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Lost in space: Physically, virtually, and pedagogically

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A wide range of literature reveals the pervasive and directing influence that physical and virtual spaces and the role of place have on teaching practice, and the need to better understand these influences. The experiences of teachers transitioning into new spaces, pedagogies and practices has been under-researched, particularly when learning spaces do not work as expected. This paper reports on a study that aimed to provide ground-level views of teachers' experiences in redesigned lecture spaces that incorporated videoconferencing technology. Using an ethnographic approach, the on-going activities of the teachers using the video conferencing were obtained through video recordings, individual accounts, and interview and focus group dialogues. This paper examines how teachers were able to harness these changed lecture spaces to produce what they perceived to be effective learning places. It considers the factors that affected the transformation of the space into a place for teaching and learning, showing how teachers often felt physically, virtually, and pedagogically lost in this changed learning space. We argue that the disconnection from students that visually-mediated and virtual teaching brings has not been sufficiently addressed from a pedagogical perspective. The understanding of how academics make sense of these new spaces and the ways the spaces shape those practising within them needs more focused investigation before the potential of new technologies to create effective places can be realised.

Keywords: video conferencing, learning spaces, teaching places

Introduction

Responding to calls for more learner-centred and flexible approaches, universities continue to redevelop existing spaces or create new learning spaces (Neary et al., 2010). The rapid development of digital technologies and their uptake in higher education has shifted the notion of the classroom to include both physical and virtual spaces. This has provided opportunities to transform learning through innovative blends of pedagogies and technologies (Oblinger, 2005). Interestingly, higher education literature has been slow to recognise the

power of space to affect learning and teaching processes. As a consequence, the physical and/or virtual factors that shape education within specific contexts have not been fully recognized (Jamieson, 2003; Jessop, Gubby, & Smith, 2012). As integral teaching and learning components, spaces contribute to the formation of a sense of place that is linked to academic identity and purpose (Lengen & Kistemann, 2012). Through investigating spatial factors, wider influences on daily practices, previously under-researched in higher education contexts (Kuntz & Berger, 2011; Temple, 2009), can be identified.

This paper draws on a study of videoconferencing within higher education teaching to examine how teachers were able or unable to harness new physical and virtual spaces to produce what they perceived to be effective learning places. We consider the factors that affected the transformation of the space into a place for teaching and learning, showing how teachers often felt physically, virtually, and pedagogically lost in this changed learning space. The paper provides theory and findings to support the view that in teaching contexts where physical and virtual spaces are intertwined, they are not neutral backgrounds but rather enabling or constraining influences on teachers' practices. We further argue that this is inextricably linked to teachers' perceived disconnection from students in virtual space and to the significance of place for effective teaching practice.

Physical spaces are not neutral

The paper is underpinned by the contention that spaces are powerful mediators of human activity and affect how people engage with and relate to each other (Hillier & Hanson, 1984; Massey, 1993). Within the academic workplace, there is a "dynamic relationship between what faculty do (practices), where they work (material place and social space) and who they are (professional identity)" (Kuntz, 2012, p. 769). Over time, culture-specific and reinforcing behaviours, assumptions and power relationships emerge in a workplace as a result of the way in which physical space is used and modified (O'Toole, 2010). Physical space is not a neutral background for activity, but produces particular spatial and temporal orientations that shape practice (Baynham, 2003). The 'everydayness' of these orientations may result in strongly normative influences, especially since physical space is the product and producer of social, cultural and economic workplace discourses (Kuntz, 2010, 2012). Little is known about how these discourses enable or constrain academic practice (Gildersleeve & Kuntz, 2011).

These contentions are based on the premise that physical spaces and objects reflect the material culture of the workplace, and can be used to confer or deny access, demarcate personal space or enforce rules of conduct and privilege (O'Toole & Were, 2008). In higher education contexts, new or reconfigured spaces imposed as a result of policy and the desire for increased efficiency can encourage innovation and collaboration, but may also create uncomfortable choices by constraining valued practices, ignoring attachment to previous spaces, and reframing identity (Jessop, Gubby & Smith, 2011; Kuntz, 2012; Kuntz & Berger, 2011).

