

LMS Encounters: Promises and Realities – (e)Learning for Sustainable Futures?

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Although there are radical opportunities afforded by e-learning technologies (Hemmi, Bayne & Land, 2009), digital Learning Management Systems (LMSs) can be risky and “disorienting spaces” for participants (Bayne & Ross, 2007) even though they often replicate traditional rituals and forms of university bricks and mortar teaching spaces. Whilst we need e-platform standards, we also need flexibility and diversity to avoid replicating sameness in LMS design and implementation. In any educational platform selection, there are always risks and uncertainties, but if we embrace informed, sustainable and ecological design, we can evolve beyond purely market-driven agendas towards pedagogical designs that have a “learning-centric university mission” (Ellis & Goodyear, 2010, p. 153). This paper juxtaposes LMS discourses *in theory* with participant LMS experiences *in practice*. Emergent tensions of (*hyper*)*textualising* the university are discussed with/against neoliberal agendas of the (dis)embodied individual. At the forefront of our research agendas, we need to move beyond espoused e-learning technology promises to consider participant realities to inform (e)learning designs and choices, whilst experimenting with how to create sustainable learning/knowledge spaces for sustainable (e)learning futures.

Keywords: LMS, VLE, digital spaces, sustainable spaces, learning design, affect, subjectivities, identities, Actor-Network Theory, Non-Representational Theory, e-learning, e-teaching

If universities are to sustain and renew their digital spaces and presences then new (e)learning cultures necessitate “cultivating the imagination” in “a world of constant change” (Thomas & Seely-Brown, 2011). As early as 2002, Salmon (2002) advocated that universities explore “creative possibilities” rather than relying on “forecasting the future” through various scenarios to consider their desired (e)learning and (e)teaching possibilities. She outlined four scenarios to envision potential digital futures ranging from 1) “Contenteous” which relied on transfer and transmission models, 2) “Instantia” which involved actual e-learning, 3) “Nomadic” which involved mobile learning where physical campuses do not matter much and learners are mobile across institutions and cultures, to 4) “Caf lattia” where u-learning (‘u’ is for universal) proliferates through learning communities that extend globally beyond the walls of an academy. In u-learning, the “(clicks and mortar) are of key importance” (Salmon, 2002). The learning social context is paramount, and learners find “... like-minded individuals anywhere (e.g. by gender, by interest group, by profession)”. Here the e-moderators can “... think globally but are able to turn their thinking into local commitment. They see the technologies as yet another teaching and learning environment rather than as tools” (Salmon, 2002). Wherever universities might be in terms of these scenarios, and whatever the extent of their (e)learning delivery, institutional digital spaces are essential for sustaining current university (e)learning and (e)teaching practices.

Currently, Learning Management Systems (LMSs), also known as Virtual Learning Environments (VLEs), or Course Management Systems (CMSs) are *the rock* of a university’s (e)teaching and (e)learning enterprise. How these are used depends on whether they are viewed as tools or as environments (spaces), which is “a matter of perspective rather than something inherent in the tool/space itself” (Ellis & Goodyear, 2010, p. 139). I consider LMSs to be both spaces and tools, depending on their relationship with other entities. Whilst a proliferation of various university physical spaces abound, there are comparatively fewer variations in the digital learning platforms used – the Learning Management Systems. We need to consider the sustainable ecologies of LMS platforms. Whilst there are many LMS promises and challenges, Ellis and Goodyear (2010, p. 188, original emphasis) highlight that:

It takes time for researchers to make sense of new pedagogies and the affordances of each new technology. It takes more time to produce useful sources of guidance and to disseminate them effectively. But it is rarely possible to put innovation ‘on hold’ while experts or enthusiasts try to sort out optimal strategies. Instead, university leaders must work with the ecology of learning that a good university needs to be. This means promoting the healthy functioning of the ecology, but also relying on it to adjust to new challenges.

In part, what LMS platforms help sustain are the discourses of the enterprising university (Marginson & Considine, 2000) in a neoliberal managerial bureaucratic sense (Davies, 2005; Davies & Bansel, 2007) of universities becoming organisational business structures with entrepreneurial autonomy, intensified work conditions and a culture of surveillance. Learning *Management Systems* imply that learning is *managed*. In the entrepreneurial bid to develop and benchmark e-courses for global access, curriculum becomes a modularised commodity (more so unintentionally). Yet, “It is ironic that most universities are using a medium that enables endless travel to construct learning within the confines of a module or course” (Cousin, 2005, p. 127). LMSs support a neoliberal agenda that placates critical scholarly resistance by virtue of ‘access’ to everything to a ‘consumer’ of everything. “By offering electronic users the appearance of a world controlled from their keyboard, a world in which everything can be ‘accessed’ and everything can be had, as in fairy tales, by a simple tap of the finger, multinational companies have ensured that, on the one hand, users will not protest against being turned into consumers ...” (Manguel, 2008, p. 227, original emphasis). How then will universities and their e-courses distinguish themselves in standardised LMS platforms to maintain their individuality?

