

Dissolving the online-offline divide: Re-conceptualising space in higher education course design

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In the rush to digitise aspects of higher education to cater to an increasingly diverse and wide-ranging university market, there is a concern that best-practice teaching and learning based on sound pedagogy may be left behind. This paper addresses this concern by offering a conceptual re-imagining of the learning space that reaches beyond a digital/non-digital divide. Our argument posits that imagining online and offline as different learning spaces confuses a necessary pedagogical correlation between learning *delivery* and learning *objective* that allows questions of digital (or non-digital) delivery primacy over questions of pedagogical quality. To re-assert the significance of pedagogically driven course structure and design, we invoke Deleuze and Guattari's (1987) image of the non-hierarchical rhizome to de-construct binary thinking and to recognise online and offline as elements of the same pedagogical space. We then discuss Wenger, White and Smith's (2009) *Digital Habitat* model as a way for teachers to re-construct pedagogically framed learning spaces out of the rhizome that reaches beyond a conceptually problematic online/offline divide.

Introduction

Uploading the university experience to offer flexible study modalities for an expanding and diversifying student market – from building a global institutional profile in the form of free Massive Open Online Courses (MOOCs) to capitalising on fee-based, online-only and multi-modal course delivery – is fast becoming the norm in higher education (Molesworth, Scullion & Nixon, 2010; McGettigan, 2012). The digital university's capacity to offer distributed learning options and flexibility, in terms of finding time and space for study, to segments of the community who are unable to fully participate in traditional face-to-face university courses is significant (Schank, 2000; Keppel, Souter & Riddle, 2012). However, educational technology has also been identified as “a site of struggle inside the university” (Hall, 2013, p. 52), in part due to fears that market-driven technological determinism is taking precedence over evidence-based scholarly pedagogy and best-practice teaching methods (Hall, 2013; Kirkwood & Price, 2013; Kirkwood, 2009). Tensions over educational technology development have also been attributed to an absence of adequate training and support for teaching staff (Buckingham, Scanlon & Sefton-Green, 2001, p. 21), and a “tendency to position teachers in deficit with regard to their technological capabilities” (Lea, 2013, p.106) in educational discourse.

Technological determinism is evident in education discourses when failure to effectively use technology in the classroom is attributed to government policy, a lack of resources and teachers' attitudes and abilities, but not to the limitations of the technology itself (Jewitt, 2006, p. 1). Teachers, in particular, are placed under repeated scrutiny in discussions about managing literacy in a digital age. Prensky states that “the single biggest problem facing education today is that...instructors...are struggling to teach a population that speaks an entirely new language” (2001a, p. 2); Hartley agrees that, “the main thing that needs to change is ... teachers” (2009, p. 30); and Mundy, Kupczynski and Kee suggest that teachers lack “the technological proficiency needed to take advantage of these new technologies, making them unable to bring these technologies into the classroom”(2012, p. 1). In a context where the expertise of academic teaching staff is being questioned regarding their ability to create digitally enhanced course design, we argue for a greater emphasis on conceptual investigations into how teaching and learning might be re-positioned in a digitally networked age.

Our motivation for this research is to re-emphasise the significance of effective non-digital teaching and learning practices, without denying the contributions that digital technologies can make. This is in

response to literature that calls for a productive and improved articulation between technology and pedagogy in higher education that considers established scholarly, theoretical and conceptual foundations (Lea, 2013; Gunn & Steel, 2012; Kirkwood & Price, 2013). Our aim is to develop a useful conceptual framework for *learner* focused best-practice teaching in higher education (Kirkwood & Price, 2013, p. 329) that places digital and non-digital elements under equal pedagogical scrutiny before uploading or downloading course content, activities and materials. We do this to overcome conceptual confusion between delivery modes (online or offline) and expected learning outcomes (the purpose of a course), arguing that the former should always be considered in the context of the latter. To ensure that technology is adapted to suit the topic, rather than altering course topics to suit technology, we suggest a conceptual re-imagining of learning space that reaches beyond the negotiation of a digital/non-digital divide.

