Identity thresholds: Researching the socio-political impact of learning in immersive virtual worlds

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Introduction

Much of the recent research into learning in immersive virtual worlds (IVWs) centres around games and gaming and is largely underpinned by cognitive learning theories that focus on linearity, problem-solving and the importance of attaining the 'right answer' or game plan. In this paper I will suggest that learning and researching in immersive worlds seems to result in a sense of multiple identities and disembodiment, or even different forms of embodiment. Further, the *sense* of anonymity and the assumption that this was what was understood through one's words rather than one's bodily presence, is becoming increasingly unmasked through immersive virtual worlds such as Second Life.

Under taking research in such in-between spaces has a certain edge about it. This is perhaps promoted by the constant juxtaposition of real life (RL) and Second Life (SL), and the extent to which one feels more 'real' in SL than in online discussion forums. Further, in research and in Second Life it would seem that language and speech are not representations that mirror experience, but instead create it, thus the meanings ascribed and inscribed in and through avatars are always on the move. It might be that liminality could be seen as a trope for understanding avatar identity/pedagogy, or possibly that provisionality and representation might be seen as sub-categories of liminality itself. Yet it is probably more likely that provisionality and representation are issues that inform our understandings of liminality. For example, struggles with understandings of what might constitute provisionality and how representation affects avatar identity and avatar pedagogy can inform and guide the different forms and formulations of liminality that occur in immersive virtual worlds.

This paper will present a study that used narrative inquiry to examine staff and students' experiences of learning in Second Life. The findings that will be presented will explore issues connected with: pedagogy and play, dialogic translation and runaway pluralism. It will suggest that issues of provisionality and representation and their relationship with liminality introduce questions about whether liminality differs in Real Life compared with 3D virtual worlds and whether different forms of liminality exist and /or can be delineated, *and thus bring with it some kind of constitution of a threshold identity.*

Background

Recent research to date has been undertaken into students' experiences of virtual learning environments, discussion forums and perspectives about what and how online learning has been implemented. For example, there have been a series of studies funded by the JISC in the UK that have explored students' perspectives of e-learning, namely Sharpe *et al*, (2005); Creanor *et al*, (2006) and Conole *et al*, (2006). These studies, although using relatively small data sets, would seem to indicate students' experiences of e-learning are more complex and wide-ranging than many university tutors realise. Further, virtual world learning seems to offer new perspectives relating to the study of the socio-political impact of learning in higher education. This is because spaces such as second life are universal, not bounded by time or geography, and in particular adopt different learning values from other learning spaces (Savin-Baden, 2007; Olsen *et al*, 2004; Malaby, 2006). Furthermore, research by Ferreday *et al,* (2006) would seem to suggest that identity and identity construction in virtual worlds occurs through dialogic learning rather than gaming.

Methodology and Methods

Narrative inquiry was used since stories are collected as a means of understanding experience as lived and told, through both research and literature (Clandinin and Connelly, 1994). However, narrative inquiry is seen in a variety of ways and tends to transcend a number of different approaches and traditions such as biography, autobiography, life story and more recently life course research.

Data collection

An initial review was undertaken of existing data available, via databases and ESDS Qualidata. Data were collected through semi structured interviews face to face, by telephone and in- world with 10 staff and 10 students, and analysed interpretively to examine the subtext of data.

Ethics

Ethical approval was sought from the relevant University ethics committees. Data collected were confidential. Safeguards to confidentiality included the coding of data and the code was kept separate from the raw data. All names used throughout were fictitious to preserve the identity of participants. However, it should be acknowledged that the individuals concerned might recognize some excerpts within the text used to illuminate the interpretation of data.

Trustworthiness, honesties and informed consent

In the context of a study such as this, a shift was needed away from validity or trustworthiness, and the assumption that it is possible to find shared truths and clear themes and categories. Instead 'honesties' was adopted – a category that allowed for the acknowledgement that trust and truths are fragile and encourages engagement with the messiness and complexity of data interpretation in ways that reflect the lives of participants. Honesty allowed for recognition of not only the cyclical nature of 'truths' but also that informed consent is not unproblematic. Participants signed informed consent forms and transcriptions were returned to them for validation.

