

STUDENTS' PHYSICAL AND DIGITAL SITES OF STUDY: MAKING, MARKING AND BREAKING BOUNDARIES

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Introduction

Students' day-to-day study practices are complex, relying on heterogeneous networks of people and things. In this chapter, we will argue that studying draws in a wide array of technologies; takes place in both institutional and personal settings; and involves the consumption and production of a variety of digital and print texts.

Drawing on sociomaterial perspectives (e.g. Fenwick et al 2011) and theories of space as a social phenomenon (e.g. Massey 2005), we will analyse evidence from a JISC-funded study exploring students' accounts of learning with technology. This analysis shows how spaces are not simply found, nor are they just 'containers' for social practice, but are constantly generated by students.

First, the theoretical framing for this work will be outlined. Then, the study will be described. Examples will be provided that demonstrate the ways in which students manage sites of study, creating and breaking boundaries between these sites. The chapter will conclude by identifying implications for research and practice.

Background

The apparent problem of places and spaces

Early writing about online study characterised it using phrases such as 'any time, any place' learning (e.g. Hiltz & Wellman, 1997), often idealising the virtuality of educational

experiences (e.g. Hamilton & Zimmerman, 2002). Rhetorically, these experiences were set against the traditional classroom, creating an either/or binary between online and traditional forms of education, and were framed in terms of liberation and freedom. However, studies of fully or partially online courses have since shown that assumptions such as this can be jarringly different from what students actually experience (Holley, 2002). One explanation of why this happens is that such idealistic writing frequently relies on what Land has described as the ‘incorporeal fallacy’ (Land, 2005): the idea that in online learning, the bodies of learners somehow disappear, or at the least, are rendered irrelevant, and that the spaces and places they inhabit somehow dissolve or dissipate.

This idea of the dissolution of spaces can be seen as a powerful fantasy for education, one that – if it were only true – might solve some of the challenges of providing sufficient high-quality education for the millions worldwide who want to participate in education (Laurillard, 2008). As a result, the persistence of this discourse is easy to understand, as are the very negative connotations that it carries about the role of ‘space’ in education. In the literature on educational flexibility, for example, which seeks to improve access to educational opportunities, ‘space’ is framed in terms of an obstacle to be overcome. Technology is then framed as a way of overcoming this limitation – it becomes the means of liberation.

Considerable work has been done to understand the different ways in which education could be made more flexible – Nikolova & Collis (1998), for example, outline 19 different kinds of flexibility, clustered around the time of participation, course content, entry requirements, instructional approaches and course delivery. However, the primary orientation for this work has been to support distance learning, and so the idea of space as a problem to be overcome persists. In Nikolova & Collis’ framework, for example, the only times location is mentioned are in “places for study and course participation” and “times and places for support”, neither of which substantially develops the ideas of space or place.

These issues persist. For example, a report sponsored by the Higher Education Academy in the UK framed the situation in a way that is linguistically revealing.

Technology offers a number of opportunities and challenges for higher education, both enhancing existing provision and opening up new potential. [...] Technology naturally enables the provision and delivery of flexible learning and pedagogy. Flexible learning is concerned with the pace, place and mode of learning: [...] where place is concerned with the physical location, which may be work based or at home, on public transport while commuting, or abroad when travelling. [...] Thinking of the three variables above, namely pace, place and mode, then a pedagogical approach can be positioned within the three degrees of freedom, ie a three-dimensional space of flexible learning. In the following diagram, the bottom, front-left point being no flexibility in any axis, and increasing levels of flexibility, ie choice, as the space is traversed from left to right, front to back and bottom to top. (Gordon, 2014)

In this framing, 'place' is a constraint. To be fair, mathematically speaking, the term, 'degrees of freedom' is not value-laden; however, in this case, the association of this term with "increasing levels of flexibility, ie choice", is. Technology under this formulation is something that cannot help but liberate us: it "naturally" enables flexibility.

This highly deterministic framing fits a particular pattern of talking about education, and specifically, about how it can be 'opened'. Knox (2013), exploring educational discourses about openness, challenged the negative way in which discussions of technology framed the idea of liberty. Openness, Knox argues, is typically described in terms of shedding "unfreedoms", such as the constraints and bottlenecks of institutional spaces and places, which become associated with exclusion and closure. There are echoes of this, for example, in the kinds of disaggregated future for Higher Education discussed by Weller (2011); his

functional account of higher education makes the point that existing forms have arisen in part due to the economics of physical provision, and the networked alternatives he envisages, being digital, are described without any reference to their physical instantiation. The problem with this framing of the situation is that, “as a result of this focus, there is a distinct lack of consideration for how learning might take place once these obstacles are overcome” (Knox, 2013: 824). Simply stripping away infrastructure does not necessarily offer anything in terms of new, positive liberties for learners. In order to explore this concern further, it is useful to consider what it is that such infrastructures provide for learners.

The materiality of study

Perspectives such as can sociomateriality can help to move beyond this kind of idealised, simplistic account. This perspective draws attention precisely to the ways in which successful practices are instantiated physically and socially through networks of people and things.