Deleuze and Guattari's (1987) non-hierarchical rhizome provides a conceptual alternative to a spatial binary between online and offline that may encourage teachers to devise – and advocate for – pedagogically driven and context sensitive approaches to technology use. The rhizome deconstructs a digital/non-digital dualism, which favours the digital, in higher education discourse. It is not intended to offer a clear direction for effective teaching and learning, but to present an opportunity to reset the conceptual scene from which pedagogically driven course design might (re)emerge. To re-construct effective learning spaces by linking the conceptual to the practical, we model our proposed re-construction of learning spaces on Wenger, White and Smith's (2009) *Digital Habitat* metaphor. While the 'habitat' reinforces a technological determinist narrative in its use of the 'digital' prefix, the model is sensitive to putting learning agendas first when considering community engagement with technology. Mobilising these two ecological metaphors enables us to suggest a re-drawing of learning spaces that emphasise a purpose-dependent framework. To justify this approach, we address problematic dualisms that support technological determinism in higher education discourse to highlight the continued importance of pedagogy in broader discussions of learning, literacy and space as they manifest today.

Dualistic conceptions of space and time in higher education discourse

To develop a more discerning and evidence-based teaching strategy for the role of educational technology in higher education, it is important to investigate how the production of learning space has come to emphasise the benefits of digital delivery methods over the benefits of face-to-face and paper-based delivery methods. We suggest that the positioning of teaching and learning in dualistic conceptions of time and space results in an overemphasis on generational differences, future-oriented rationales and technological determinism. Sassen argues that binary forms of categorisation, such as online/offline, future/past, and digital/non digital, filter out "alternative conceptualizations" (2002, p. 366). Thus, transformative and pedagogical possibilities are often limited to fit within over-simplified dualisms. Binary logic that privileges technology over pedagogy in education discourse is found in the generational binary between digital-natives and digital-immigrants and the temporal binary between past and future, which both support an overarching dualism between digital and non-digital delivery methods.

Digital native/digital immigrant

A persistent narrative in education discourse refers to an assumed communications gap between digital natives (born into digital ubiquity, usually linked to generations born after 1980) and digital immigrants (those who recall the change from analogue to digital communication forms) (Prensky, 2001a; 2001b). This digital native/digital immigrant dichotomy implies that most teachers lack the technological proficiency to effectively communicate with their students - who are promoted as being instinctively techno-savvy and thus comfortable with, and skilled in, multiple digital platforms (Oblinger & Oblinger, 2005; Palfrey & Gasser, 2008; Tapscott, 1998). However, empirical testing of the 'digital native' literature has found that, rather than being homogenous, today's younger university learners "comprise a complex picture of minorities" (Jones, Ramanau, Cross, & Healing, 2010, p. 731) that do not display generational homogeneity in terms of access to and engagement with a wide range of digital technologies. Rather, the data suggests that students frequently use a limited range of technologies, such as mobile phones and email for informal social and leisure purposes (Kennedy,

Krause, Judd, Churchward, & Gray, 2008, p. 108), but there is little correlation between informal technology use and academic achievement (Nelson, Courier, & Joseph, 2011; Margaryan & Littlejohn, 2009; Salaway & Caruso, 2008). In light of such findings, the native-student/immigrant-teacher ‘problem’ has been coined an “academic form of a moral panic” (Bennett, Maton, & Kervin, 2008, p. 775), because it is based on popular rhetoric instead of scholarly evidence. Additionally, this popular rhetoric is technologically determinist, because it suggests that teachers embrace educational technologies (or at least digital technologies) or face redundancy.

Education’s future/education’s past

Given that there is little evidence to suggest that students possess a greater aptitude for engagement with educational technology than their teachers, it is important to explore why an emphasis on digital teaching and learning persists. Investigating the way educational technology is conceived of in space and time offers some insight. The positioning of teachers as lagging behind their students when it comes to technological proficiency creates a temporal and spatial division where digital technology is seen to represent the space of the future, and non-digital as part of an increasingly redundant past. Clegg (2010, pp. 347-349) argues that higher education discourses tend to refer to the future as if it already exists in the present. A forward looking, dichotomous conception of time – where future actions are seen as necessary replacements, rather than additions or extensions of the past – allows for teaching and learning agendas that are based on ‘future’ projections, instead of scholarly evidence. Locating educational technologies in the present as if they are the future (Clegg cites Groves, 2010, p. 347) means they often escape scrutiny, due to the empirical impossibility of collecting evidence from the future.