The aim of this paper is to juxtapose LMS discourses *in theory* with participant LMS experiences *in practice*. Emergent tensions of (*hyper*)*textualising* the university (because of the LMSs) are discussed with/against neoliberal agendas of the (dis)embodied individual. The term ‘text’ in this paper refers to digital text used via the LMSs. Typed text still dominates within LMS use and discussion forums. (At the time of data collection there was limited use of multimedia texts due to bandwidth and LMS limitations. Today’s enriched ease of multimedia embedding within LMSs given bandwidth improvements and updated LMS versions would alter potentially alter user experiences no doubt, but it is not the focus of the texts used in this study.) By using a sociomaterial lens of Actor-Network Theory (ANT) (Fenwick, 2010; Fenwick & Edwards, 2010; Latour, 2005; Law, 2004;) and an affective lens via Non-Representational Theory (NRT) (Thrift, 2008) to focus up material, spatial and affective considerations, the aim is to highlight learning from participant realities to inform learning design and choices of digital platforms of the future. Far from technological determinism, where technology determines society, or social determinism, where humans configure technology, I favour a relational sociomaterial perspective of socio-technical emergence – where technology and society co-shape the other and are more complex and unpredictable. I move to argue that the LMS is multiple *affectively charged spaces* (Navaro-Yashin, 2009) in practice — *The LMS Multiple* — drawing on Mol’s (2002) notion that an object is performed through multiple enactments that emerge in various sociomaterial practices.

I first contrast the *LMS in theory* to highlight the discourses surrounding selection issues made by universities and then move to the *LMS enactments in practice*. I conclude by discussing emergent tensions of (*hyper*)*textualising* the university with/against neoliberal agendas of the (dis)embodied individual.

The LMS In Theory

Universities have to make digital platform choices guided by their educational, IT and visionary leaders. Whilst there are choices to be made between open source and commercial products (e.g. WebCT versus Moodle, etc.), there are many shared commonalities in LMS formats and styles that replicate notions of the ‘traditional academy’. Even based on LMS names (e.g. *Moodle*, *Sakai*, *WebCT* and so on), one is uncertain of any major distinguishing or differentiating feature amongst them. However, more recently new such as *Desire2Learn* promises to be “more than just an LMS”¹ with a more student-centred approach that integrates diverse technologies. Nonetheless, most LMS products have tended to replicate ‘traditional academic’ delivery formats of the lecture. Far from being transformative, one can ask to what extent are LMSs contributing to any major “paradigm shift in teaching and learning” in adhering to traditional delivery formats (Cousin, 2005, p. 124)? In the mantras of e-learning and e-teaching innovation, standardised traditional face-to-face practices underpin much of e-teaching and e-learning LMS platforms. The ambivalences surrounding traditional formats of the lecture, tutorial and exam as a pedagogical technique to stimulate student learning have been questioned (Laurillard, 2002; Phillips, 2005; van den Eynde, Newcombe & Steel, 2007, p. 1041). Sheely (2006, p. 769) argues that lectures have been placed as a central discourse of the academy and its educational activities, such that lecturing is aligned to teaching, so that moving teaching online for many lecturers involves moving lectures online. He echoes Phillips (2005) who is concerned by this persistent dissonance. Sheely (2006, pp. 772-773) suggests that not only do we need to talk about (and question) the technology we are moving to but the technology we are moving from — the lecture. Whilst many LMS platforms promise innovations and transformations in learning, these are based too often on replicating traditional formats of the academy online.

¹ <http://www.desire2learn.com/>

So how might universities select from LMS platforms? EDUCAUSE's (2011) "LMS evaluation" initiative recommends asking questions of the LMS in terms of: 1) What is it? 2) How does it work? 3) Who's doing it? 4) Why is it significant? 5) What are the downsides? 6) Where is it going? And 7) What are the implications for teaching and learning? Whilst the issue of pedagogy is placed last and more pragmatic and instrumentalist issues are raised first, further LMS viability consideration issues are suggested by Childs, Korkusca and Swartz (2009) and Katsifli (2010) to:

- 1) Start from a basis of teaching and learning principles, rather than financial cost prioritization.
- 2) Consider project management phases: Initiation ~ Consultation ~ Evaluation ~ Selection ~ Transition ~ Implementation.
- 3) Develop a campus/university strategy: e.g. Teaching and Learning, IT, etc.
- 4) Decide between open source and commercial LMS products. Consider:
 - a. Support-end (cost, quality, availability, transition, long-term quality investment)
 - b. Stability and reliability for end-users
 - c. Licenses (Free versus commercial motivations)
 - d. Transition (transferring context online is a demanding and time consuming effort)
 - e. Decision choice (5-10 year time-scale)
 - f. Investment in human capital
 - g. Innovation directions (Hierarchical versus distributed models)
 - h. Expectation management (be attuned to campus staff concerns, outsourcings versus in-house)
 - i. Risks (What risks can you take? What are the systemic pressures and software's ecology?)
 - j. Stakeholders (consult all stakeholders, especially students)
 - k. Security (critical mass, back-office vs. front-office help, ease of code fixing, vulnerabilities, critical mass, cost of security updates ...)
 - l. The product life cycle (LMS lifetime/shelf-life and how long to wait to recycle it, open source versus commercial permanence and viability)
 - m. Exit strategies (what costs are there if you need to make a change, lock in issues, maturity upgrades...).

Choices are complicated in that the answer to which LMS to choose and its future longevity depends on the context and the future an educational organisation envisages for its (e)teaching and (e)learning. An academic community may be more likely to support an open source LMS more readily as it moves towards open scholarly communities, open universities, and open source journals. Whilst LMSs may wither as we move towards cloud and wave computing and new emergent environments in the future, within the next 5-years, the investment in LMSs will remain. Who and what informs their design, purchase, implementation, and use are vital actors in the e-pedagogies that emerge and are made possible (or not).