Findings

Three themes emerged across staff and student data: pedagogy and play; dialogic translation and runaway pluralism.

Pedagogy and play

The strong link between pedagogy and play that appeared to emerge in immersive world spaces seemed to enable an exploration of the ways in which past, current and future identities are present and embodied and multiply interacting with each other in these spaces. Issues were raised by staff about learning, play and fun and how we also play in and through our identities in virtual spaces. Although staff spoke of a strong cross over between real world and virtual world identities, there was also a sense of play being a serious component of learning. For example Iain argued:

> If you're role-playing in Second Life, your real life identity can look on at that role-play. You're participating but you are also at a distance, so the two identities that are inhabiting that role-play situation are explicit. There's you as the student learning, and there's you as the appraisee being criticised for something or other, and you can hold those two together. If you're, you can be them, be both of those at the same time and one can look at the other. If you are playing a role for real as it were, across a table, you have got to throw yourself into that role.

For Iain the presence of 'an other' in the form of an avatar seemed to make identity collision less problematic. The ability to hold two identities in play simultaneously seemed to offer a different sense of role play in SL than was possible in real life. However, Ken was less concerned with a sense of the seriousness of play and more focussed on the value immersive spaces offered in the use of fun for learning:

> The idea that Second Life is a game for me is a positive; I think there are lots of educationalists who really don't like the idea of it being called a game because that in some way they think diminishes the educational potential of it. But, the teaching I do, is all based around games, that's all I do, that's what I teach, that's how I teach, you learn by playing. You learn by doing something and I see no harm in there being an enjoyable, playful aspect to something and I

> think it's something that educationalists, I mean there are plenty of educationalists who have completely got their heads around this and totally understand how children learn and babies learn and it's not just about hard-nosed education as such, you can teach people in a way that is much more playful, that is much more open and to an extent you learn without necessarily realising you're learning something.

His argument was that education needed to be more playful, particularly in the face of an increasingly performative higher education culture. Yet he sensed criticism and derision from colleagues about making learning fun, despite the seriousness of learning through play he believed in. However, Ken's stance mirrored earlier work, such as that of Rieber *et al* (1998) who have argued for the notion of 'serious play'. Serious play is characterised as an intense learning experience, involves considerable energy and commitment and is believed to be important for the development of high order thinking, commitment and engagement. However one of the issues that emerged across the data was the importance of not just serious play and playfulness but also immersion.

The notion of play seemed to be at odds between staff and students. Students saw play as part of or integral to learning whereas their perception was that staff did not always see it as such. Chris and Meg both saw SL as space for play and experimentation which they felt was unexpected by staff:

> I was instantly engaged. I like debating and this fitted the bill. I also don't mind a bit of humour and a few jokes and that is inevitably involved in SL. . . There is a real dimension there to do all sorts of creative things you might not have thought of. . . For some a few the whole thing is off putting, not really serious, you know odd boy, that sort of thing. When I speak to friends who are teachers you have to overcome their prejudice that it's all just a joke (Chris).

> I think the course tutors, they are supportive but they can be quite directive on the course at points and I think their understanding of what education in an

> online space was quite different from mine. And also I was being quite experimental and in a way I think they hadn't expected and I think they were quite thrown by that (Meg).

Perhaps student views were influenced by staff such as Marc and Lizzy who appeared to see their role as 'looking after' students. Some staff tended to control and manage learning and interaction in immersive worlds in ways that were at first glance a means of supporting students. This is exemplified through the way staff managed entry into the IVW, the way spaces and objects were created and managed and the way learning was organised. For example Marc 'looked after' students and their expectations and anxiety by creating avatars for them:

> What we've been able to do in our inductions is to give every student an individual island so there's no other avatars around to cause anxiety, it's just their avatar. They don't have to sign up and choose a name and get into that whole kind of identity thing as well which again can cause quite a lot of anxiety early on, so they've just got a default avatar with a default name and what we've been able to do is just get them to think about the virtual world just as a creation tool initially.

