little evidence that the practices of lecturers were strengthening a participatory approach and the question as to whether networks were to become a conduit for delivery, or an arena for participation, depended on a deeper pedagogic discussion amongst university management (Crook 2002, 307).

Crook was writing when e-learning was still relatively new and related to the rise of the World Wide Web in the mid- to late-1990s. This phase of development followed an earlier period of excitement that arose almost 10 years earlier with the impact of the internet, and prior to the graphical interface (WYSIWIG) and the widespread inclusion of multimedia. Between these two phases, there had been a shift in the dominant metaphor for learning. The internet gave rise to early forms of networked learning (Harasim 1990; Mason and Kaye 1990; Harasim et al. 1995) which stressed communication and dialogue. The rise of the web and the graphical user interface gave rise to a greater stress on access and the delivery of content (Ryan et al. 2000; Weller 2002). Arguably, these two approaches are deeply embedded in metaphors for learning and each was given a different prominence as the waves of new technology arose (Sfard 1998). Sfard distinguished between the acquisition and participation metaphors for learning whilst more recently Weller has used the terms broadcast and communication to describe the models applied to the use of Virtual Learning Environments (VLEs; Weller 2007).

The development of broadband networks, the increase in mobile technologies and the explosion of Web 2.0 services have led to another step change in expectations and a new educational rhetoric around personalisation and participation. This article makes a small contribution to this debate by examining the current and developing practices of students in place-based universities. It explores the ways in which networked technologies are having an impact on learning spaces and whether the rise of mobile technologies has had a significant impact on student practices and the use of physical and virtual space (Castells et al. 2007; Traxler 2009). A second interest concerns the role of
agency in the appropriation of digital and networked technologies and contrasts the idea of an active appropriation of technology with the deterministic rhetoric of the Net Generation (Tapscott 1998) and Digital Natives (Prensky 2001). This article forms part of a special section in this issue that takes a critical stance on the generational and technological determinism found in this debate, and a fuller account of this stance can be found in the editorial whilst a discussion of agency by the authors can be found in a related article (Jones and Healing 2010a).

The research context

The research forms part of a two-year Research Council (ESRC) funded project ‘The Net Generation encountering e-learning at university’. The research took place over two years and applied a mixed methods approach that included three surveys and interviews with students and staff (faculty). A summary of the first phase of survey research can be found in Jones et al. (2010) and findings from the second phase of research in Ramanau, Hosein and Jones (2010) and Jones and Hosein (2010). The data reported in this article were collected using the Day Experience method (Riddle and Arnold 2007) and during interviews. This method complemented the survey work by allowing students to collect data that explained how they were making use of the kinds of technology that they had answered survey questions about. The cultural probe also supplemented the interviews gathered from students by illustrating in video clips the kinds of activities spoken about during interview. The research was conducted in five English universities selected to represent the main ‘types’ of university. Access was gained to 14 course areas (in each survey) across a range of pure and applied subjects and disciplinary areas (see Table 1).

The students were all first-year undergraduates studying for a Bachelor’s degree, and the sample provided a diversity in terms of age and other demographic indicators as it was composed of the full cohort of students on all courses. The data reported in this article were confined to place-based universities because the distance students, at University C, had significantly different study patterns and use of Information and Communication Technology (ICT; see Ramanau, Hosein, and Jones 2010). The focus in this article is on the local habitations of students in place-based universities.

The students were provided with a small video camera (Flip or Creative Vado camera) and a small notebook. All of the students had their own mobile (cell) phone to which the research team could send SMS (Short Message Service) text messages. Over the course of 24 hours, each student received approximately 11 text messages. The times that these were sent were adjustable so that students could indicate when they would like the messages to cease at night and then start again the following morning. All students were
Table 1. University types and courses.