Consequently, we need to consider espoused (explicit and implicit) LMS configuration designs and pedagogical underpinnings (e.g. student-centred, learning-centred, collaborative, flexible, accessible) versus actual participant, desires, uses and practices. Hannon (2009, p. 423) highlights the need to explore the transformations that are enacted in practice "and their effects on the participants of online learning" which "tend to be less prominent in large-scale discussions" (Hannon, 2009, p. 423). Whilst some studies have dealt with some of these aspects (Al-Mahmood, 2006, 2008a, 2008b), Coates (2005, p. 68) has advocated detailed analysis of LMS engagement styles given that "... almost every institution has invested in an LMS as a means of leveraging the Internet to enhance some kind of competitive advantage. The challenge that institutions now face is not technological or financial, but educational. Institutions need to identify how to maximise the return on their investments by using LMSs to manage the quality of university education." For as he says, "our understanding of the influence of LMSs on student engagement remains in its infancy" (Coates 2005, p. 66). Higher education e-learning and e-teaching are still "works in progress" and "in flux" (Poster, 2001). We need to consider sustainable and ecological designs (Ellis & Goodyear 2010) in our choices and understand these new emergent learning environments more — these "learnplaces" (Goodyear, 2008). It is in this vein that I move to consider what occurs *in e-learning practice* from participant perspectives to understand these LMS spaces beyond instrumental and fiscal organisational concerns to inform (e)pedagogy.

The Study

This qualitative study involved a multi-sited ethnography (Leander & McKim, 2003; Marcus, 1998) of four fully online postgraduate subjects in an Australian university. Ethnography was chosen to facilitate prolonged and immersive exploration of participant e-learning and e-teaching engagements. Physical ethnography (Marcus, 1998) and virtual ethnography (Hine, 2000, 2005) were used to gather and observe the minutiae of

participants' everyday practices across physical and digital spaces. Participants were invited to participate in the study, and methods to deal with physical and digital (im)mobilities were used (Büscher & Urry, 2009; Büscher, Urry & Witchger, 2011; Sheller & Urry, 2006) to capture various actors across physical and digital spaces. These methods included participant interviews, participant observation, photographic data, and participant reflections across physical and digital spaces over a period of 6-10 months, as well as document analyses. This facilitated qualitative validity via triangulation from multiple data sources. Triangulation is "a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study" (Creswell & Miller, 2000, p. 126). Data were collected from 24 participants — 19 online postgraduate learners, and 5 teaching staff (2 females and 3 males) ranging in age and teaching experiences. Daily scheduled observation diaries of the online subject sites were recorded, and participants were invited to record their reflections and provide images of their various learning spaces. A wealth of detailed data were amassed. Whilst the aim was to add to the world through ANT and NRT lenses, glimpses into human, spatial, discursive and artefact interactions were 'traced' (Markaskuite, 2011, p. 244), whilst attempting to 'capture' and '(re)present' the sensuous and affective dispositions and spatial ambiances.

THE LMS In Practice

The three enactments and discussion that follow include participant segments based on detailed thematic analysis of face-to-face in-depth interviews/conversations (each ranging from 1.5-2 hours each) and participant reflections. These fragment selections highlight spatial subjectivities rendered with/against current neoliberal climates. Through these enactments, screening practices and the effects of textual LMS thresholds, their politics, and limits to subjectivities are illustrated. What emerges are the configurations of censoring and censored selves in the (im)mutable LMS spaces in the three enactments that follow titled *tracing*, *labouring*, and *viewing*.

Enactment 1 — Tracing

- **Visibility — “There are consequences!”**
 "... you need to lay down some foundations that people have an understanding, particularly when it's written ... that there are consequences of the written word ... sometimes people don't realise the harshness of an online interaction and that it stays sitting there on the web (laughter) to be revisited and revisited as opposed to a comment that can pass and then be forgotten ..."
 (Bernie, lecturer, with recent experience in e-teaching and digital technologies)
- **Riskiness — “Putting your head on the chopping block!”**
 "... there's still that sort of reticence to put your identity or reveal too much about yourself ... it's a requirement of the interaction to put stuff out there and some people even put their photographs on. I didn't do that ... and ... sometimes, in some ways, I felt like a little girl ... because you're putting this stuff out there, you're actually almost putting your head on the chopping block ..."
 (Peta, student with extensive experience as a face-to-face lecturer and online lecturer in her professional life but new to being an online student)
- **Permanency — “It's there forever!”**
 "... being an online student is a bit more threatening than being face-to-face ... because everything you're doing is ... written. If you are online, you say something, no one's going to forget. When it's online, it's there forever! It's recorded! So if you don't understand something, like your stupidity is there for the whole online community ..."
 (Sandy, student who experienced strong negative aspects of online learning)
- **Masking — “Revealing a part of yourself in time”**
 "... if I was sitting up at one o'clock at night and I wanted to send my email, I didn't ... because I didn't want the lecturer to think I was some weirdo person sitting up at one o'clock at night (laughter) Maybe it's because it's the one part of learning online where you actually reveal a part of yourself ... outside of academia. It's yoohoo, I sit up at two or it's five o'clock in the morning ..."
 (Natalie, student who loves the newness of the online learning medium and sees it as an adventure and novelty despite the uncertainty of not having done any prior online study)
- **Photographs online — “I put up a photo of my office...”**
 "... getting back to photos on the Internet, a couple of years ago, because there's a lecturer's page, and I did have on my lecturer's page ... photographs, and then I took them off because I read a paper about why on earth would you ever put your photograph on the web, because it can be taken by anybody, it can be

manipulated. You could be starring in a porn movie because you innocently put your photograph up. ... it's actually a security measure so I decided to take photos off ... I put up a photo of my office to make it a bit more personal ...”