Virtual spaces and visual image

The virtual space environment of video conferencing changes the balance of previously experienced visual, auditory and spatial teaching elements. Tacit teaching practices used in face-to-face settings, such as non-verbal communication and feedback, do not necessarily transfer to image-only settings (Kuntz & Berger, 2011). The unspoken assumption with virtual space is often that communication via image and sound is enough, and teachers may be unaware of the loss of their embodied presence in virtual environments (Dall’Alba & Barnacle, 2005).

In the virtual world, visual communication can be ambiguous and powerfully symbolic, yet the visual-dominated virtual learning environment of higher education has rarely been critiqued (Bayne, 2003). Visual literacy, the understanding of and ability to transfer what is seen into culturally appropriate forms and actions, is often assumed to equate with what is seen; however, the visual literacy of teachers varies, critically altering the effectiveness of virtual learning environments (Felten, 2008).

Pedagogy and effective learning places

Place is about people’s conceptions and understandings of the material spaces they inhabit (Casey, 2001; Lengen & Kistemann, 2012), and what they do with them (Temple, 2009). Temple (2009) has suggested that locational capital is formed when activities acquire added value because they occur in particular spaces. This locational capital of certain activities interacts with culture to become social capital that gives institutional places meaning and power (Temple, 2009). The construction, reconstruction and negotiation of the physical, socio-economic, cultural and political aspects of places shape what they mean to people, even as those places shape them (Collinge & Gibney, 2010).

In higher education contexts, location, physical and social elements combine to become a learning place when individuals bring to them their unique situated histories and personal identities (Lengen & Kistemann, 2012; Massey, 1993). For teachers and students, learning places “...can be imagined as articulated moments in networks of social relations and understandings” (Billot, 1998, p. 237) that “...permit the extension of one’s sense of place” (Billot, 1998, p. 113). For academics, space and place intertwine with community and pedagogy, affecting how they think, understand themselves and behave (Temple 2009). Academic communities today mix spatial proximity and virtual distance, familiarity and novelty, tradition and innovation, such that teachers’ pedagogical perceptions of their work and place may be at odds with their institution’s view (Kuntz, 2012). The virtual and physical spaces of higher education create the possibility of teaching and learning places; however, in interacting with the institutional culture and pedagogy, the social and locational capital of the academic community may be increased or depleted, making these places more or less effective (Temple, 2009).

Our study is supported by the diverse range of literature that illustrates the pervasive and directing influence that physical and virtual spaces and the role of place have on teaching practice, and the need to understand these influences better. While the design of learning spaces has been extensively studied, less attention has been directed toward the experiences of teachers transitioning into new spaces, pedagogies and practices – “what happens once in the

space” (Blackmore, Bateman, O’Mara, & Loughlin, 2011, p. v). Drawing on findings from a study of redesigned lecture spaces that incorporated videoconferencing technology, this paper examines the degree to which teachers were able to create effective places of learning and teaching. By focusing on the lived experiences of teachers in changed learning spaces, this paper presents how spaces were perceived and used by the teachers over time and with what effect, addressing an area that has been relatively neglected (Blackmore et al., 2011; Temple, 2009). We have selected examples and insights from participants in our study to illustrate how different teachers were able to harness the new physical and virtual spaces and negotiate pedagogical challenges.

Methodology

Our study aimed to produce ground-level views of teachers’ adaptations to videoconferencing in the ‘everyday’ setting of first-year higher education. From an ethnographic perspective, we sought to capture the naturally occurring on-going social activities of the teachers (Murchison, 2010) through the collection of video recordings of activity around the technology, individual accounts of videoconferencing sessions, and interview and focus group dialogues. Videographic studies of workplace practices capture and interpret the social use of space during natural activity (Emmison & Smith, 2000), while interpretations of dialogue explore meaning and expression to better understand sociocultural participation (Harklau, 2005). Culture, the “knowledge that is learned and shared and that people use to generate behavior and interpret experience” (McCurdy, Spradley, & Shandy, 2005, p. 5), can be revealed through insider perspectives. Participant-observers who know the research participants may facilitate natural interactions, intimacy and disclosure (Bonner & Tolhurst, 2002). Three of the researchers in this study (Westberry, McNaughton and Gaeta) were also teaching staff involved with the videoconferencing.