Lizzy likened a SL tutorial to taking 'kids on a school trip', arguing that the new learning space meant a different kind of staff responsibility which in this case meant 'holding students' hands'. Yet there were also staff such as Liam who argued against the way staff put limits not only on learning but also by the imposition of real world values on immersive spaces:

> I think we limit our thinking when we put a building on the ground. We don't need it. People building chairs for people to sit on during virtual lectures, is almost, for me an insanity. It's not as if the avatar gets tired. What's the purpose of having a virtual chair? So I think people need to broaden their thinking about what is possible, think the impossible and implement it. Rather

than being restricted by what you see around you on a daily basis. There's not enough creativity.

There was a sense that teaching boundaries and practices were in one sense on the move and, on another, boundaries did need to be controlled. Perhaps the value confusion and conflict spoken of by staff reflected their different pedagogical stances: that is the way in which staff see themselves as teachers in particular educational environments. Pedagogical stances change in relation to other issues in people's lives, such as opting for a 'safer' way of teaching when struggles elsewhere demand energy or resolution, or desiring greater challenge and change in teaching when other aspects of life are mundane (Savin-Baden, 2000). However, it might be that the differences between staff and students' conceptions of pedagogy and play related to misunderstandings or explanations that were lost in translation:

Dialogic translation

In SL dialogue is taking place in new spheres and diverse arena: at the boundaries of knowledge, at the borders of knowledge status and values and in new boundary spaces. Yet what SL did seem to offer was a dialogic space not used, recognised or adopted in RL spaces. Through dialogue staff and students were able to understand new and different languages and conceptions through SL discussion. This also seemed to overlap into RL areas so that discussions of what was required and developing a shared understanding enabled translation of the information into something that was meaningful and useful to them. Perhaps this was because SL was seen as a more informal learning space than discussion forum, and therefore students felt more able to ask questions about assignments and tutor expectations of standard of work and their participation in seminars. However, it also allowed opportunities for students to question what counted as learning and what learning meant for them. For example, Kay's learning and dialogue was something that was continually changing and on the move:

I find that throughout this course and other things that I do that people talk about learning in lots of different ways. So it means the same thing every time

> they're using it and actually when you try and pin it down it disappears, what we're talking about. We're not quite talking about the same thing. And the learning for me that's coming from Second Life, it doesn't quite answer your question I don't think, but it's giving me almost, not quite a mirror but something, a trigger to look at other things, why am I reacting in this way, to what I'm seeing? Some of the things I've been saying to you. And it's forcing me to look anew at things, looking in a different way at things and I think that's quite powerful.

Such a sense of liminality prompted her to question her own pedagogical stance and explore issues of agency and identity in both RL and SL. Dialogic translation across and between worlds illustrates the difficulty of 'heteroglossia' (Bakhtin, 1981); the coexistence of distinct varieties within a single linguistic code whereby there is interplay of meanings and understandings, since the nature of heteroglossia arises from its social use by individuals and by communities. In research and in Second Life it would seem that language and speech are not representations that mirror experience, but instead create it, thus the meanings ascribed and inscribed in and through avatars are always on the move. Yet thinking of the impact of learning in such spaces and the shift in dialogue occurring also raised issues for students in terms of the imposition of pedagogic frameworks and models by staff on students. For example Meg argued:

> I don't know whether it will or whether it won't – *(virtual worlds will enhance learning in the future)* - I think it's here to stay but I think the problem is that it can go the same way as virtual learning environments and be very contained and linear and I know there are projects that are already doing that, they're moving Gilly Salmon's five steps to good e-learning or whatever she calls it, um into Second Life and I'm not sure that's what it's about so I'm kind of quite unhappy with some of that um I do think it's quite experimental and I do think that people are being prepared to take risks and I think it's starting to interrupt knowledge and what learning means a bit more in higher education and I'm

> glad about that because I don't think there's enough of that going on. We're too obedient –

Whereas for Ken, a student at Stanage[1] University, SL opened up possibilities for creativity and freedom for students:

> Ken: If you let your restraints go and see the funny side of it then it becomes imaginative fun and very creative. I once answered a questionnaire Dave had and it asked how you would feel if your avatar died. I said it would be like losing a sort of artistic creation like a good painting. So I think it can help you to be creative. The format allows you to try out new problem solving skills. I also think it could be good for those who are shy of public debate and discussion. They can just watch and join in a disguised way.