(Peta, student with extensive experience as a face-to-face lecturer and online lecturer in her professional life but new to being an online student)

- **Censorship, surveillance, and codes of practice** — “... everything is traceable...”
“... the subject content was fairly innocuous so it wasn't as if I had to reveal a personal political view or have a debate ... Had it been that ... I would've been extremely uncomfortable in the current climate to say much at all ... as everything is traceable ... I suppose I'd have to say that I'd probably censor what I'd say! What's really absent is a code of ethics, of rights and obligations for how students' and lecturers' online content is going to be treated and stored ... so far I've never seen anyone address this issue openly or in a policy sense or even raise awareness of it ...”
(Miranda, student who has had extensive experience teaching in blended university environments who is enrolled as a student online for the first time and other online digital environments are a strong feature of her daily interactions)
- **Transparency and accountability** — “... you can track me down”
“... and you can track me down, you can see how I respond to you, you can see from the dates. It goes 13th, 20th, 27th, absolutely to the week. Because it all started in one of the earlier years where there was this cry there was no support, and the Dean, I don't know, there was some letter that went to the Dean and he came to me and said, “What's been going on?”, and luckily I kept all the email log and I was able to furnish him with all the contact and of course he then said, he laughed and said, „Well, she [the student] doesn't have a leg to stand on here, but I have.”
(Sam, lecturer, who is a highly and extensively experienced and engaging face-to-face lecturer who has taught online for some years but sees the online LMS as not providing the same richness of face-to-face teaching)
- **Private and public intersections** — “Can you imagine...”
“Can you imagine if some classmates recognise you in the street and say, “Koko you are a student in the [x] course”. You'd be terribly shocked, and your privacy would be a little bit invaded ... just like if you ... put your picture on a very famous Yahoo website ...”
(Koko, student, who is a 21 year-old international Chinese student who is digitally savvy and views the university technologies being used as old and antiquated)

The LMS space and its permanence, visibility, and longevity raise significant complex traceability and surveillance issues for students and lecturers (Bennett & Regan, 2004). For the four online subject content of this study, the content was fairly innocuous, there were no major political ramifications or viewpoint *voicings* about *political* issues required. Participants though still alluded to censoring their content, destroying the myth of anonymous, democratic online spaces. Jones (2005: 105) emphasises just “how little anonymity the internet *actually* provides to its users”. The panopticon (Foucault, 1979, 1988) of constant (self)surveillance (Poster, 1996, 2001a, 2001b) is even more applicable *online* (Land & Bayne, 2005b). Ironically, LMS tracking facilities were originally designed to assist lecturers to monitor and understand their students' learning (Phillips, 2006). Whilst lecturers benefit from being able to improve their online courses through continual evaluation (Goldberg, 2000 cited in Land & Bayne, 2005b, pp. 165 & 166), there is rarely *disclosure* to students. Poster (1996) refers to *virtuality* as a “superpanopticon” because of the detailed possibilities of surveillance. Land and Bayne (2005b, p. 171, original emphasis) remind us:

... not to underestimate the extent to which this power to constitute and disperse subjects can be applied in virtual learning environments. Whilst humanist ways of knowing might resist the idea that identity formation can take place outside the skin of the individual, we need to consider the possibility that the online student may be starkly objectified in her virtual construction, that ‘the learner’ may be, as far as our systems are concerned, to some extent constituted by records of her first login, last login, frequency of login, number of discussion board submissions, pattern of page visitation across the site, and so on. Such an identity might exist not only beyond the control of the individual learner, but its very existence — and possibility of ‘judgement’ being applied to it either wittingly or not — might remain unknown to them.

This may well be the case with the rise of web analytics and its uses to analyse behaviour patterns. Philips et al. (2011) have shown the limitations of using quantitative web analytics and the need to include rich qualitative

data to extend understanding of how participants learn and use LMS environments. There are significant ramifications that arise regarding public and private online personas (Burbules, 2000, 2002, 2006a, 2006b; Conole & Dyke, 2004; Dawson, 2006). Yet detailed archiving, visibility, and permanency can provide transparency that puts lecturers' teaching *out there* providing evidence against student complaints. However, the roles and privileges remain unequal for both sides. In LMS design configurations, "There is an unequal power relationship between the seer and the seen — the visibility of the seen enables the seer to 'know' them, to alter them. Access to this knowledge, to this power, is of course unevenly distributed" (Land & Bayne, 2005b, p. 168).

Enactment 2 — Labouring

Here, I address human/machine/material thresholds regarding how students and lecturers *labour* in using the LMS. We see online textual translations of selves as *laboured* and *labouring*, not assuaged by the apparently considered responses of their lecturers in these cases.