Humans, and what they take to be their learning and social process, do not float, distinct, in container-like contexts of education, such a classrooms or community sites, that can be conceptualized and dismissed as simply a wash of material stuff and spaces. (Fenwick *et al*, 2011: vii)

Such a sociomaterial perspective shifts the emphasis away from projecting what technology might enable (or even necessitate) and towards understanding how existing things have been achieved – a reframing that both opens a possibility for critique, and supports the pragmatic aim of achieving change. As Latour (2005: 103) argues, “to explain is not a mysterious cognitive feat, but a very practical world-building enterprise that consists in connecting entities with other entities, that is, in tracing a network.” In pursuing such explanations, research can respond to Selwyn’s challenge (2008) that research on educational technology should turn away from speculation about what might be possible and instead ground itself in

the “state of the actual”, in order to connect to contemporary debates within the field of education and beyond.

From this perspective, Weller’s comments (2011) about the economics of physical provision look less like a problem, and more like a success story of heterogeneous engineering.

The campus is best thought of not simply as a constraint but, to borrow Brown and Duguid’s phrase, as a ‘resourceful constraint’ (Brown & Duguid 2000: 246), one it would be premature to write off and which those developing distributed learning need to take seriously. [...] The campus – or more generally, the co-location of learners, teachers, labs, class-rooms, lecture theatres, libraries and so on – refuses to lie down and die. [...] Those seeking to develop distributed education should understand the support a campus setting gives the educational process and should be prepared for the necessity to find new ways of providing that support in a distributed education context. (Cornford & Pollock, 2005: 181, 170)

Understanding how the campus enables education through the provision of established sociomaterial networks requires close attention to contemporary teaching and learning practices. This is not simply some romantic nostalgia for some ideal, monastic past, but a more profound reshaping of our being-with technology (Cousin, 2005). It demands a close look at the ‘state of the actual’, something that challenges many of the claims popular in educational technology, which draw their rhetorical power from dismissing current teaching as outmoded, obsolete, or at the least, under threat from new approaches. Clark (2010), for example, lambasts lectures as a “hopeless pedagogic technique”, damned through the “tyranny of location”. However, his account portrays lectures purely as a means of transmitting information (ideally in an entertaining manner); it assumes that the lecture simply consists of talking at an audience, and is therefore ready to be replaced by more

efficient means of broadcasting that information. However, as Fuller (2009) has argued, viewing the lecture in such an instrumental way ignores various important aspects of its purpose – such as, that it is also an argument that is being exposed to critical scrutiny in a public setting, and that it forms part of a wider array of socially framed knowledge work.

This richer understanding of educational practice undermines the idea that lectures (and other educational moments) are tightly bound by time and space, allowing it to be replaced by an analysis that shows the ways in which it connects and relates to other social practices. For example, within contemporary lecturing practice, it has been argued that the extensive use of digital media, such as automated capture or student recordings, extends the lecture beyond the immediate performance and, through networks of technologies and practices, connects it to other, wider, conversations and debates.

‘The classroom’ or lecture hall has perhaps remained the most iconic symbol of what is seen as the ‘traditional’ university, and is often placed in opposition to ‘elearning’ as somehow representing the essence of what is ‘face-to-face’ and non-digital. [...but] the VLE also causes the epistemological nature of the lecture and the ontological status of the lecturer and students to be destabilised. The claims of the lecturer may be more easily called into question, and may be simultaneously checked, challenged or undermined in class with recourse to external online authorities. [...] The biological body of the lecturer has been displaced, shifted to the side or dwarfed by the screen. The lecturer’s voice has become a voiceover to an increasingly visual spectacle. The point at which new knowledge is made available has become radically dispersed.

(Gourlay 2012)

The posthuman, sociomaterial perspective Gourlay uses highlights another important principle: the idea that things such as technology also need to be treated as actors in social processes. As Hayles explains:

The more one works with digital technologies, the more one comes to appreciate the capacity of networked and programmable machines to carry out sophisticated cognitive tasks, and the more the keyboard comes to seem an extension of one's thoughts rather than an external device on which one types. Embodiment then takes the form of extended cognition, in which human agency and thought are enmeshed within larger networks that extend beyond the desktop computer into the environment. (Hayles 2012:3)

Once technologies are identified as potential actors, it also becomes possible to reconsider educational practices in distinctive and interesting new ways. A well-established principle of ethnographic work informed by Actor-Network Theory is that it is important to “follow the actors themselves” (Latour, 2005: 12), whether those actors are people or things. This has enabled careful accounts to be developed both of how technologies are entangled in practices, such as Thompson’s exploration (2012) of how the delete button forms an important part of learning, “acting as a line of defence against information overload, arbitrating relevance, serving to presence and absence other actors, safeguarding against intrusion, and both opening and enclosing spaces” (p106). By studying these entanglements it becomes possible to explain how technologies become ‘fluid’, acting in different ways depending on the network of relations in which they are embedded (e.g. Enriquez, 2009); in this way, technologies enable different configurations of mobility, resulting in new arrangements of ‘moorings’ that tie practices to specific configurations of space (Enriquez, 2011). These new arrangements have been described as “cyberspaces [...] the complex webs of material

practices through which technologically mediated education is enacted” (Edwards *et al*, 2011).

Rethinking education in this way emphasises the relational framing of educational spaces. Rather than understanding a space such as a lecture theatre in terms of measurements or classification, it is seen as a place in which certain social practices are enacted, so that it is understood in terms of “a simultaneous multiplicity of spaces: cross-cutting, intersecting, aligning with one-another, or existing in relations of paradox or antagonism” (Massey, 1994: 3). Rather than seeing space as a container or backcloth, a mobilities analysis examines the ways in which such spaces are enacted and become sedimented across time (Edwards *et al*, 2011). Such an analysis therefore requires research to focus on the enactment of educational practices – and the way that they change and develop it over time – in order to understand how these constitute something as a recognisable space, rather than relying on free-floating, ungrounded designation of some location as (say) a lecture theatre.