A time-future focus, based on a digital-future/non-digital-past dichotomy is reinforced, not only in generational stereotype, but also in the pervasive use of new media prefixes, such as ‘digital’ and ‘e’. Citing Woolgar, Clegg argues that the use of such qualifiers “suggests not only inevitability but the need to catch-up, act, respond” (2011, p. 177). This apparent need to understand literacy and learning as digital constructs is evidenced in the attention given to defining *digital* literacy/ies (Gilster, 1998; Lankshear & Knobel, 2008; Hartley, 2009; Koltay, 2011; McWilliam, Hartley & Gibson, 2008) and to developing interfaces and strategies for e-learning (Mason & Rennie, 2008; Littlejohn & Pegler 2007). Adding a digital qualifier to broad pedagogical constructs, such as Literacy and Learning, privileges digital over non-digital because of the positioning of digital technology as part of an inevitable future. The digital-future/non-digital past dichotomy, means that effective non-digital teaching and learning practices appear ‘out of date’. Thus technological determinism in higher education is, in part, fueled by future-present, forward facing rhetoric. This means approaches to course design based on tested pedagogical insights in non-digital forums appear ‘backward’ as they appear to be informed by evidence and experiences gathered in an increasingly redundant educational past. To move past the reductionist positioning of digital educational technology as creating the space of the future and, by default, rendering non-digital educational situations in the space of the past, it is important to expose the limitations of a digital/non-digital dualism.

Digital delivery/non-digital delivery

Instead of viewing the material spaces of universities and the physical academics who inhabit them as outdated resources in a new digital learning-scape, we extend Lefebvre’s thesis that “no space disappears in the course of growth and development: the worldwide does not abolish the local” (1991, p. 86). Thus, we remember that the localised spaces created in physical classrooms, occupied by embodied teachers and students, are not disappearing; rather, they are afforded a global reach through the production of classrooms, teachers and students in virtual forms. Sassen highlights digital space’s complex, reciprocal and interdependent connection to the organisation of material space, stating that: “much of what we think of when it comes to cyberspace would lack any meaning or referents if we were to exclude the world outside of cyberspace” (2002, p. 368). For example, a Facebook network is modeled on our material understanding of walls, friends, poking, social groups and interests, while a Blackboard discussion group for a university course is intended to simulate face-to-face tutorial interaction and uses the understanding of a material blackboard to define its educational purpose. Both virtual spaces would lack structure without corresponding conceptual understandings and objects from

the material world. Thus, the intimate connection between online and offline means that they might be more accurately configured as occupying the same space.

Our argument posits that dualisms regarding technology, space and time in education discourse mask a need for pedagogical justifications for digital technology use in the present. To conceptualise of the digital and the non-digital as representing separate spaces and times hides their mutually dependent structure. Digital technology is not the space of the future, just as non-digital agents are not the space of the past; rather, both are active communication forms in the present. Clegg rejects dichotomous temporal conceptions of academic life, suggesting that the “lived simultaneity” (2010, p. 348) of time needs to be embraced in its complexity. She argues that rather than dividing learning space into a digital future/non-digital past, the cyclical academic calendar influences digital and non-digital aspects of university scholarship alike, as does a shared responsibility for providing spaces where ‘slow time’ required for focused scholarship might take place.

A digital/non-digital dichotomy is problematic in that it divides university time and space so it favours a technologically determinist future. There is little evidence to suggest that face-to-face communication is becoming an outdated or less preferred teaching method, just as evidence suggests that reading off paper is potentially more effective than reading off a screen (Mangen, Walgermo & Bronnack, 2013). If the purpose of online learning is remembered as being the same as offline learning: to develop skills and knowledge relating to a specific topic under a specific disciplinary banner, then technological determinist claims to the future of higher education confuse a necessary pedagogical correlation between delivery (online or offline) and learning purpose. We suggest that if the digital is de-emphasised in higher education discourse, we can begin to re-imagine educational technologies as available tools with the potential to enhance existing teaching and learning expertise and practice, as opposed to tools that pose a threat to pre-digital skillsets. A conceptual dissolution of the online/offline binary allows for the reassertion of teacher-driven, pedagogy-led university course design where digital technology is seen as equivalent, not superior, to effective non-digital alternatives.