Setting

The research was undertaken in a university in Auckland, New Zealand during Semester One 2011. Disciplinary-specific first-year courses were replaced by four very large interdisciplinary common-semester courses in 2009 as part of institutional changes and an interdisciplinary learning initiative. Videoconferencing was introduced to transmit and record live three-hour sessions to approximately 1300 health, applied science, and sport and recreation students in 100-300 seat lecture theatres across three campuses. Academic and technical staff set up and tested the equipment and connections for each session in the ten to fifteen minutes available prior to the sessions. Broadcasting venue teachers had two screens, one showing their image and the other their presentation, while remote venues had a single screen of the presentation with a small inset of the teacher. Two-way sound was available but frequently compromised by delays.

Participants

Four male and thirteen female tertiary teachers, including the three researchers, volunteered to be part of the research. All taught on one or two of the four courses. The research had been granted ethical approval.

Data collection

External experts made video recordings of technician and lecturer activity during set-up and videoconferencing sessions using a tripod and camera set to one side of the podium area. Audio was not captured. After each session, teachers recorded private individual accounts using open semi-structured prompt questions. Focus groups of 3-7 participants were conducted pre-, mid- and post-semester for each course, and combined focus groups were conducted for Courses A and D (8 participants) and Courses B and C (8 participants) mid- and post-semester. Focus groups were facilitated by people who were not members of the courses. Three people involved with planning and implementing the videoconferencing (not course members) and three technical staff, were also interviewed. Table 1 shows the data collected.

Table 1: Data collection

Course(s)	Teacher participants	Weekly post-lecture accounts	Video recordings	Focus group Interviews	Interviews with key informants
A	3	10	5	3	
B	3	5	2	3	
C	6	15	3	3	
D	5	13	7	3	
A and D				1	
B and C				1	
Totals	17	43	17	14	6

Data analysis

The researchers met together weekly to analyse the video recordings, the results of which are reported elsewhere. Account and focus group recordings were independently transcribed. The three researchers each read all the transcripts and then discussed them collaboratively at weekly meetings, using inductive thematic analysis (Braun & Clarke, 2006) to look for emergent themes. Main themes and sub-themes were recorded, stored and organised using NVIVO®. An experienced qualitative researcher read and analysed the transcripts, then met monthly with the other three researchers to add to, critique and refine the themes. This paper draws from this large bank of complex thematic data to present material relevant to teachers' experiences with spaces and place. The findings include quotations identified by paper and lecturer codes e.g. PCL2 is Paper C, Lecturer 2; T1 is Technician 1.

Findings and Discussion

Prior to the introduction of the video conferencing, teachers repeated the same weekly lecture in single lecture theatres. Using the video conferencing, one expert lecturer was able to simultaneously connect with students in four different venues (one physical and three virtual) located on three campuses across the greater Auckland region. For teachers, the redesigned lecture space included both familiar and unfamiliar physical and virtual dimensions that led to feelings of being lost: physically, they encountered a changed lecture space with new artefacts to use; virtually, they struggled to adapt to screen-mediated relationships with remote student audiences through the Internet; and pedagogically, they experienced a conflict between the teachers they wanted to be and the teachers they could be. There was a sense of alienation from the material and virtual environment that affected teachers' perceptions of the video-conferenced lectures as a credible place for learning and teaching. The following discussion examines how the teachers negotiated and sometimes lost their way physically, virtually, and pedagogically in a changed setting.

The physical space

While previously important as the site where lecturers logged into the computer and loaded their presentation to display to students, the podium's significance increased with video conferencing because the camera was trained upon it. Indeed, at some locations, the camera was bolted onto the podium itself, limiting teachers' movement and requiring them to stay at the podium or within the camera's limited range. This arrangement was highly unpopular with many teachers who wanted to move around, display teaching resources, and position themselves in close proximity to the local audience.

...[in] the past I had that connection with the people down the front. I roam the front of the ... and then there is this huge gap – I can almost barely see the people in the front row. The first few lectures when I was in there I felt extremely uncomfortable about being there. I changed the whole style of my presentation. I stopped asking questions to the class. I felt I wasn't able to connect (PDL3).