- **Glued to the machine!**
"I had a love hate relationship with my machine, because I was entranced by the online world, I was glued to the screen, my mouse and keyboard, the tension in my shoulders, arms and neck was excruciating, not to mention the long hours just sitting there with glazed eyes. I keep thinking I have to move away from it and get out and hug some trees (laughter)!"
(Miranda, student who has had extensive experience teaching in blended university environments who is enrolled as a student online for the first time and other online digital environments are a strong feature of her day-today interactions)
- **Online forum as "glorified email"!**
"It was a glorified email. That's all it was!"
(Sandy, student with strong negative experiences of the online learning spaces)
- **Talking to a machine!**
"I was talking to myself" and "I told you, I felt like I was talking to my computer!"
(Sandy, student with strong negative experiences of the online learning spaces)
- **Consumed by email deluge!**
"..There might be hundreds of unread messages... and it's quite interesting... I just don't bother, it's just, already your life is consumed with the instant email that comes through ..."
(Meg, who has extensive experience teaching face-to-face and has returned to study online for the first time)

The human-machine configurations are further complicated by bodily challenges of screen reading and subject LMS platforms, as Meg, says:

... he [lecturer] posted [via hard copy] the first three weeks of readings, which is good; I appreciated that. Then I had to brace myself that I was going to have to access the rest of it online, and I can download, and once I've downloaded stuff then ... it's straightforward reading. I'm fine with being just a lone student, engaging with paper and print. I don't like reading on the screen for a great length of time, because in terms of reading stuff, I want to highlight it, scribble notes in the margin, make connections and links ...

Online reading is further aggravated beyond the screen issues by being confined to a chair, desk, and laptop for some students. Meg highlights, "you're confined to your chair and to your desk and to this laptop for so many hours in a day". Ergonomics (Goodyear, 2000, 2005) is a pertinent issue for students and lecturers — seldom discussed. Indeed, how will ever smaller gadgets impact on physical well-being? Participant accounts attest to the density, volume, screen reading, and printing required online. Far from being paperless offices and studies, hard-copy rescue missions are required to sustain students, as Peta highlights, "I always print out the notes I haven't fully adapted to the technology in that I still like a print-out as well. It's a bit hard to read on your computer in bed at night, but you can flick through your notes". Sam also highlights that text is tiring for lecturers, saying, "... I find it tiring to type.... I never send anything out because I've always got to reread it and make sure it's correct and makes sense ... if you're a lecturer at university, you've got to come out as somebody who knows something".

Sam's further frustration is with the inadequacy of online text to reveal her embodied self as a lecturer, saying: "... it can't convey me very well". She elaborates: "Yes, well actually I think ... online, I'm fairly boring. I respond, I try to raise it [online interactions] a bit, but it's nothing like my face-to-face where you can have a joke and where I do a lot more. You can see I talk a lot but as I don't write a lot, I feel it can't convey me very well down in writing". Yet, for Barrie (lecturer), who loves the online medium and sees it as efficient, saying, "I just bang out a reply back!" to students, highlights:

... We've got a rule, if they send me an email, if I haven't got time to read it, I just bang a reply back, "Got it!" That takes two seconds That's not a bad system of doing it ... it's very quick ... you say: "How're you doing? Haven't seen you for a while". That's it, it takes 30 seconds but I've been lucky — my class size has always been about 20 or so.

Yet, the online screen and textual manifestations of self can be a source of anxiety. Sandy (student) who had experienced the online space as highly limiting points to LMS postings being like "glorified email" and like *talking to herself*, highlighting her palpable concerns in feeling quite alone, asking: "Is anyone out there?". She points to the intimidation she feels by another student's textual persona. Clearly, digital textual footprints can (im)press *loudly!*

... there was someone who intimidated me completely. ... she was so professional ... she probably did 10 of these things [online courses] already. Everything she did was so like a text book. I was like, "Oh my gosh". I thought people were supposed to be new to this subject. This person was writing as if she had probably [completed] 500 already ... Any attempt that you made at anything, you saw her response and you thought: "Oh my gosh, forget mine". ... So you see people's depth of how they respond or how short they respond. It's like you've got to be that daring or confident person who is going to be the first person to respond. Like you break the water and everyone else sort of follows after that.

Yet the online textual medium can be democratising, as Brian (lecturer who has extensive experience of teaching face-to-face and is most engaging, as well as experience teaching online) suggests, conceding though that "language difficulties will come through", that the medium is:

... probably the democratisation of education in ... that you aren't prejudiced ... you don't necessarily colour the feedback you give according to whether the person is older than you, younger than you, extremely senior, less experienced, from another country. None of those things are immediately transparent.

Typing, clicking and sending in the e-learning medium changes the sense of engagement. Despite its efficiency, it creates a feel of commercialism. Here, we witness realities of efficiency coupled with realities of commercialisation abutting each other as Lillian (a softly spoken and poetic Chinese student who majored in English literature in China and hence is aware of English language textual nuances) highlights:

I think that makes it more efficient The teacher can go out and leave and do his own business, but still he can teach and I'm also, I mean, efficient at doing this, and I type out and didn't go to the classroom and sit in [for] three hours. Okay more efficient. But also I think that makes peoples' interaction and communication less and less and so makes you feel other things are more commercial...

In summary, these *screening* enactments highlight e-learning and e-teaching materialities and thresholds. LMS environments are complex multiple actor-networks. Online space can be seen as providing a fluid space in LMS forum postings, where students and lecturers respond (or not) to postings. The LMS screen configures users, and the postings act as mediators. Postings to the LMS are permanent, visible to all, and stable; yet they are also deemed fluid by participants as they can be moved, archived, and screened by potential unknown others any time. The various LMS posting features from tone, font, timing, and so on, simultaneously (dis)connect participants — whilst (dis)enrolling some and not others. Hence, LMS postings censure and/or extend some participants to configure more censored, anxious, or fragile subjectivities online. The LMS is *multiple* and not singular — it can take on "different forms, different performances, different realities, that co-exist in the present" (Mol, 1999, p. 79). Different relationalities and materialities lead to different threshold *screenings*.