Dissolving the online-offline divide: Visualising the rhizome

Considering Deleuze and Guattari’s (1987) image of thought: the rhizome, allows us to visualise course design as forging a path through a meta learning space that is both digital and non-digital and where technology use (or not) is justified because it offers a clear way for a specific cohort of students to achieve a desired learning outcome. Modeled on a biological root system, where stems, roots, and shoots connect to one another in multiple and unpredictable ways, the rhizome resists dualistic, chronological, and linear thought progressions. This allows for thinking-space to be visualised as an interconnected mass of multiple non-hierarchical connections – or “roots” (p. 21). The flattened spatial construction of a rhizome, which is explained in opposition to a top-down tree-root analogy, deconstructs binaries between digital and non-digital aspects of teaching and learning by placing them on a “plane of consistency” (p. 70), as aspects of one meta-space of learning possibility. To visualise the rhizome is to imagine similar patterns to brainstorming and mind-mapping techniques, which are designed to access creative capacity in fragmented, non-linear thought.

For teachers, the rhizome offers a visual analogy for the space of conception: a space of infinite possibility. Deleuze and Guattari also refer to rhizomatic space as “smooth space” (p. 506), because it is not organized to favour any particular agenda or thought progression. The image of the rhizome flattens learning space so it no longer privileges technology and lays the conceptual foundations for pedagogically driven course-design.

Significant to our rationale for visualising the rhizome is what Deleuze and Guattari refer to as a principle of connection or “point” (1987, p. 7). Like nodes in a network, points are an intrinsic part of a rhizome because they represent intersections between the stem, roots and shoots. In the process of deconstructing dichotomous learning space, rhizomatic points (which we will refer to as nodes) might be imagined as moments when digital and non-digital intersect to achieve a shared learning process. The temporal connotations in use of the adjective ‘moment’ are also useful for course design in that it implies that nodes have a temporality and thus potential for pause and reflection. Each node of the rhizome might be imagined as a pocket in space and time that could enable a student to meet a

course's learning objective, and this node is connected to other possible learning moments (or learning nodes) via multiple pathways.

In this configuration, a learning space that emerges from a rhizome prioritises intersecting learning nodes as significant to the foundational structure. The pathways that connect and intersect at the nodes, allow for a way to conceptualise the role of delivery in teaching and learning. They represent ways to enter and exit specific learning nodes, as well as ways to connect one node to another. Viewing online, offline or blended delivery methods as pathways that connect learning nodes, instead of viewing a particular mode as being crucial to 'learning moments', allows for pedagogy to guide delivery. Rhizomatic learning space encourages the designer to consider the node first and which pathway most efficiently guides a particular cohort of students to engage with the 'learning moments', second. This approach avoids a disproportionate time being focused on navigating various paths without getting anywhere in terms of meeting learning objectives and achieving learning outcomes.

Because it represents a space prior to directional course design, the rhizome does not present a particular knowledge or privilege a particular direction or way of thinking and therefore does not offer a conceptual model for a course. Rather, it offers an anti-dualistic meta-landscape from which clearly directed learning trajectories might be mapped beyond an online/offline divide.

Reaching beyond the divide: Designing a learning habitat

While the rhizome is a complex map of intersections, a university course is not rhizomatic it has a clear purpose defined by the learning outcomes it intends to deliver. When imagining pedagogically led course design, learning objectives can be visualised as nodes, or moments of intersection, between various access pathways. This encourages course designers to remain focused on a broad learning trajectory and not disproportionately on how to upload or download content. The aim of conceptualising course design as forming clear pathways through rhizomatic space is to take the emphasis away from how to get students to a learning objective and place it on encouraging them to *engage* within the learning objectives in a variety of ways.