<table>
<thead>
<tr>
<th>Location</th>
<th>Universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Large urban metropolitan (founded in nineteenth century)</td>
</tr>
<tr>
<td>B</td>
<td>Large urban metropolitan (founded in twentieth century from polytechnic)</td>
</tr>
<tr>
<td>C</td>
<td>Large-scale distance</td>
</tr>
<tr>
<td>D</td>
<td>Mid-size campus outside small city (founded in late 1960s)</td>
</tr>
<tr>
<td>E</td>
<td>Mid-size with multi-site campuses in small towns (founded in twenty-first century)</td>
</tr>
<tr>
<td>Course units</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>English</td>
</tr>
<tr>
<td>B</td>
<td>Sociology (Survey 1)/Social science key skills (Surveys 2 and 3)</td>
</tr>
<tr>
<td>C</td>
<td>Science</td>
</tr>
<tr>
<td>D</td>
<td>Modern languages (2, German and Spanish)</td>
</tr>
<tr>
<td>E</td>
<td>Journalism</td>
</tr>
<tr>
<td>Bio-science</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Information and communication</td>
</tr>
<tr>
<td>B</td>
<td>Health and social care (Survey 1)/Social science (Surveys 2 and 3)</td>
</tr>
<tr>
<td>C</td>
<td>Computing</td>
</tr>
<tr>
<td>D</td>
<td>Psychology</td>
</tr>
<tr>
<td>Veterinary science</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>The arts</td>
</tr>
<tr>
<td>B</td>
<td>Accounting and finance</td>
</tr>
<tr>
<td>C</td>
<td>Social work</td>
</tr>
</tbody>
</table>
provided with the following questions to answer when they received a text message. As a reminder, the questions were attached to each notebook:

- What time is it?
- What are you doing?
- Are you using any technology and, if so, what is it?
- Where are you?
- Who are you with?
- How do you feel about it?

Each student then recorded their responses, when it was appropriate to do so, at a time as close as possible to the receipt of the text message. They could record their response either in writing in the notebook or in the form of a video clip, either to record a diary entry on the camera or to provide a video of the setting they were in. The research took place in Spring 2009, when the students were in their first year of studies, and one year later in Spring 2010 during their second year.

In 2009, the research team received a total of 172 video clips from 18 first-year students. The students had volunteered for interview when surveyed and then agreed when interviewed to take part in this intervention. The number of video clips recorded ranged from a minimum of one clip to 20 clips. One student was unable to complete the task due to a mobile phone problem but the student did provide a diary entry for the 24 hours. Students at each university were also brought together for a group interview during which clips from the video recordings were played and issues selected by the research team were discussed. The ages of the students included both Net Generation age students (those born after 1983) and students over 25 when they entered university.

The intervention was repeated in the spring of 2010 during the second year of study and a total of 13 students from the original 18 agreed to participate. Two of these students were unable to take part due to personal circumstances (a bereavement in one case), and data were collected from 11 students. The balance of the recorded data shifted from video clips to notebook entries in the second round of data collection. Twenty-three video clips were recorded from five of the 11 participants and a total of 115 notebook entries (maximum 14, minimum 4 entries). Each of the 11 students was individually interviewed by phone following the intervention.

**Broader research findings**

From the first phase of research we concluded that whilst there were strong age-related variations amongst first-year university students, it was far too simplistic to describe students born after 1983 as a single generation. We found that the claims about a Net Generation were undermined by a lack of
homogeneity in first-year students’ use and appreciation of new technologies and that there were significant variations amongst students that lay within the Net Generation age band. To provide context for the research reported in this article, we report some of the key findings from the full research (for further information, see Jones and Healing 2010b; Jones and Hosein 2010; Jones et al. 2010; Ramanau, Hosein, and Jones 2010). Amongst place-based students, those directly related to the Day Experience intervention, 90% of students reported laptop ownership. They also reported significant levels of ownership of other devices (see Figure 1).

An issue with some importance in terms of the changed technology landscape in the past 10 years is that of portability. Some insight can be gained by examining internet access because 95% of students had personal internet access and 68% had either wireless or mobile broadband access which would enable internet access that was not confined to particular locations. Other students with internet access (27%) had either dial-up or wired broadband, which meant that they were confined to a particular location (see Table 2).

Table 2. Internet access.

<table>
<thead>
<tr>
<th></th>
<th>Dial-up</th>
<th>Wired broadband</th>
<th>Wireless broadband</th>
<th>Mobile broadband</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>61</td>
<td>444</td>
<td>366</td>
<td>138</td>
</tr>
<tr>
<td>No</td>
<td>326</td>
<td>47</td>
<td>112</td>
<td>259</td>
</tr>
<tr>
<td>Not Sure</td>
<td>120</td>
<td>56</td>
<td>67</td>
<td>123</td>
</tr>
<tr>
<td>Missing</td>
<td>72</td>
<td>32</td>
<td>34</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>579</td>
<td>579</td>
<td>579</td>
<td>579</td>
</tr>
</tbody>
</table>
Students reported that network connectivity was important for:

- Keeping in touch with other students \( (M = 4.5, \ SD = 0.8) \)
- The ability to contact tutor \( (M = 4.5, \ SD = 0.7) \)
- Access necessary for study at university \( (M = 4.6, \ SD = 0.7) \)

(five-point scale with 5 = strongly agree, 1 = strongly disagree)