We recognise space as the product of interrelations; as constituted through interactions, from the immensity of the global to the intimately tiny. [...] We recognise space as always under construction. Precisely because space on this reading is a product of relations-between, relations which are necessarily embedded in material practices which have to be carried out, it is always in the process of being made. It is never finished; never closed. Perhaps we could imagine space as a simultaneity of stories-so-far. (Massey, 2005: 9)

This theorisation of space – as something achieved through social practices, constituted materially, related to other spaces, people and things – formed the basis for the research described here. Rather than focusing on “unfreedoms”, and how the ‘tyranny’ of institutional infrastructures can be overcome, this approach explored the sociomaterial enactment of

educational practices over time, and the ways in which specific places were entangled in this. Instead of starting out by assuming that what was required was a study of classrooms or libraries, it began from the assumptions that students are embodied actors, are already studying, and that in order to understand this studying, it is necessary to explain how it draws in complex networks of people, things and places.

Methodology

Building on the theoretical foundations outlined above, a project was undertaken that sought to explore students' study practices, with a focus on understanding how these were achieved. Drawing on a sociomaterial perspective and the idea of space as relational, this involved investigating where, when and with what students studied. The project was funded as part of the UK JISC's digital literacies programme (Payton, 2012).

The study was undertaken at a large postgraduate institution specialising in Educational research. The student body is predominantly mature, mainly female, and many students combine study with work and family responsibilities. Students are from diverse countries of origin and a broad range of education cultures. Most have been out of formal education for several years. Consequently, they may never have used the kinds of digital technologies that are regarded as mainstream in higher education, although they are likely to have well-established repertoires of digital practices derived from personal or professional settings.

The study received institutional ethical clearance and followed BERA guidelines about informed consent, including guarantees of anonymity and confidentiality, and the right to opt out at any point (BERA, 2011).

As a pilot, focus groups were held with four groups of students – Initial Teacher Education (PGCE) students, students on taught Masters' programmes, students on Masters' programmes

that are taught entirely at a distance, and doctoral students. Participants were recruited to ensure diversity of gender; age; home/EU or international and full-time/part-time status. The focus groups opened by asking participants to draw maps of where they studied, and what with.

This pilot was followed by a longitudinal, multimodal journaling study. For this, three students were invited from each of the focus groups; again, these were selected to reflect the diversity of the student body, as shown in Table 1.

Category	Pseudonym	Details
MA	Nahid	M, 26 Bangladeshi
MA	Juan	M, 30s British
MA	Yuki	F, 42 Japanese
PhD	Django	F, 39 British
PhD	Sally	F, 41 British
PhD	Frederick	M, 25 German
PGCE	Louise	F, 22 British
PGCE	Faith	F, 30 Taiwanese
PGCE	Polly	F, 40 British
Distance	Bokeh	M, 30s British

Distance	Darren	M, 40s American
Distance	Lara	F, 40s Chilean

Table 1: overview of the journaling participants

Each participant took part in 3-4 interviews over a period of 6-12 months. In the first interview, participants were asked to draw a new, more detailed version of their map of study spaces, and to explain what they were drawing as they did so. Subsequently, they were each provided with an iPod Touch, and shown how to use this to produce images, videos and textual notes. They were then asked to use the iPod Touches to generate data by documenting their study practices, and were encouraged to focus on ‘messy’, micro-level day-to-day lived activities, including the material, spatial and temporal elements of their practices.

Students took a month or more to create these first ‘journals’ of their practice, consisting of a collection of multimodal data. They curated the data they had created, and brought this back for the second interview. In this interview, they reported on their experiences by presenting the journaling data to the interviewer and discussing them. This process of data generation and presentation through interview was then repeated 2-3 times; in each iteration, the participant was encouraged to narrow their focus (e.g. to the use of the library, or to the production of a piece of assessed work) and to take greater responsibility for the curation, presentation and interpretation of their journaling data. Some students created presentations using PowerPoint or Prezi, but many also brought along printed papers, books, folders, note books, post-it notes, pens and other print literacy resources.

The data were analysed thematically, coding both sections of interview transcript and also images (digital photos and drawn maps), presentation slides and video clips. The subset of themes relating to students’ use of space are reported here.

Findings

Nowhere and Everywhere

Several students discussed ways in which they felt that technology liberated them from having to study in specific places. Mostly, this was discussed in terms of ubiquity and connectivity, of studying ‘everywhere’; in more extreme cases it was suggested that they could almost be ‘nowhere’.

That’s really interesting how much I use the iPad for a start everywhere and anywhere... And I have the information there all the time constantly, and I just feel as though I don’t have to be anywhere physical at all anymore... (Django interview 3)

However, such comments were very general, and closer analysis showed two kinds of inconsistency. Firstly, it became clear from more detailed discussion of specific examples that ‘studying’ was too broad a category to work with; instead, spaces and technologies became associated with specific study practices, such as searching, reading or writing.