For Ken the lack of restraint allowed for experimentation in new learning spaces and the opportunity to explore and play with learner identity. Further, the notion of avatar as art indicated a sense of it being both a creative expression and an extension of one's self. Thus dialogic translation also involved extending and translating your self and your way of learning in/to a new space. However, there were other emerging dialogic practices, such as changes in language use and new emerging linguistic practices. Both staff and students tended to speak of their avatar as both 'I' and 'her', so that pronoun use became almost interchangeable. Further new phrases and language became apparent. This included the practice of adapting language for IVWs, such as *machinima*, originally used to describe the use of real-time three-dimensional graphics rendering engines to generate computer animation, but which has been adapted to describe the process of creating films in Second Life so that computer-generated imagery is rendered using real-time, interactive 3-D engines instead of professional 3D animation software. There has also been the creations of new words and phrases, such as *Rez* - means to create or make an object appear, whereas *'Rezzing* an object' can be done by dragging it from an inventory or by creating a new one via the edit window. The term "rezzing" can also

[1] Fictitious university name

be used for waiting for a texture or object to load, such as "Everything is still rezzing."

Linguistic and dialogic shifts were coupled with a sense of pluralism and chaotic-ness and a sense of things being out of control. Such chronic liminality led to staff and students speaking as if they were in a runaway world:

Runaway pluralism

The kinds of pluralism seen in SL related not just to the idea of power flowing from multiple sources, but that power was often intersecting, divided and confused by shifting and changing identities, roles and understandings of learning. This is largely because in SL power and resources changed and moved and were not subject to the political whims and constraints of SL in the same kinds of ways. Further, the lack of entrapment of identities in essentialist ways has also resulted in an interruption of RL identities, thus to some extent prompting a move away from the tendency to cleave towards particularity resulting in vulnerability to discrimination as both concept and practice.

However, at the same time there were unusual issues of actual power in terms of the impact of IVWs on ascribing in world behaviours, but this affected both staff and students. The way in which digital spaces are created for staff, by commercial organisations that are politicised and contained by universities, and used by students enables, but perhaps more often occludes, ways of seeing where information is located. Furthermore, there has been relatively little consideration of agency in 3D worlds and author/avatar as the primary informing relation/opposition. Yet agency in-world is devolved in very novel ways, such as particular activities or functions that can be scripted to make avatars respond in particular ways, which challenge us to extend the simple author/avatar relation to a broader consideration of agency as it is reconstituted by the multiple relations between author/avatar/world. For example, staff spoke of the way in which IVWs themselves ascribed and inscribed particular value systems, for example, Lizzy explained:

> I find one of the issues with it is there is a big difference between the kind of the philosophical idea you get in Second Life about you can be anything and do anything, and the way the environment actually scripts your behaviours, so you can only sit in a chair, I couldn't sit in a chair like this. I have to sit in a chair like this, which isn't my style, and I couldn't do something like nod.

Ascribed performance, visuality and behaviours in SL includes bodily shape, movement, clothes, appearance and lack of or prescribed gestures. The bodily markers that are used to present ourselves in life, clothes, ethnicity, gender and speech may be re-presented (differently) in SL but they also indicate choices about how we wish to be seen or the ways in which we might like to feel differently. Furthermore, authors such as Seymour (2001) have suggested that although the physical body is invisible, meanings, mannerisms, behaviours and unstated assumptions are clearly visible in online communication. Staff remarked on the ways in which IVWs closed off particular ways of creating and operating, for example Fran raised concerns about the values imposed through different virtual worlds:

> That's one of the advantages of Second Life, compared to *There*. *There* is very restrictive and if you want to change even your t-shirt colour you have to pay. So we all end up, the guys all end up looking the same and the girls look the same and Second Life is advantaged, there's a library of stuff, and I could give you a wardrobe for free. We're a lot more in control of the situation for allowing you to change your appearance or at least guiding you on how to change your appearance.