Students reported that access to university computers remained important by their disagreement with the statement ‘I don’t rely on the use of computers at university’ (1.7). Students also tended to disagree with the negative statements ‘I am not clear about how the use of ICT can improve learning’ \( (M = 2.2, \ SD = 1.2) \) and ‘I am reluctant to use ICT in university studies’ \( (M = 1.9, \ SD = 1.2) \). This suggests that students have at least some notion of how ICT use can improve learning and a positive attitude to ICT use in their studies. Finally, a second area of significant change, presaged in Crook’s (2002, 302) comments about ICQ, is the growth in the use of social technologies such as social networking sites, instant messaging and the near ubiquitous use of mobile phones for SMS text messaging. Our surveys showed a high use of social networking (see Ramanau, Hosein, and Jones 2010) and a generally high use of ICTs for social life and leisure that accelerated between the beginning and the end of the first year of study. Notably, only 8% of the students indicated that they never used instant messaging.

A day in the life

The Day Experience intervention supplemented the survey data and interviews we had undertaken by providing us with an insight into the range and nature of first-year university students’ activities. Two vignettes have been constructed from representative student data to illustrate the main features of these two age-related contexts. The examples that follow the vignettes are taken from individual student’s responses and the student’s demographic data are reported with each clip (age, gender, course and university). These demographic factors have been shown to have importance for variations in students’ use of technologies in our own research and the research of others in this area (Jones and Hosein 2010; Jones et al. 2010).

Typical days

The kinds of days that were typical depended upon age-related contextual factors such as family and work responsibilities. Older students were more likely to have their days ordered by the kinds of responsibilities they had outside of the university setting. Younger Net Generation aged
students were more typically focused around the work of the university and the kinds of social life and leisure opportunities offered by a university life.

Vignette 1
Beth is a young student studying a science-based course. Like many students, she balances a busy social life that includes sport and a range of leisure activities with academic work. Her study room is a comfortable space with a range of technologies at hand including a laptop computer and a mobile phone. The day moves between different spaces but often remains within the confines of this room.

Right, I’ve just flicked on to the internet and I’m just checking my Tiscali e-mails which is the first thing I usually do and see whether anybody interesting has bothered to contact me. Usually there are only Facebook notifications – looks as though there is one from my football team which means I probably will actually go on to Facebook which is never a good idea to see what all that’s about. I usually follow the same thing each day; I log on to my Tiscali e-mail, see whether anything interesting is on there; usually there isn’t. Then I go on to BBC sport because I’m a bit of a sport addict and see what’s happening there. Then I check my [University] student e-mails because there’s usually a lot more going on there. That could be if there is any lecture changes or exam results out that I need to be aware of. Then I log into [local Virtual Learning Environment (VLE)] and the lecture writing up begins.

This is the portal home page, got all sorts of stuff on that, my e-mail, [local VLE] my life saver, random announcements that may be of interest to us, not really. Here’s [local VLE], if it wasn’t for this it would be so difficult … So thanks for this, it’s an absolute life saver.

I think I’ve missed the last couple of texts. I’ve been far too busy playing football, need a good respite from all of this hard work … so back to the hard work, I’ve got to continue with the lecture I was doing earlier … I need to actually look that up on the internet, I just need to look up a few definitions. (Net Generation, Female, Veterinary Science, University A)

Social life and work merge on screen and it is at the end of the sequence that the VLE is accessed. Despite being a first-year student, the process is described as a regular activity that moves from the social towards work.

Vignette 2
Helen is a busy Mum. She moves from university to home and then picks up the children. Her early evening is full of domestic work and engagement with her children whilst they use their own technologies, mainly games.
Later in the evening when the children have gone to bed, she begins to work in a corner of a domestic room that is equipped with a laptop computer and a desk. Work goes on for a couple of hours before bed and includes working online as well as reading for the next day’s classes. In the morning, Helen goes to the lecture theatre early after dropping the children off and works on her laptop online until the lecture theatre fills up for the first class.

It’s just gone seven o’clock and I’ve just turned on the laptop ready to start some work. The children are busy on Nintendo DS’s.

Hi, the time now is 20.16 and I’ve just started work on my CV. The children have now gone to bed so there should be peace and quiet.

I’m still working on my CV, the time now is nine o’clock and now I’m getting tired. [Camera moves around the room showing books on a shelf to the left and the laptop in front. As the camera pans right the scene moves from a work station to a living room in dim light with a TV turned on to the rear of the workstation without sound]

Not much has changed from before, still working.

As you can see the fish are going to sleep, it’s very quiet. … The television is off, the Wii is off, and I’m still in my corner on the computer. Just put all the washing to dry, made a cup of coffee, and going to start my next lot of work. Everybody else has left me, so I’m very tired now, bye.