The size of the podium was also a concern for some, limiting the students' view of the teacher's face and hand gesticulations. The camera seemed to act as a barrier, separating the teacher from the students:

I always used to stand right up close to the front row and talk to the front row, and the front row people... I felt as if I was with the students. Now I feel as if I am, Hmm behind a camera (PDL5).

To varying degrees the teachers seemed disorientated, struggling to teach in a familiar and yet unfamiliar space populated with artefacts they perceived to create barriers between them and the students and themselves.

Further increasing the disorientation of some teachers was the persistent unreliability of the video conferencing. Almost every session had technical issues such as an inability to start or maintain connections with other venues and resources (for example, YouTube videos) that failed to display in other sites. Teachers expressed how they were working in an unpredictable setting over which they had little control, and a lack of information about how long disruptions would last affected their ability to respond effectively.

The problem is that when it does go down, you think it's going to be a matter of minutes before it goes up, it's so disruptive thinking "Well, do, do we do it now?", and we have been in scenarios where we've said "Yes, we'll do it, we'll go...local" and then it's all of a sudden come up again so...it's not that easy (PAL2).

Even experienced teachers found these disruptions affected their interaction with students, as exemplified by this paper leader's recollection:

...last year in the middle of the lecture, [the lecturer] stopped talking to the audience, ignored them and started talking to T1 ...as he tried to fix something, and I was watching from my office, absolutely horrified. He had lost focus trying to do too many things, but it was a really good "how not to do that" - some other system needed to step in (PBL1).

Serious technical disruptions produced a somewhat chaotic picture of teachers frantically responding to technical failure by moving students to different rooms. Such events seemed demoralising for the teachers:

[With an interruption] ...suddenly you've been spinning out because you don't know what is going on and then you have got to start up again and the students looked at us as if "you are part of the problem too" even though it had nothing to do with us – I still felt the students were looking at us thinking "you are a pack of wallies, what is going on here ...we don't want to sit here watching you guys fluff around not knowing what you were doing" (PDL3).

As one teacher said, "...certainly wasn't one of my learning outcomes to appear ridiculous" (PBL3).

Disoriented by complex and unpredictable technologies that they did not fully understand, unable to move freely through space and determine their proximity to students, and lacking some control over the learning space, the teachers struggled to make sense of the physical lecture space as a place for teaching. Physical presence and awareness are fundamental to our shared bodily existence as sensed and sensing beings and to the non-cognitive ways we understand and respond to each other (Merleau-Ponty, 1945/2002). Contrary to suggestions that the bodily aspects of daily practice are unimportant or automatic, Burwood (2009) has noted that sensory involvement of the body in actions and relationships, including teaching and learning, very much shapes the subjective self and identity. Teachers are not merely visual and verbal communicators of what is in their heads any more than students are passive minds receiving and absorbing it. "Our bodies themselves are active participants in all our knowing" (Burwood, 2007, p.130).

The virtual space

By expanding the learning space from one lecture theatre to four, the lecturer became a virtual rather than physical tele-presence lecturer for three groups of students at the remote locations. As such, this was an example of what Kuntz (2012) calls a "process of respatialization" whereby "the campus thus moves beyond a static geographical place to a more blurred and ill-defined space between the material and virtual" (p. 778). In this newly configured material-virtual space, teachers had limited connectivity with students in the remote venues. Various

microphone and connection problems meant that two-way interaction between the sites was quickly abandoned. Instead, the presenting lecture theatre displayed a view of students at the remote venues on a large screen behind the presenting lecturer, usually only at the beginning of the lecture. During the lecture, the inability to see and interact with the students in the other locations led to some uncertainty about how the presentation was being displayed at each venue, how students were responding, or even if they were still there.

A lot of what we do and being able to gauge the success of what we do is being able to monitor the reactions of students – we have no way of being able to doing that. We have no idea about how the audio and visual images from the main site are coming across at the other venues (PDL4).

These issues of ‘visual illiteracy’ for both lecturers and students (Felton, 2008) were compounded by the loss of physical presence. One lecturer described how the physicality of her previous practice gave her a sense of connection with students that could not be replicated in virtual space:

[I used to] walk round, talk to them, look at their faces, see how, how they’re, how they’re feeling, you know ... go that way, go that way. I’m doing it blind (PAL2).