For me the most important thing is portability, because I use technologies, ICT, everywhere I go, anywhere I go. For example of course I use some technologies, PCs and laptops and my iPad in the [institutional] building, and in the [institutional] building I use PC, I use them in PC room, in library, and for searching some data or journals. In the lecture room I record my, record the lectures and taking memos by that.
(Yuki interview 1)

Secondly, when details were requested during the interviews about the materiality of studying, the discussions moved quickly to lists of the multiplicity of spaces in which studying happened. Whilst this suggested a sense of happening ‘everywhere’, it was a very particular kind of ‘everywhere’ that was achieved by bringing together specific combinations

of space and technology. Space was able to vary (enabling study to happen ‘everywhere’) when technologies were stable and consistent (such as the same book being carried around, or a laptop with work files that could be taken to different places, or an iPad that could access remotely stored files).

From a mobilities perspective, then, spaces were constituted in part by the devices that were taken from location to location, and which were used to support study across these times and places. Analytically, within Actor-Network Theory, the idea of ‘following the actor’ is important as a way of exploring the series of entanglements that constitute practice. In this study, it was possible (for example) to follow Yuki’s iPad and create an account of the kinds of study practices and spaces that it was involved with. She used this to curate digitised resources; hold the audio recordings of lectures; make notes; browse online materials; email others; and so on. It thus provided continuity between lecture spaces, the library and private, personal spaces. Digital technologies were not the only kinds of resource that enabled this; Yuki also discussed a photo of reading a book on a bench in the park, for example.

The more general point, however, is that although students talked about studying ‘everywhere’, or even being ‘nowhere’ when they studied, the sociomaterial grounding in these interviews showed that neither of these general terms adequately captures the way in which technology is taken up to support studying. Instead, technology allows different kinds of ‘moorings’, enabling more spaces to be connected together so that study can take place in a greater variety of places than would be possible without it. In this sense, to use Yuki’s description, technology allowed her to become “less bound by place”, but it also served to constitute the spaces where studying happened.

Somewhere

Many of the students' accounts emphasised the importance of specific places for their studies. As noted above, students described a range of specific places where studying took place. Formal educational settings such as classrooms or lecture rooms were mentioned, but were only one site amongst many: the library featured strongly in students' accounts, as did homes, work places (schools, in the case of PGCE students) and public spaces such as buses, trains, parks and cafés. What also became apparent was the way in which movement between these spaces formed part of the rhythm of studying; certain spaces were strung together in sequences (e.g. reading on the bus, accessing files on a computer in the library, searching for books on the library shelves, etc), and these were often associated with specific phases of studying (e.g. working in the library when looking for resources at an early stage of writing an essay; visiting a field site when undertaking empirical studies; etc).

Some of the descriptions of these sites were very emotive; successful study was not only a sociotechnical achievement, a matter of engineering human and non-human actors, but was also about how studying felt.

I enjoy... the image of being, sort of, in a dusty, you know, sort of, wooden shelved, kind of, old library, where it's, sort of, cosy and warm, that's, you know, I like that and that's a part of the experience of studying that I enjoy. (Juan interview 1)

Part of what enabled an 'academic' atmosphere were characteristics such as quietness, or having sufficient space to bring resources together. (This point about marshalling resources to enable study will be returned to, below.) However, equally, what created this sense of atmosphere was understood relationally: these places were associated with particular histories, individuals or kinds of work.

Juan, for example, described how his journey to the institutional library formed an important part of his preparation to study.

Where I live it could be, you could be in a town sort of anywhere and you wouldn't really necessarily notice. Whereas you come in here and you come over the Waterloo Bridge and you see St Pauls and the Houses of Parliament, you know, you're in London, you're doing something again. You know, this is where people do important things and that, kind of, thing and it gives it a reality. [...] It focuses me a little bit on that. (Juan, Interview 3)

Others also spoke about the presence of international students and scholars making them feel that they were part of something important. Studying could be achieved in a range of places, and all students described studying (for example, reading) in 'dead time', wherever that arose. However, the places students actively chose to spend time studying were frequently the ones that carried connotations of studiousness, scholarly work and concentration.

Whilst study took place in a range of settings, it was striking that some of these were intensely personal and private – even intimate. For example, Yuki shared an image that she titled, "the bathroom is a good place to read" (Figure 1).

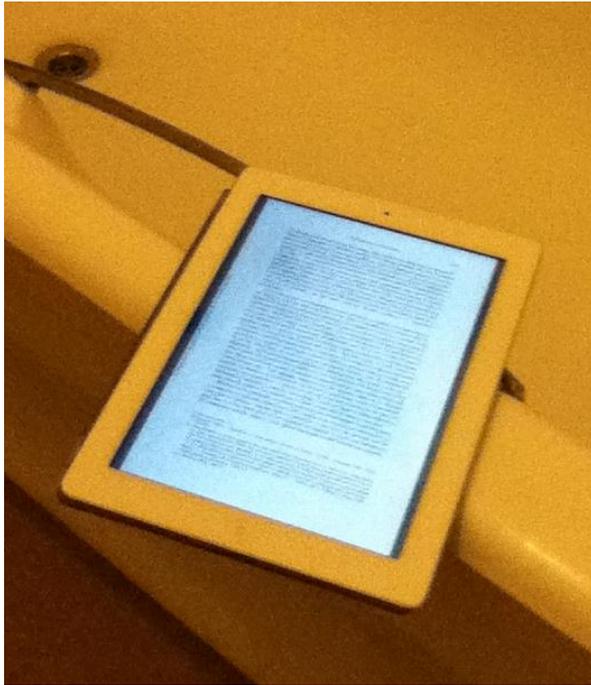


Figure 1: Yuki's bath

In her account of this image, Yuki described how digitised books, recorded lectures, personal notes, web links and so on were curated using her iPad, which she placed into a clear zip-lock plastic bag so that she could study whilst bathing, an environment that provided her with the peace and space to focus on the work.