The reminder that a course is driven by purpose, rather than technology, reasserts the significance of pedagogy-led design. However, pedagogic principles need to fit within the practical realities of institutional structures and market mandates that make certain digital technologies compulsory in university courses. Wenger, White and Smith's (2009) digital habitat thesis, aimed at enhancing communities of practice, offers a useful model for pedagogically considered digital and non-digital articulations. Similar to the rhizome, habitats are mapped around nodes "where community and technology intersect" (p. 11). Focusing on intersections emphasises a reciprocal relationship between a community, its individual members and its technology, where they shape each other in mutually determining, rather than technology dominating, relationships (p. 21). Digital habitats offer a practical model for the learning spaces we hope to create, as they are developed around both the learning and digital requirements of a group (p. 38). Wenger, White and Smith refer to community members as a habitat's 'species' and 'place' as the digital locus of the community. A digital habitat is thus created through the configuration of technological tools, platforms and features that aim to meet the needs of the individual members and the interests of the community as a whole. For example, a digital habitat for an online university course about film might have a *Facebook* fan page, a place to share videos and create a community; a *YouTube* channel, a place for students to upload their film work; and a learning management system (LMS) discussion forum for formal course work focused conversations. In this digital habitat, the species are the film students and various digital tools create an asynchronously connected space for learning about film. The needs of the species are to be able to connect with their tutor and other film students, to understand assessment tasks and learning requirements and to meet the learning objectives of the course. For the online only iteration, digital technology is an extremely effective medium for facilitating these needs. A digital habitat for an on campus iteration of the same university course, on the other hand, might only use a digital LMS for submitting assignments and accessing missed lectures. Because the on campus community has opportunity for synchronous face-to-face interaction in physical spaces, such as lecture theatres, classrooms and campus grounds, many course requirements do not need to be met online. To offer or mandate online interactions in addition

to available face-to-face counterparts may confuse the purpose of the course for an on-campus student, which is to learn about film, not to navigate unnecessary digital interfaces.

Despite Wenger, White and Smith's focus on the creation of a mutually dependent relationship between species (the community members) and place (where members can interact and learn) (2009, p. 38), their emphasis on the digital aspect of communities plays to the spatial distinction between online and offline space we propose to dissolve. This is also an issue with the notion of the term 'blended' learning, which allows the prefix discursive privilege over the more important *learning* purpose. To reframe courses as habitats for learning, rather than as necessarily 'blended' or 'digital', we view the use of digital technology as just one part of an overall *learning* habitat, not as the defining factor. Without the 'digital' prefix, the habitat metaphor is useful for designing a learning space that is simultaneously digital and non-digital, as it considers technology use in the context of a larger course environment. Losing the digital qualifier and keeping the ecological metaphor de-emphasises the role of technology to allow all attributes of a learning space to be considered equally – human, material and digital.

A learning habitat's foundations are interconnecting course-specific learning objectives; however, the delivery of these learning objectives will differ depending on the species' various needs in terms of access. This means that what a student *needs* to access is not dependent on their route of access into the learning habitat. However, Wenger, White and Smith warn that, "learning in communities requires too much cohesion to split over uneven adoption, access or personal preferences with regards to technology" (2009, p. 186). Different cohorts have different resources, different timetables and thus different potential access points. To make too many access points available to one cohort may create confusion, as opposed to providing a cohesive learning experience. To avoid students lingering on the surface, it is important that course designers pay attention to creating learning habitats with clearly marked learning pathways for each sub-species of student: on-campus, off-campus, online-only and blended. Rather than arbitrarily switching technology on and off, students need to be encouraged to move between the nodes that frame their course's pedagogical purpose. In physical university landscapes, students are taught to negotiate and spend specific time in different learning spaces such as lectures, tutorials, laboratories, workshops and seminars. They are provided with timetables, instructors, locations and information on how to 'act' in these spaces. The space-time information that is provided for on-campus study, which is also inherently linked to the university calendar, extends off-campus through digital technology. However, online students will need different instruction as to how to enter, participate in, and move through a course's learning habitat using digital interfaces. In terms of blending, a clear and explicit pedagogical rationale for providing on-campus students with both digital and non-digital access to a learning habitat is needed to ensure that attention is being directed towards – not away from – learning objectives.