Next, I move to a final enactment to consider how the LMS platform is *viewed* aesthetically, an area too often neglected in terms of the affective consequences.

Enactment 3 — Viewing

- **LMS Aesthetics**

“Well the two courses that I’ve done online at Cyberia [de-identified] university both had the same look about them. Cyberia Uni uses, what do they use [x, LMS de-identified] system and they’re identical in format. Visually unexciting I suppose you would have to say, and as I said, I feel that they are just there simply to have notes online. There’s nothing more. There’s no third dimension to it. ...”

(Peta, student with extensive experience as a face-to-face lecturer and online lecturer in her professional life but new to being an online student)

- **Flatness of text!**

“I found after a while of reading all the posts and the emails, I really started to want to see someone’s personality in some way through the text. I grew sick of the flatness of the text, everyone having the same default font of the LMS, the same colour, the same font of course you could get a sense of people’s tone through words and their subtle nuances, but I started to get really bored by the flatness of the text, its physical flatness! It would’ve been so good to have had people come to life more through font choices maybe ... just to alleviate the monotonous **flatness** ...”

(Miranda, student who has had extensive experience teaching in blended university environments who is enrolled as a student online for the first time and other online digital environments are a strong feature of her day-today interactions)

“.... but I started to get really bored by the flatness of the text, its physical flatness!”

(Miranda, student who has had extensive experience teaching in blended university environments who is enrolled as a student online for the first time and other online digital environments are a strong feature of her day-today interactions)

- **LMS design look and feel affecting “the classroom” feel!**

“It [the LMS] looks too boring and dull. The colour and all the things — the colour is so ugly. ... it can be like Yahoo and you can add some expressions and little icons Emoticons ... emoticons or something like that and the colour can be more like, more beautiful. Why don’t they ask some people who really learnt about art and about the design to design this beautifully? That [the subject LMS] makes the classroom ugly ... So for me, my online classroom is that forum, and that classroom is ugly. So I just get inside — so, I just write down my answers — my tasks — in word processing — word processor, and after that I just copy and paste it to the classroom and send. So I only stay there for a few minutes. So I won’t stay there for longer. ... I think make it more — just more beautiful.”

(Lillian, a softly spoken and poetic Chinese student who majored in English literature in China and hence is aware of English language textual nuances)

“It [the LMS] was just a bit dull.”

(Sandy, student with strong negative experiences of the online learning spaces)

What I have highlighted in this section are glimpses into LMS engagement issues *in practice* to show multiplicities, complexities, and materialities, as well as configurations of/by various actors. Whatever the limitations, universities need to consider the emotional and affective aspects of LMS engagement and “visual ergonomics” regarding the “look and feel”, the fonts (Danet 2001), as well as “intuitive navigation and iconic signalling” preferred by participants — too often ignored by multimedia designers (Flood 2004, online). Bayne (2008a) also invites consideration of the impact of visuality of LMS spaces and suggests that higher education online is a visual practice.

The LMS Multiple

In practice, LMS encounters and spaces are much more complex, unruly, and unpredictable. In some instances, the LMS is a fluid object/space with less tangible and more fluid boundaries where university LMS subject borders are stretched to wider global Internet resources. The LMS was also perceived and used multiply from a “fantastic” connecting global knowledge space to a space of “deluge” and caution — for some, digital spaces are potentially disruptive and unruly places that threaten to drown them with information exceeding the limits of information manageability. The LMS can be viewed as a fluid ambivalent and changeable object with multiple identities and enactments. The LMS as a fluid technology (De Laet & Mol, 2000) has its boundaries enacted in various configurations. For one participant, the LMS may be a life-saving space, and for another, an ugly and bounded space; and yet for another, an enticing space; and for another, a disorienting space, and so on. The

LMS might be better viewed then as a boundary object (Star & Griesemer, 1989, p. 387) performing differently in different worlds (Star 1995, p. 12), or a fractional object that performs itself as one entity in “irreducibly different ways in different circumstances” (Law 2002, 2004). Implicit throughout these enactments are the varied effects of LMS spaces. At times, they act as boundary objects (Star & Griesemer, 1989) providing thresholds for crossing through, from, to, into, and beyond — opening up possibilities. Their (dis)locations vary according to their status across various networks.

Our subjectivities are configured by our digital spaces, as much as we attempt to configure them (Woolgar, 1991a, 1991b). For example, our configurations by Google and the production of knowledge are extraordinary, and there are implications for neuroplasticity changes (Brabazon, 2007) in how we think/act in digital worlds. Digital spaces can seduce, entice, command attention, and become “space invaders”; yet they too can be deserted and abandoned in favour of new technologies. LMSs command our spaces/places as they too change or stagnate and age. Current LMSs, however, remain predominantly, entrenched in textual practices, bringing with it, the *(hyper)textualisation* of universities with further ramifications in current neoliberal university climates.

(Hyper)textualising The University

Whilst one could argue that much of the traditional university has been textualised through books, notes, etc., in the online medium everything and everyone is *hypertextualised*. We become mediated through e-text through infinite computer screen wordings. Through the textual typeface, we become infinitely worded — digitally *(hyper)textualised*. In moving the university online through digital textual inscriptions, digital academe becomes simultaneously (de)stabilised in various ways in its boundaries, aesthetics, longevity, and yearnings.