Yuki's accounts of places where she studied did include specific technical requirements ("sometimes I need to get good Wi-Fi access", for example), but more were emotive.

When I get tired, or need fresh air, I go to the park. This is my friend, squirrel, in Tavistock Square. And also, sometimes I read in the bathroom. This place is very good to concentrate to my reading. (Yuki, interview 3)

Creating study spaces

A recurrent theme across all participants' accounts was the way in which spaces for study were made, not just found. An obvious example of this was the way in which public transport

was used as a site of study. Many of the maps that participants drew included buses and trains, for example (e.g. Figure 2), and as noted above, many participants discussed the way in which they sought to make ‘dead time’ whilst travelling more productive.



Figure 2: A map showing sites of study

Reading was by far the most common activity whilst on public transport, either using books or iPads, or (if reading emails) smartphones.

Similar experiences were reported for working in public spaces such as cafés and parks.

Figure 3, for example, is an image that Django brought to an interview, showing how a book, pen and smart phone were used in a café by a river when planning work.

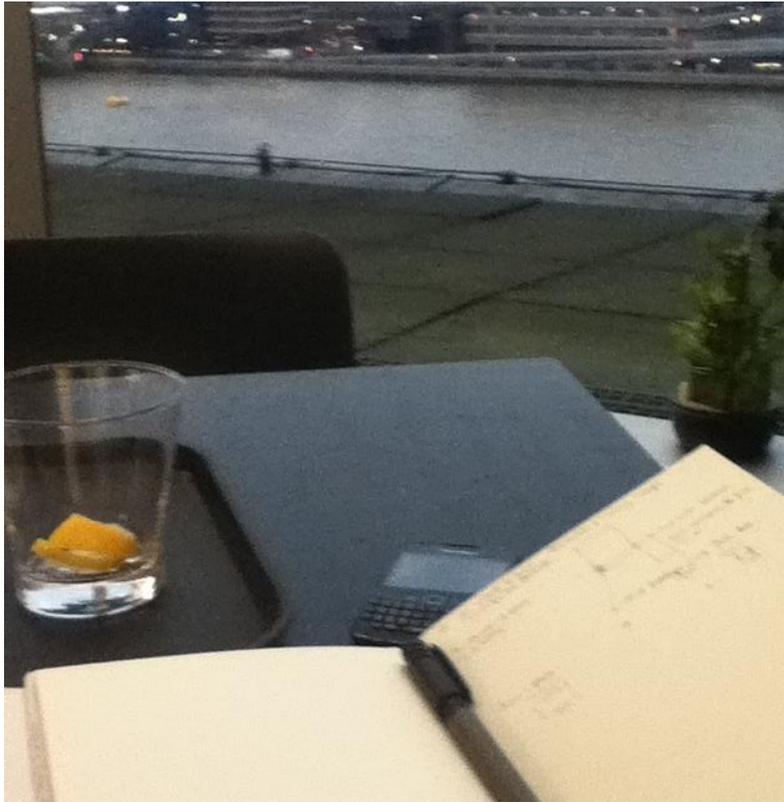


Figure 3: Studying in a café

Most examples of creating study spaces were relatively simple, usually involving reading from a single resource or device, writing into a single book or on one device, or annotating a printed text. These examples also included using laptops or tablet computers on a sofa or in bed at home – environments that were not set up for study, but which were easily adapted. In these examples, studying was ‘moored’ (Edwards *et al*, 2011) within these improvised spaces through the way that the same technologies were incorporated consistently within them.

A few examples, however, were more complex. Juan described how he browsed and collected texts at an early stage of the writing process. In order to do this, he worked in the institutional library. He moved between books stacks and a desk with a computer, on which he browsed electronic holdings. He skim-read articles on screen to assess their relevance, but wanted to re-read these in a more measured way later, annotating a print-based version of the material. However, the printers in the library only supported single-sided printing; in order to

save money, he walked a short distance to another institution's library, where he used his girlfriend's login and password to access their network, and then printed the articles he wanted from a memory stick on a double-sided printer. His sense of the library as a successful study space, therefore, involved connecting it to another library, another institution's computer networks and printers, and his girlfriend.

Not all attempts to create spaces for study were successful. Faith, for example, brought along a picture of a printer on a desk, and explained how this had resulted in problems for her when on a placement in a school as part of her course. Whilst the space was, notionally, open to her, the politics of the staffroom prevented her from using it successfully.

Our staff room was equipped... one, two, three, four, five, six, seven... seven computers now we can use and only one of them attached with a printer. So, [...] everybody wants to get to that computer where you can use the printer. [...] So, six student teachers tried to use other computer. So, it, kind of, sometimes feels a bit crowded. And when the school staff want to use it, well, okay, it seems like we are the invaders, intruders? (Faith, interview 2)

Again, the emotional aspects of Faith's experience are notable; she was hesitant even describing the situation, and had found it difficult to be excluded in this way. Faith was unable to resolve how to get reliable access to this device, but eventually managed to find another space she could go to where there was a computer with a printer, and so she used that instead. Unlike Yuki, who described how she was able to set up a range of highly idiosyncratic spaces that suited the way she studied, Faith could not enrol these institutional technologies successfully – however, in some ways she was, like Yuki, 'less bound by space' than might be expected, simply by virtue of being able to opt out of the problematic space she

found herself in, and by moving to a new space where there was less competition for the resources she needed.