The time is now 23.15 … as you can see [laptop screen showing graphs and data] I’m working on cinema attendances and I’m very, very tired now and I’m going to bed in a moment. (Non-Net Generation, Female, Information and Communications, University B)

The work took prominence in this account and social life is largely domestic and family based.

Locations

The common locations for all students were dedicated work spaces at their term time home, either within a permanent residence or in a student study bedroom. Students of all ages routinely showed either rooms that were dedicated to study or were multi-functional, with a study area set aside from other activities. Other common locations were the university library or multi-media centres, lecture theatres and computer labs. Most of the work was reported as taking place in the dedicated study areas at home, with little evidence of work being undertaken using mobile devices (Examples 1 and 2); however, there were a number of clear examples of the use of mobile devices away from the main study areas (Example 3).
Example 1. Study area in a permanent home address

As you can see I’m in my spare bedroom, which has got washing, place where I keep my washing, my exercise bike which usually just sits in the corner, my desk which has my laptop and all the current things I’m working on at the minute, my ironing board and a couple of bookcases. At the moment I’ve only got two bookshelves that I use for my work and this is basically where I spend most of my evenings. Usually two to three hours an evening, depends on what I’ve got to do ... I’ve got a normal computer downstairs which is attached to a printer, which I print everything off but this is basically ... where all my work gets done. (Non-Net Generation, Female, Social Work, University E)

Example 2. Study bedroom

I’m still doing my homework, it’s a different homework this time but I’m using my laptop again, on Facebook and also using MSN to talk to my friends. I’ve also got like an on-line dictionary in here which is helping me rather than using the book ‘cos it’s much quicker, like a proper dictionary ‘cos it’s much quicker. I’m in my room so I’m surrounded by all my stuff which I like. (Net Generation, Female, German, University D)

Example 3. In a public area using mobile device(s)

I am currently in the MRL [Multi-Media Resource Laboratory] and the technology I am using as you can see Microsoft OneNote for note taking, Microsoft Word and WebCT which I’m currently downloading some assignments off. I’m on my own doing work and the environment I am sitting in is comfortable as you can see [view of sofa seating with more formal area in the rear of the shot], which is fairly busy as well. I am currently using my laptop for doing my studies and mobile phone for communicating with other students. (Net Generation, Male, Information and Communications, University B)

Interactions

Students varied considerably in the amount of face-to-face social interaction. All the students were connected and most were connected all the time with contact maintained with other students, friends from home and the resources needed for study purposes. Some students spent most of the 24 hours without any face-to-face contact with others but even these students had contact mediated through one or other communications technology such as social networking sites, SMS text messaging or Voice Over Internet. In some cases there were examples of social interaction within student study bedrooms around computers. These were often face-to-face group interactions with the computer forming a point around which social interaction took place. The
interactions concerned games playing, social network site interaction, photographic images or work-related items.

Example 1. Alone

I am practising for my theory test that is tomorrow at 10.30 pm [view of laptop]. I’m sitting in my room and I’m playing, actually I’m not playing, I’m using my laptop for these questions. … [Background noise of streamed radio from laptop] and I was using, I did just use my phone to text my girlfriend and I’m sitting in my room, that’s about it so far. But I’m very nervous about my theory test. (Net Generation, Male, Broadcast Journalism, University E)

Example 2. Mediated contact

I am sitting at home [study bedroom]. The technology I am using is a laptop of which I am on Skype to my friend, you can see him there say hello [another voice says hello, view of video image of the other person on Skype], hello, he’s from Wigan so he talks like this [imitates accent] and I am using my mobile phone as well. Who I’m with, I’m not with anybody at the moment apart from my friend … and I am very comfortable in my environment. (Net Generation, Male, Information and Communications, University B)

Example 3. Interaction around computer

I’m sat in the library with Tom, Ravsi with Kirk and Sam and we are doing our marketing formal assessment. Am I using any technology? Yes I am. I am using my MacBook and we are working with KeyNote which is the equivalent of Microsoft PowerPoint. My mouse and my mobile and USB sticks and that’s about it. How do I feel about it? I don’t feel anything in particular about using this technology, I don’t know does anybody else? [Others agree] Everyone seems to be good, but no it’s cool it’s helping us with our presentation for marketing which is formally assessed on Thursday. (Net Generation, Male, Accounting and Finance, University D)

Changes in the second year

The comments made by students in their second year largely reinforced the data we had collected during their first year at university. There were, however, some significant changes in particular locations. In University D, a campus university, a new informal learning area had been opened. The area was equipped with wireless networking, loan laptop computers and a comfortable working area.