The LMS hypertextualises (e-)learning and (e-)teaching. These provide boundaries that are productive and secure for some, yet limiting and intolerable for others. For example, the bounded space of the subject LMS and the inability to go beyond the university’s LMS boundaries facilitate a sense of safety in containing, limiting, and gate-keeping information/knowledge flows for some students. Knowledge here is regionalised, and students are not overwhelmed by massive information — tolerance boundaries and thresholds are controlled. Boundaries can help enclose and secure participants from the big WWW, and shield them from information overload — hence, pragmatic and practical selves (and roles) emerge productively in *(hyper)textualised* e-learning worlds. Here, boundaries and limits enable do-able e-learning.

In terms of the textual limiting aspects (intolerances), the LMS already configures users by virtue of its design and aesthetics (or lack of). For some, lack of aesthetic appeal and user-choice limit participants’ contributions and exposure to the subject’s LMS. So we see the yearners, yearning for things to be otherwise. The look and feel of the LMS (in its “clunkiness” and “ugliness”) only serves to highlight the LMS as a commercialised educational product, devoid of any “personal touch” (human touch). For some, this cannot equate to the quality of engagement with a lecturer in the flesh. Human yearnings (in the flesh) are not only echoed by students, but also by some lecturers, who would have “face-to-face any day”. So we have not only disenchanting and disillusioned selves, but also enduring selves — as participants find ways to resist, endure, and survive e-learning and e-teaching challenges.

In these accounts, the LMS in its look and feel, its limitations, its erasures, its standardised spaces, its flatness and its lack of a “3rd dimension” in the words of one participant, make e-learning and e-teaching a limiting experience. The LMS configures and is configuring of how participants engage (or not) in e-learning and e-teaching.

Further, bodies are configured and restricted to be “glued to the screen” as one student put it. As our bodies traverse the boundaries of work, home, and digital academe, ergonomic and EHS (Environment Health and Safety) issues spread across various locales. There are few policies that place limits on student numbers or the additional hours required for e-delivery. In Sam’s (lecturer) case, her department made no distinction in her workload between her enrolled e-students and face-to-face students; rather, these two groups were enrolled in the same subject code. Hence the invisible additional e-work required of her, remained just that — invisible! Bodies, however, need care and demand attention! Whilst universities tend to address EHS issues in their physical university spaces, they tend to be remiss in addressing them for e-teaching and e-learning across other locales.

In online LMS *(hyper)textualisation*, there is a significant concern with the longevity and visibility of participant textual contributions — these risky spaces of the LMS are potentially “there forever”. This leads to censored selves and further self-censoring and extra editing work. The LMS platform configures the learning spaces as

potentially risky, where participants' vulnerabilities are visible and remain permanently online, for example, when Sandy suggests that one's "stupidity is there for the whole online community" to see, or when a student may not respond because of the time visibility of their contributions and possible judgements placed on them. The configuration is towards self-censored responses and contributions due to the visibility and permanency of the online text. What are the effects of the residues and traces of selves, knowledge and materials left behind online? What digital imprints and traces do we leave in the e-academy in our digital archived selves?

These imprints raise digital anxieties regarding digital fingerprints. Indeed, the extent to which online media are "democratic" and "freeing" is contestable. I would like to think that "all identities are fictional to any degree, and all points of departure are available" (Cousin, 2005, p. 127), but are they? I have alluded to LMS tracking facilities and their intended uses and archiving concerns for academic selves, views, and curricula. McShane (2006) refers to the tensions of the archived academic. Archiving of online textual interactions can have multiple ramifications, although this may seem fairly innocuous, but in the digital age where there are visible traces of political, moral and substantive viewpoints, there can be serious consequences. Yet, beyond the "petrified selves of audit" (Stronach et al., 2002, p. 121), for Sam (lecturer), the archived online interactions provided evidence of her diligence and responsiveness against a student's dissatisfaction complaint. Archiving and visibility are ambivalent spaces and practices. There are serious educational issues regarding archival permanence (Land & Bayne, 2005b, p. 172). Burge (2007) passionately discusses significant issues regarding students' rights to privacy and confidentiality versus an institution's right to data capture. She asks "burning" questions about a lecturer's material becoming available online, and what public access could do, from fears of plagiarism to peer critique. She also asks if it is appropriate or fair to subject the online classroom to "scrutiny at a higher standard than we would a ground-based classroom" (Burge 2008b, online; Burge 2008a). In 2007, Campbell and Oblinger (2007) rated security as a number two concern in e-learning and e-teaching, and in 2008 Allison and DeBlois (2008) found that security was the number one issue of concern. Further, a number of ethical concerns are raised in the literature about the e-academy and online education (Anderson & Simpson 2007; Demiray & Sharma, 2009; Haughey 2007; Hinman, 2005; Spinello, 2006; Tavani, 2007).

Perhaps surprisingly, the greatest limitation of (hyper)textualisation for some e-learners was yearning for the lecturer in the flesh as the body is 'lost in translation' online. The LMS with its access and flexibility simply can never make the mark — yielding nostalgic selves, yearning selves, grieving, and mourning selves. What becomes of embodied educators and their skills as they become a "hybrid subject shaped by other networks and flows in which they are enfolded" (Edwards & Usher, 2008, p. 92)? For Dreyfus (2009), e-learning and e-teaching can never approximate the presence of a lecturer in the flesh; e-learning can only ever be an approximation or a loss and can only ever produce competence — which can never equate to the engagement in the flesh in a scholarly community. e-Learning for Dreyfus (and for some participants) is forever tenuous and remains untenable — ever in a comparative state with *what it is not* rather than with *what it is* and *might or could be*.