Thus there was a sense that different IVWs imposed and created different value systems. Yet there was also a sense that: 'Not only do we play, but we are often played with - by others, by systems of which we are elements and by the sheer unpredictability, uncertainty and complexity of life' (Kane, 2005: 50), in this case the virtual world itself. Although at one level SL ascribed behaviours and *There* imposed appearance restriction, some staff valued the freedom and creativity of SL spaces, whilst others were sometimes wrong footed by the lack of control they had over

students and their learning in IVWs. Thus the way in which digital spaces are created for staff, by commercial organisations that are politicised and contained by universities, and used by students enabled, but perhaps more often occludes, ways of seeing where information is located. One of the students, Chris, reflected:

> I would like to see a flourishing of all sorts of educational groups using the format. I attend a number of evening classes all now threatened by government funding problems so SL could offer an alternative. I would like to see on line learning expand into this dimension as Stanage seem to be trying to explore. I would like to see this format used in Schools in dozens of different areas.

The sense of runaway pluralism therefore related to identities being on the move and almost out of control in terms of space/place/agency and in terms of both colliding and interrupting. There was also a sense of confusion occurring about issues of positioning and representation. Gee's work on video gaming offers some sense not only of the multiplicity of identities involved in online learning, but also the possibilities for relationships between some of them. One of the difficulties related to games-based learning would seem to be that of identity. Gee (2004: 112-113) developed a theory of identity, based on experience of videogaming. It is a tripartite identity comprising:

1. The Real identity: who we are in the physical world.
2. The Virtual identity: who we are in the virtual space. Thus, Gee argues, our virtual self should be able to "inherit" some of our real attributes.
3. The Projected Identity: The projected identity refers to identity that is developed through engaging with the character, through the interaction of the first two identities.

However, Gee's conception of the virtual self here is located in gaming and the character within the games, and his notion of identity here seems to equate with

'role' rather than identity per se. Further, he has argued that identities are projected identities, but this introduces interesting psychoanalytic difficulties. Projections are usually unwanted feelings that we invariably choose not to own. We therefore believe that someone else is thinking/feeling them instead, such as anger or judgement (see for example, Jung, 1977). Avatars in Second Life seem, in general, to capture wanted elements, or the chosen components of our identities that we wish to present to/in the world. Thus in immersive worlds it would seem that the identities presented are more likely to be the functional or ideal sides rather than the projected 'unwanted' sides. The realisation that one is playing with one's identities prompts both questions and realisations that our identities are troublesome and uncertain.

Discussion

Avatar/author seems to be the focus of agency exploration in IVWs; in that it seems to inform ways relationship/oppositions are seen and this seems to be creating a sense of chronic liminality, such that identities might be seen as being spatial. Through reconstituting identities as spatial it may be possible to map the ways in which students engage in diverse spatial zones and this might mean that as academics we are able to develop means of reconstituting our practice, so that it reflects the complex spatialities in which we all work and learn. Sen (2006) has suggested that solitarist theory, whereby identities are seen as being formed by the membership of a given (and often single) social group, has shaped much multicultural thinking. Even the idea of multiple identities can be seen as divisive and problematic, as if identities can be divided and delineated as chunks of unchanging essence. Yet to see identities as spatialised, as changing, shape shifting is to argue from and for a different stance and position. Identity positioning and identity work are sites of stuckness through which the immutability of global labelling is transcended. Such sites of stuckness are deeply troublesome and might be seen as liminality writ large. Identity, whilst not unproblematic as a term, position and action, is a threshold concept and a source of much troublesomeness if we evaluate the shifts seen in Hamlet (Shakespeare, 1601). The transformation which Claudius (his uncle) detects in

Hamlet is not static but continuous, such that Hamlet's identity evolves with his conceptions of himself, his position as seen by others, his location of himself and the way in which he shifts from a mourning, troubled troublemaker to being a rogue and player and finally to both avenger and rightful (if dead) King.

Spatial identities, then, are identities on the move, shaped by changing practices and cultures in higher education, but they are on the move in ever shifting spaces, they are essentially ungraspable. This ungraspability relates to the way in which identities differ and change according to context, culture, role and identity. Through understanding our spatial identities it may be possible to map the ways in which we might constitute ourselves as academics, might engage in these diverse spatial zones and might find means of reconstituting our practice, so that it reflects the complex spatialities in which we work. Further the mere exploration of spatial identities often moves the identity explorer into liminal states. Take for example the delineations of liminality in Land *et al* (2008).