Teachers as tech-stewards

What is significant to the role of teachers in higher education in Wenger, White and Smith's (2009) habitat creation is the centrality of what they deem technology stewards (pp. 27-33). In a rhizome, the multiple pathways, or 'roots', that connect nodes offer potentially infinite permutations. In this conceptual landscape a teacher's task is to map a pathway that will guide students from one learning node in the habitat to the next, hopefully finding the most efficient way to learn for each student cohort. Technology stewards are required to have an understanding of their community's needs and it is their job to negotiate the use of technology by not only deciding what needs to be 'switched on', but also considering what might be 'switched off' for benefit of the community as a whole (pp.131-132). Wenger, White and Smith position the steward, or manager, of technology use as being central to the habitat's survival, "as technology affords the power to control detailed access to specific content and interactions by both members and non-members" (p. 187). If academics adopt a stewarding role, with a responsibility to understand the needs of their community - which are to meet specific learning objectives - and their 'members' - which are to access spaces that will facilitate this learning - they can negotiate technology use for the varied needs of on-campus, distributed and online only cohorts. As stewards, teachers need an awareness of where to direct the different cohorts of students so that students can most efficiently engage with the learning objectives.

Naming the tech-steward role again privileges the role of technology in teaching duties, thus it is perhaps discursively more appropriate to view teachers as *learning*-stewards. However, at this stage of conception, it is significant that teachers take control over technological aspects of their course. For this early model, to retain a tech-steward label reminds teachers that it is not a question of avoiding technology in order to reassert pedagogy, but that its use must be planned so that it puts pedagogical aims first. When technology allows multiple points of access to course content and activities, it is up to the teacher to act as a steward to guide students through the pathways in the habitat that are likely to be the clearest for their needs. Wenger, White and Smith (2009) note that controlling the borders or the periphery of a learning community is a “necessary part of the learning agenda” (p. 187) and also that it is the steward’s role to “keep the technology as simple as possible for the community, while meeting its needs” (p. 132). This could be achieved by explaining these paths in a course guide, video or in physical class depending on the cohort. For example, in a physical lecture some time may be spent explaining to on-campus students when they need to go to the LMS and for what purpose – showing them an appropriate path. Additionally, time might be spent in a computer laboratory with the same cohort of on-campus students, practicing submitting an assignment – stewarding them along the path. Clarity as to what, how, when, where and by whom learning objectives need to be achieved is an intrinsic part of enabling students to negotiate learning habitats. Students should not be left to grapple with questions of how, or which is the ‘best way’, to access the learning space, nor should they be ‘stuck’ in the rhizome, trying to work out what they need to learn. It is the role of the teachers as tech steward to consider needs of their cohorts, and make their respective paths for achieving the course learning objectives clear. The tech steward role is significant in challenging technological determinism in that it maintains the centrality of teacher in the creation of learning space.

Conclusion

A recognition of learning habitats as spaces of purpose emerging out of rhizomic meta-learning space emphasises the central role of teacher-as-steward and empowers them to make pedagogically justified decisions regarding the use of educational technology. The smooth space of the rhizome avoids technological determinism and reminds teachers that they can turn technology *off*, as well as on, when it is not the most useful way for them to achieve a particular learning objective for the community at hand. Wenger, White and Smith state, “a habitat is usually defined as an area that incorporates all the environmental and biological features required for the survival and reproduction of a species” (2009, p. 37). For universities to survive in a digital age, tertiary course designers need to negotiate best-practice pedagogy with the economic affordances that digital technology brings. However, while universities have a responsibility to cater to their students, who Shank warns will “vote with their feet” (2000, p. 16) if they do not like the courses on offer, they also have a responsibility to provide a quality educational experience focused on enabling students to meet specified learning objectives that are necessary for them to become knowledgeable in a particular disciplinary tradition, that will often far outdate the internet.

To alleviate the conceptual confusion that technological determinism in higher education can cause, and to reassert the continued significance of non-digital teachers and teaching methodologies, we have offered a four-point process for re-conceptualising space in university course design. This process for university teachers involves recognising misleading dualisms in education discourse, visualising the rhizome to reach beyond an online/offline divide, creating a learning habitat from the rhizome, and stewarding students through the habitat. Together the rhizome, habitat and tech steward analogies provide a useful framework for deconstructing dichotomies, and reconstructing learning spaces that are both digital and non-digital. This proposed four-step process is presented as a conceptual framework that is still in its infancy and it requires practical and empirical testing in order to refine and develop it further. Even though this model is in its early stages, it is intended to offer a way to re-empower university teachers and effectively engage students in the face of technological determinism in higher education.

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