Whilst the (in)visibility of the flesh is a cause for grief for some, there are other losses in invisibilities via *hypertextualisation*. Sky (an international student new to the online medium) highlighted how the LMS textual medium placed her Canadian nationality under erasure as it became difficult to glean from the typed English screen text. She also mentioned that many of the Australian idioms were not easily transparent or understandable, saying, "just because we speak the same words doesn't mean that they have the same meaning" — highlighting that just because we 'speak' (write) English, doesn't mean we 'speak' (write) *the same* English. This is significant for international students, although textually some aspects of the non-native speaking of English may be more transparent via text. Here we have a national identity erased to a large degree by virtue of the medium. Yet for others, this *hypertextualisation* is a welcome opportunity for the individualised one-to-one email interactions between the lecturer and the student, where there is an increased and heightened sense of lecturer presence.

So with what consequences do we translate ourselves digitally across geographical borders — with what erasures, with what (in)visibilities? We need to find ways to imbue e-learning and e-teaching LMS platforms with more embodied richness to allow for diversity.

I have shown that there are multiple ramifications of (hyper)textualising the university online. The strength of qualitative studies and their contextualisation contribution is to add depth and richness to understanding LMS use *in practice* based on actual participant practices to help understand what might lead to sustainable digital spaces in (e)learning platform evolutions.

(e)Learning for sustainable futures?

Regardless of the élan of digital learning technologies, whatever our LMS and digital platform selections, we will need to know how to use and transform knowledge to consider what constitutes desirable designs for e-learning and e-teaching? Oblinger and Hawkins (2006) suggest that the question, “Does technology make a difference?” depends on how we ask the question — for *what* and for *whom* and in *what way*. They point to the added flexibility, affordances and also to moving beyond replicating our existing teaching practices to consider *redesigning what we do*. “Are we doing the same things with technology, or are we taking advantage of the unique capabilities of technology and redesigning our activities?” (Oblinger & Hawkins, 2006: 15). *LMS-ing* of knowledge can make e-teaching and e-learning (*inadvertently*) much more *teacher-centred* than the intended and purported *student-centred* or *learning-centred* LMS designs. How might we work with/against these tensions?

Further, with increasing conceptualisations of education as a commercial enterprise (Marginson & Considine, 2000) and knowledges as mass commodities, what will it mean to teach in a *borderless* university — at what cost, to whom, and for whom? In the enterprising e-university, we see students, lecturers, and the academy (by virtue of its buy-in to LMS companies) as consumers, so knowledge readily becomes a commodity. Enterprising in a commercial sense is not always experienced positively, despite the implied e-learning flexibility and access, because here the pedagogical student-teacher relationship becomes one of facilitator-customer/client.

Whilst these “less familiar and less stable environments” (Hannon, 2009, p. 428) of LMSs could provide new pedagogies and paradigm shifts (McLoughlin & Lee, 2008), we need to explore how to move beyond the textual drowning and linear restrictions of LMS standardised designs. How do we imbue aesthetics of educational design — for aesthetics matter (Udsen & Jørgensen, 2005)? There are marketing and policy implications for what a university looks like via its LMS platform, what it exudes, how universally accessible it is, and how immersive it is — as well as its spatial atmospheres. How can we create LMSs with multiple places for students to explore and mingle beyond the linearly ordered and the academic — where social spaces (e.g. digital university cafés, digital noticeboards) might co-exist alongside the serendipitous, surprising, and unexpected?

A more encompassing and ecological approach might involve embracing a “learning-centric university mission” (Ellis & Goodyear, 2010, p. 153). Despite the radical opportunities afforded by these technologies (Hemmi, Bayne & Land, 2009), they are risky and “disorienting spaces” for students and lecturers (Bayne & Ross, 2007). How might we create multiple LMS platforms designed and individualised to consider diverse learning and teaching styles, pedagogies, curriculum, and preferences? In commercialised LMS platforms, uniformity and standardisations of formalised traditional academe dominate. Whilst we need standards, we also need flexibilities so we do not merely replicate sameness, but embrace, innovations, diversities, and differences. We need counter-narratives beyond the studies by large multinational digital knowledge companies that have a vested interest in presenting their products enthusiastically; rather, we might seriously consider student expectations from LMSs and their e-lecturers (Steel 2007) to inform design. We need to experiment with how to create sustainable learning/knowledge spaces, keeping these issues alive on our research agendas (Ellis & Goodyear, 2010; Riddle & Howell, 2008). These are questions and issues I raise for system and policy planners, e-learning and e-teaching designers, and education practitioners. We need to *renegotiate* — in all sorts of ways and with all sorts of *things such as the LMSs* — how we go about learning and living. In any educational planning, there is always uncertainty (Ellis & Goodyear 2010: 106), but if we have at our base a willingness towards sustainable and ecological design then we can find ways to explore and evolve beyond purely market-driven technologies towards innovative pedagogical designs that have at their heart user-choice, universal accessibility, and flexibility. To consider our possible (e)learning futures, we need to take heed ultimately, of what Agre (1999, p. 39) points out that “Our choice is not technology versus no technology, but a wider determination of the concepts and the values that higher education should embody”.

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