Breaking, making and marking boundaries

All the previous examples highlight the ways in which study spilled across what might normally be considered discrete spaces; the boundaries between them were constantly traversed, and sites of study had to be enacted (and were therefore bounded) by bringing together a range of people, devices and print resources.

This analysis draws very different boundaries around spaces than might be expected. Juan's library, for example, was not neatly circumscribed by the institution's walls; it spilt over into another building. Yuki's bath was connected to the institutional library, as she could use her iPad and wifi network to access e-journals and other digital library resources. Louise used a series of technologies to bring theatre performances into her classroom (Figure 4).

When I took some photos at the Globe I couldn't believe how easy it was to transfer into the computer. It was just as easy as a digital camera and the quality pretty impressive as well. So and then I can just copy them into my Interactive Whiteboard.
(Louise, interview 3)

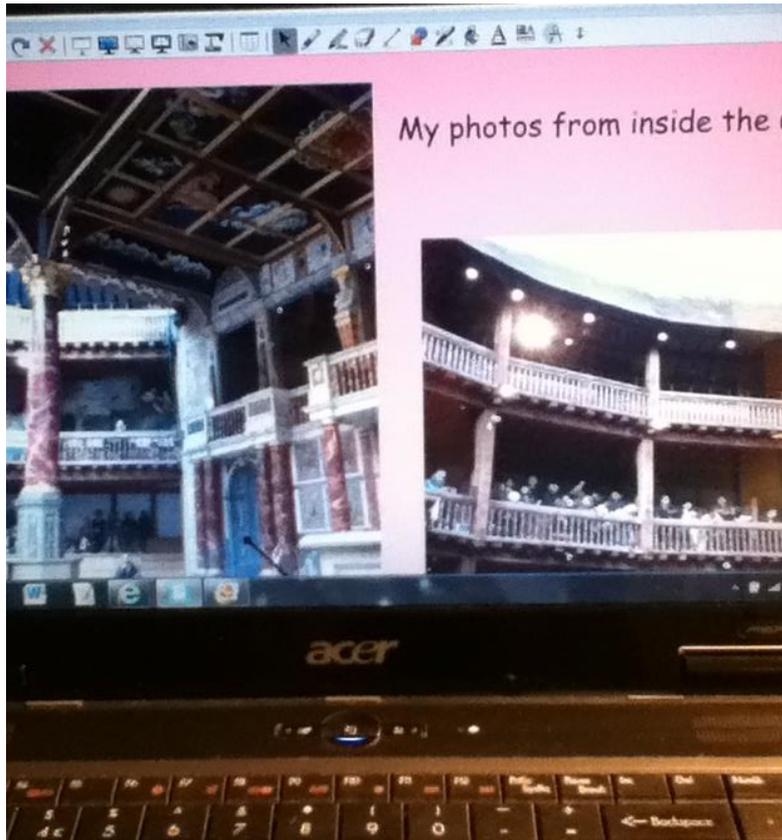


Figure 4: Louise's images of a play at the Globe being prepared for classroom use

This illustrates the ways in which individuals made and re-made boundaries, where “boundary marking is not about putting a fence around a field, but about marking the relations that can be made in specific enactments” (Edwards *et al*, 231).

This experience was markedly different from the supposed ‘tyranny of location’ described in earlier research (Clark, 2010). Indeed, some of the participants found studying to be *too* mobile; they described an active struggle to limit such movement, and to re-inscribe boundaries between studying and their private life, for example.