It could be argued, and increasingly is, that cyberspace has resulted in a sense of multiple identities and disembodiment, or even different forms of embodiment. Further, the *sense* of anonymity and the assumption that this was what was understood through one's words rather than one's bodily presence, is becoming increasingly unmasked through immersive virtual worlds. The bodily markers that are used to present ourselves in life, clothes, ethnicity, gender and speech may be re-presented (differently) in Second Life, but they also indicate choices about how we wish to be seen or the ways in which we might like to feel differently. Furthermore, authors such as Seymour (2001) have suggested that although the physical body is invisible, meanings, mannerisms, behaviours and unstated assumptions are clearly visible in online communication.

The realization of the existence of spatial identities results in movement into stuckness, disquietude and perplexity. Yet the sense of disturbance is often not seen as identity work or even a challenge to identity. The realisation that one is playing with one's identities prompts both questions and realisations that our identities are

troublesome and uncertain. Thus in the process of trying out new identities, what I would term our representative identities, questions arise about the impact of these representative identities on our physical, embodied or place-based identities such as:

- In immersive virtual worlds in what ways and to what extent do immersive virtual world identities spill over into work or home identities?
- How do in-world identities impact on or prompt reformulations of other identities in other 'worlds?'
- Does the in-world artifice prompt us to lie and pretend more in real life?

What all of this does seem to point to is a form of liminality between our various identities, in-between identities. Such identities would seem to be provisional, constantly changing and thus we are always necessarily on the move. Yet, our identities do not always sit easily with one another, therefore collision and uncertainty result in disquietude and a sense of fragmentation. Such disquietude serves to confirm that identity work is not only an ongoing task but also a form of musical chairs:

> No 'beds ' are furnished for 're-embedding', and such beds as might be postulated and pursued prove fragile and often vanish before the work of 're-embedding' is complete. There are 'musical chairs', of various sizes and styles as well as of changing numbers and position, which prompt men and women to be constantly on the move and promise no 'fufillment', no rest and no satisfaction of 'arriving', of reaching the final destination, where one can disarm, relax and stop worrying.
>
> (Bauman, 2000:33-4)

There is a sense then that there are not only variations in liminality as defined by Meyer *et al* (2008). For example they suggest there are four progressive steps towards and through the portal[2], namely:

- Subliminal variation - variation in students' ways of knowing and understanding the underlying game of the discipline
- Preliminal variation – variation in how students perceive or encounter the portal
- Liminal variation – difference in the way in which the liminal space is entered and negotiated
- Postliminal variation – difference in ways of moving out of the liminal space and into a new terrain

(Paraphrased from Meyer *et al*, 2008: 68)

Yet there are also forms of liminality that can be seen in different studies in the field of threshold concepts which might have some application to IVWs. In Land *et al* (2008) a number of chapters define liminality in particular ways and offer exemplars of staff and students' voices:

Resistance and rupture

The experience of resistance and rupture appears to be a much more troublesome and damaging move in to a liminal space than the sense of retreat I have spoken of elsewhere. In retreat (Savin-Baden, 2006) there is a sense of choice, of choosing not to engage with the stuckness because of wanting to avoid engaging with the struggles connected with disjunction and often retreating behind some form of excuse, which means that they do not engage with the personal or organizational catalyst to the disjunction. Whereas resistance and rupture is much more akin to the kind of rupture Heidegger (1985) suggests, whereby it is something that occurs unbidden and is not a product of volition, as retreat often is. Rupture, is as Land suggests :

[2] In the threshold concepts literature the argument is that following a period of being 'stuck', prompted by the threshold concept, one passes through a portal into a space beyond the threshold

> ‘Heidegger's 'logic of rupture' and the notion that our practices tend not to be explicit or conspicuous until we encounter some form of rupture (usually through encountering strangeness). However when we do encounter 'explicitness' in Heidegger's sense (as opposed to our normal 'absorption') there is not, in H.'s view, an automatic process of reflection but often a defensive reaction, or one of inarticulateness or 'speechlessness'.
>
> (Personal communication, June 2008)

This kind of rupture would appear to shift beyond the kinds of variation Meyer *et al* (2008) delineate, which suggests that perhaps there are forms or types of liminality that transcend the four variations. This would also appear to be the case in work described by Sibbett and Thompson (2008):

Moratorium status

Sibbett and Thompson (2008) suggest that in professional development, moratorium status is similar to adolescence where different identity status might be experienced. However, a moratorium status is where delay occurs so that exploration may occur in order to develop, create and form an identity. This, the authors suggest, might be seen as a form of liminality, since by negotiating this process what they term ‘identity achievement’ (p234) occurs. However, if identity work does not take place then it would seem that mimicry may take place leading to sense of a fragmentation. This fragmentation seems to happen in many curricula that are educating students for the professions and certainly there is evidence for this in the stories of student experience.