There’s a learning centre on campus, which was being built last year and it’s been open since the start of October 2009 and basically it’s a big environment...
with desks and chairs and bean bags and all sorts of stuff like that, and you can use it any time you want, 24 hours a day, and you go in there and it’s just a learning environment, there’s no books or anything like that, its just plugs, wireless internet and printers there and you can just use the internet for networking. (Net Generation, Male, Computer Sciences, University D)

This change in the campus infrastructure had begun to alter some students’ use of mobile technologies on campus.

I had a laptop last year, but I usually just use the computers on campus, but since the [name of learning area] has come into place, it’s much easier just to bring your own. (Net Generation, Female, Modern Languages, University D)

This student had retained her laptop from the first year and used this in her room but she had then purchased a netbook which she then felt able to take around the campus. Because the change had taken place between the two interventions, we were given clear accounts and comparisons between the way students had worked in the two academic years. Previously security had been an issue for laptop users because of the, often personal, data held on the computer.

I don’t have the hassle of having all my photos on [the netbook], so I don’t have to think about if I break it or if I lose it. (Net Generation, Female, Modern Languages, University D)

The noise and potential for distraction in the new learning area was not thought to be a big problem although it varied considerably over the course of a normal day with a peak around noon when students use the area as a meeting point.

It can get quite noisy, it depends on the time of the day, I mean about 12 o’clock midday I would probably say it is very noisy, because a lot of people would probably use it as a meeting point rather than just a point to get work done. But in the last minutes of the day or very early on it is very quiet. (Net Generation, Male, Computer Sciences, University D)

Overall, students gave strong personal reasons and preferences for their uses of particular spaces. Another student in the same age group and studying the same course reported a different use of space.

I suppose I like being in my own room but that is kind of like a bad thing at the same time because you are in a comfortable environment and I get distracted by Facebook. … So sometimes I just force myself to go to the library where pretty much you have got to do work, you can’t get distracted as easily. (Net Generation, Male, Computer Sciences, University D)

These choices related to highly personal preferences, for example in terms of levels of noise and the kinds of noise that were either conducive to the work at hand or distracting.
Discussion and conclusions

Students remain located in familiar settings, study bedrooms, study areas in their permanent home and in dedicated study areas in universities. Their use of mobile technologies is still somewhat restricted although there is some evidence that minor institutional changes can have significant effects on the way mobile technologies are taken up. Students also show a high degree of integration of networked and digital technologies in all aspects of their lives and for both study and social purposes. Students seem to be permanently connected with a blurring of the boundaries between face-to-face social interaction and interaction mediated by technologies.

The settings that students reported are local habitations in the sense that students have a degree of control in making use of available resources by negotiating the meaning and relevance of a technology within their own life space and the flow of their lives. They are active agents because each student has their own study practices, subject area and network of relationships and they don’t act uniformly in relation to the technologies and services they are presented with. As Crook (2002) reported, students experience technologies within an institutional context that helps to shape their understanding of the technological landscape they encounter. Our research also reinforces comments made elsewhere about the mediated institutional power that is evident in the patterns of student engagement (Jones and Lea 2008).

Our respondents were generally surprised by the way our research drew attention to the amount of technology they used and its significance in their lives. Crook (2002) had already noted the way different activities were combined in a single graphical interface. We found an increasing and apparently seamless incorporation of social networking and communication technologies into everyday life and a growth in the potential for mobility. Despite the widespread use of the mobile phone, laptop computer and both wireless and mobile internet connections, it was striking how close the locations of student activity remained to those described by Crook in 2002. Students still largely inhabited the spaces that were described when network access was fixed. Students were working in study bedrooms, dedicated work spaces in permanent homes and university provided spaces such as the library and computer labs. The possibility of realising the potential for mobile technologies is indicated by the rapid change on one campus. Students in our sample were using laptop computers and smart phones, including the Blackberry, but the key to the adoption of a set of mobile practices relied on the introduction of a specific zone on campus.

One of the ways there has been considerable change is the way that technology is now integrated in student social life and leisure in ways not predicted in Crook’s work. In 2002, Crook viewed students as being open to
technological change and the partial virtualisation of the university but with clear limits provided by the lack of social interaction in the mediated environment. This was contrasted with face-to-face encounters that allowed for much richer exchanges. Whilst aspects of this account remain true, it is striking that students now engage in rich and often mediated ‘face-to-face’ encounters (see the example of video Skype above). Technology and partial virtualisation has given way to a much more integrated use of mediating technologies in all aspects of social life and leisure amongst students.

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References