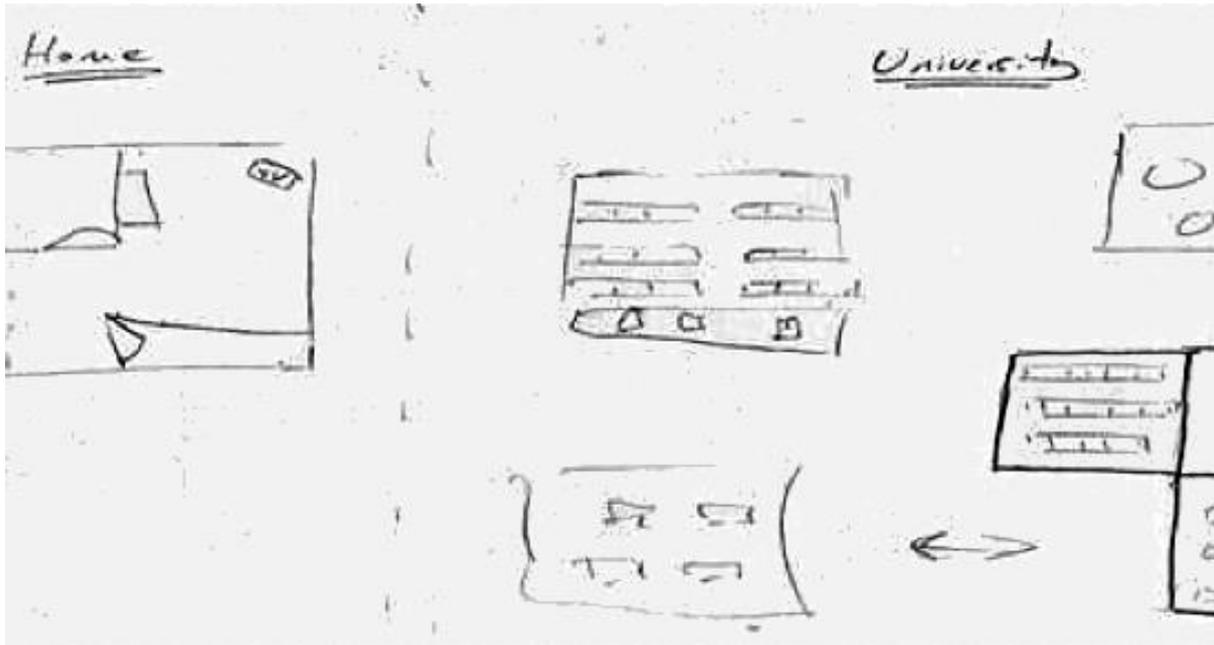


Figure 5: Juan's map

Juan's map illustrates this well. He drew his home as far away from University as possible on the paper he used, and emphasised the separation of these spaces by drawing a dashed line between them. The line was dashed rather than solid, he explained, because these two sets of spaces simply could not be kept separate in practice; however, he tried to minimise the extent to which University work crept into his home life.

I like having a break between things and that kind of thing. And the same very much I think between home and university. [...] When you're in one thing then you're there and you're in that moment for a while and then you might change to sort of another one. [...] Without too much work, I could do all of this [at home], you know, but I choose not to because I like the change. And I like the movement maybe as well, so it is, yes, it's an important thing I suppose for there to be these sort of, these areas of not necessarily nothing, but of distinction, clear distinction between them. (Juan, interview 1)

This was echoed elsewhere in the interviews, for example in the ways in which people used multiple email addresses to keep private, professional and study activities separate.

Boundaries were also marked to keep others out, as well as to keep personal activities in.

Sally, for example, shared an image that illustrated one way in which she worked to keep out others that she saw as a threat (Figure 6).

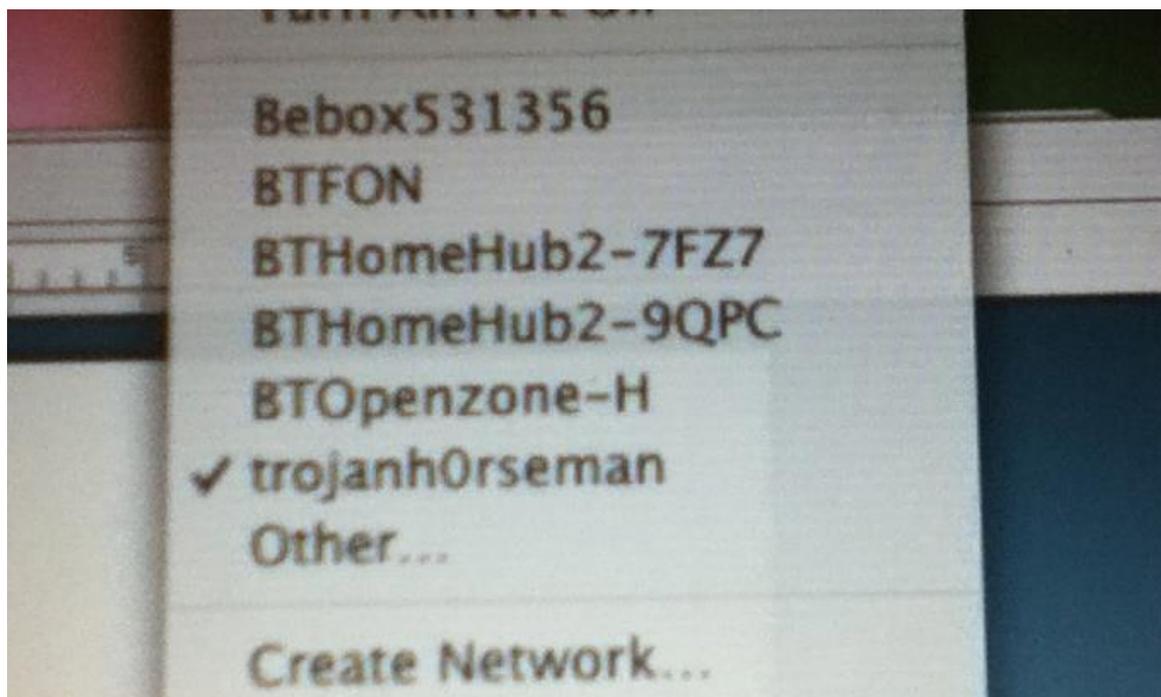


Figure 6: Sally's portable hotspot

Sally drew on conventions of hacker culture and 'leetspeak' to try and persuade others not to enter the spaces created by her phone.

This is my portable hotspot on my phone, and I'm using it to connect my internet, and I can't use the encryption on it because the computer was too old to use the encryption, so in other words, I then had to come up with a scary name so that nobody in my local area would, like, use my connection, so I called it Trojan Horseman because that's, like, I'm some kind of scary hacker or something, so I thought, if that's an example of

me... and I put an O in so it looked, do you know what I mean, that looks really dodgy, you wouldn't click on that would you.