Benumbed

In some forms of liminal engagement, probably in the preliminal or subliminal phases, the attempt to avoid or retreat -because of the realisation of not wanting to be in liminal space- results in a sense of being benumbed. Being benumbed also appears to result in a deep stuckness, so there is feeling of not merely a moment of aporia, but of being stuck in the stuckness, so that they are located in a passage of

time and space, where the sense of connectedness with anything feels fractal and so disconcerted that crossing over the border into a subliminal space feels and seems impossible. This seems to be particularly evident in those completing a PhD, where just before the final threshold students move into such a state of stuckness that they become inert and want to jettison the whole project. This might relate to fluctuating challenges of writing articulately in one's own voice(s) in appropriate conceptual, critical and creative ways.

Disenchantment

It would seem that in the learning process many students fail to locate the episteme, or underlying game and this seems particularly apparent in learning in IVWs. Staff attempts to communicate the underlying game have taken a number of forms. For example, Kinchin *et al* (2008) suggest that information in chains is unhelpful to students and are merely procedural sequences. Instead we should teach networks of understanding so that knowledge is integrated and wholistic. Chains and networks are one helpful exemplar, but a particularly popular one is that of scaffolding. There remains a strong focus in higher education and particularly in professional education on the notion of scaffolding learning. Emerging from Vygotsky's zone of proximal development (Vygotsky, 1978) it is the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers. The concept of scaffolding refers to the context provided by knowledgeable people to help students develop their cognitive skills. It would seem that staff's need to scaffold learning is troublesome and results in student disenchantment. There is surely the somewhat hegemonic assumption here that teachers' pedagogical stances are better than those held by their students. Indeed, surely to scaffold is to impose one's own pedagogical signature on the way knowledge is created and managed, instead of enabling and allowing students to use or create their own pedagogical signature.

Conceptually lost

A further type of liminality would seem to be that delineated by Trafford (2008). Trafford explored threshold concepts in PhD supervision and offers some fascinating insights into threshold encounters. What is poignant is the consistent sense of conceptual lostness that students experience, as if they were slipping in and out of liminal variation and across diverse forms of liminality. This sense of being lost and looking for something seems a shift away from liminal variation. This is a response to both preliminal variation in terms of encountering the portal, and liminal variation in terms of how the liminal space is entered and negotiated. Yet it would seem that here students speak of the realisation of being lost and needing to look for something that is there, or having an expectation that this sense of lostness will disappear. Here students seem to almost value doubt as a means of moving away from a liminal space. Instead of trying to eliminate the lostness, they appear to believe it is better to value it as a central principle of learning.

What these data appear to indicate is that although liminal states may share certain characteristics, the experience of liminality differs between people and invariably relates to identity transitions and transformations. Thus it would seem that liminal states are not only affected by the spaces in which they occur but also the pace of change. For example, Virilio (1997) and Erikson (2001) have both raised concerns about speed and fast time but perhaps it is not 'intersections of speed' (Virilio, 1999) we need to be concerned about, but intersections of identity.

Conclusion

Curricula need to become a series of open-ended spaces rather than a series of permissions to proceed that focus on compliance and rule-based models. Such open-ended curricula will be provisional, unstable and uncertain, and will reflect the translocational state of the University of the Future. Academe is littered not only with uncertainty and ambiguity but also liminal states and spatial identities. Pedagogy and play, dialogic translation and runaway pluralism are introducing new spatial zones and practices. At the same time the relationship between digital and

print cultures appear to collide in in-between world spaces, thus disjunction and ways of being slip across the gashes of time. There is an escalating collision of worlds in higher education whereby the monsters of the digital are invading print-locked cultures of the past and ushering in as yet undiscovered identity.

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