Conclusions

Although much attention has been given to the idea of overcoming the limitations of study spaces, close analysis of students' day-to-day study practices provides a very insight into what spaces are, and what they mean to learners. Space cannot be understood simply as a kind of container, a backcloth, or something that just forms a neutral, given, context in which studying happens. Instead, it is contingent, emergent and endlessly constituted through the networked unfolding of socialmaterial, posthuman and textual practices – practices that cannot be neatly bundled together as 'studying', but instead consist of countless acts of reading, writing, noting, curating, speaking and so on. Space is constantly enacted through, and entangled in, these complex day-to-day practices that make up students' studying.

A space, then, [...] is neither a container for always-already constituted identities nor a completed closure of holism. This is a space of loose ends and missing links. For the future to be open, space must be open too. (Massey, 2005: 12)

Rather than being bound within educational institutions, studying spills out across many public and private spaces, moored as part of a consistent practice of education by the consistent uses of print and digital technologies. Within this, institutionally-provided spaces remain important, not least because they allow connections to be connected to other people, times and places that carry connotations of studiousness and academic-ness. Such spaces cannot 'bind', because of the way learners, technologies and practices move into, through and out of them; however, they do form an important resource for learners seeking to create boundaries between areas of their life, and mark the points at which their educational practices can stop.

References

- BERA (2011) Ethical Guidelines for Educational Research. London: British Educational Research Association.
- Clark, D. (2010) Don't Lecture Me. Transcript of a keynote presentation, ALT-C 2010, Nottingham. Available online: <http://repository.alt.ac.uk/841/>.
- Cornford, J. & Pollock, N. (2005) The University Campus as a 'resourceful constraint': process and practice in the construction of the virtual university. In Lea, M. & Nicoll, K. (Eds), *Distributed Learning: Social and cultural approaches to practice*, London: RoutledgeFalmer, 170-181.
- Cousin, G. (2005) Learning from Cyberspace. In Land, R. & Bayne, S. (Eds), *Education in Cyberspace*, 117-145. London: Routledge.
- Edwards, R., Tracy, F. & Jordan, K. (2011) Mobilities, moorings and boundary marking in developing semantic technologies in educational practices. *Research in Learning Technology*, 19 (3) 219-232.
- Enriquez, J. (2009) From Bush Pump to Blackboard: the fluid workings of a virtual environment. *E-learning and Digital Media*, 6 (4), 385-399.
- Enriquez, J. (2011) Tug-o-where: situating mobilities of learning (t)here. *Learning, Media and Technology*, 36 (1), 39-53.
- Fenwick, T., Edwards, R. & Sawchuk, P. (2011) *Emerging Approaches to Educational Research: Tracing the Sociomaterial*. London: Routledge.

Fuller, S. (2009) *The sociology of intellectual life: the career of the mind in and around academy*. London: Sage.

Gordon, N. (2014) *Flexible Pedagogies: Technology-Enhanced Learning*. York: Higher Education Academy.

http://www.heacademy.ac.uk/assets/documents/flexiblelearning/Flexiblepedagogies/tech_enhanced_learning/TEL_report.pdf

Gourlay, L. (2012) Cyborg ontologies and the lecturer's voice: a posthuman reading of the 'face-to-face'. *Learning, Media and Technology* 37 (2), 198-211

Hamilton, S., & Zimmerman, J. (2002). *Breaking through zero-sum academics: two students' perspectives on computer-mediated learning environments*. In Rudestram, K. & Schoenholtz-Read, J. (Eds.) *The handbook of online learning innovations in higher education and corporate training*. London: Sage.

Hiltz, S. R., & Wellman, B. (1997). Asynchronous learning networks as a virtual classroom. *Communications of the ACM*, 40 (9), 44-49.

Holley, D. (2002) "Which room is the virtual seminar in please?", *Education & Training*, 44 (3), 112 – 121.

Knox, J. (2013) Five critiques of the open educational resources movement. *Teaching in Higher Education*, 18 (8), 821-832.

Land, R. (2005) Embodiment and risk in cyberspace education. In Land, R. & Bayne, S. (Eds), *Education in Cyberspace*, 149-164. London: Routledge.

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Laurillard, D. (2008) Open teaching: The key to sustainable and effective open education. In Iiyoshi, T., & Kumar, M. V. (Eds), *Opening up education: The collective advancement of education through open technology, open content, and open knowledge*, 319-336. Cambridge, MA: MIT Press.

Massey, D. (1994) *Space, Place and Gender*. Cambridge: Polity Press.

Massey, D. (2005) *For Space*. London: Sage.

Nikolova, I., & Collis, B. (1998) Flexible learning and the design of instruction. *British Journal of Educational Technology*, 29(1), 59-72.

Payton, S. (2012) *Developing Digital Literacies*. Bristol: JISC. Available online: http://www.jisc.ac.uk/media/documents/publications/briefingpaper/2012/Developing_Digital_Literacies.pdf

Selwyn, N. (2008) From state-of-the-art to state-of-the-actual? Introduction to a special issue. *Technology, Pedagogy and Education*, 17 (2), 83-87.

Weller, M. (2011) *The Digital Scholar: How Technology Is Transforming Scholarly Practice*. London: Bloomsbury Academic. <http://www.bloomsbury.com/uk/the-digital-scholar-9781849666268/>