Blunted forms of communication emerged:

I was able to get the students to sort of wave at me ... and then also when I had a questionnaire that I wanted to see a show of hands for various questions, and I was able to get that out of them as well (PBL2).

This showed how teachers worked to bridge the virtual gap with non-verbal communication. The inadequate transfer of face-to-face skills to the virtual setting (Kuntz & Berger, 2011) and the inability to see the virtual students led to a dulled sense of awareness. As one lecturer said: “I am aware that these students are watching me and yet I have an impoverished sense of their presence” (PCL6). Indeed, “blocking out” virtual students could be an important strategy:

Unless I deliberately focus on the students in that room I don’t really feel connected to anybody, and so I am aware of sort of blocking out the students in the other venues, and not concentrating on them because that way I can put myself in to, me and my class mode, or whatever I call it, which is me and the students (PCL3).

Becoming a virtual lecturer involved learning how to engage simultaneously with three virtual and one physical student audience; however, some teachers were unsure about where to look – at the camera or at the “main” audience. The use of the word “main” is telling in the following quote, suggesting that the virtual venues were considered a secondary space.

I wasn’t quite sure where to look, whether to look at the camera or to the main audience. It is difficult to tell who my audience is... (PDL6).

With unseen audiences, attempting to coordinate interactivity across physical and virtual spaces met with varied success. As one presenting lecturer observed:

I sort of had to come back in the middle of the other sites discussing and reviewing it, and I was half way through my review with [presenting venue], so it was a little bit messy... (PCL6).

In this learning milieu, the screen-mediated relationship between teachers and students seemed unable to support meaningful connections. Specifically, there was a shrinking of presence. As Bayne (2008) has noted, there are strong symbolic meanings in all visual images, and we do not yet have a good grasp on the role of the visual in the virtual learning environment, nor its effect on learning and teaching. Our work suggests that better understandings of visual practices and the way images are framed, interpreted and related to other visual media are needed for teachers to negotiate an effective learning place in virtual space.

The pedagogical place

As teachers brought their “embodied markings” (Gildersleeve & Kuntz, 2011, p. 19) to the learning space – their personal histories including their beliefs and practices about how to move through and interact with students in the material/virtual lecture space – they experienced a conflict between what the lecture theatre afforded and the pedagogies they wanted to enact (what they wanted to do as teachers). As their understandings of the learning spaces developed, they mourned the loss of valued aspects of their teaching practice that they felt were unsupported in this changed setting. One teacher observed:

I think I have got a different mode of teaching. I teach differently in the large lecture sessions that are video conferenced to how I teach in the tutorials. I am a different teacher. I am different and I am different in a way that I don't particularly like (PCL3).

Temple's (2009) description of how a physical space becomes a place is useful here. He argues that locational capital develops when certain activities have added value in particular spaces. This process, shaped by the physical setting, leads to the formation of a community and institutional culture that in turn transforms a space into a place. Within the physical and virtual dimensions of the complex and often unpredictable lecture space reported in our study, certain activities gained value, producing locational capital. This locational capital centred round the belief that innovation and creativity were risky and it was advantageous to use conventional approaches to ensure the system worked.

Well things that the innovator, someone who wants to try something new or expand more, is the most susceptible to, things crashing. The person who plays it safe...is in less danger, and um... it gets pretty boring playing it safe. And then you lose enthusiasm...it feels dangerous to be innovative (PAL1).

Playing it safe often meant lecturing from the podium, limiting or avoiding interactivity with both local and remote students, and adopting didactic presentation styles. Valued activities were those with lowered expectations:

I think I have adjusted the learning outcomes to fit the video conferencing. My learning outcomes now are that the students will understand as best they can the material and they will get the chance to talk amongst themselves at least once or twice during the presentation to clarify their ideas with each other and that to that

extent that happens but it feels like dumbed-down learning outcomes to me (PBL3).

One lecturer described how her pedagogy had been shaped by both the physical and social environment:

Originally, the interactive activity was going to be a jig-saw task whereby the list of sources was divided up and distributed to the various sites. Then, we would come back as a group and review by going to each venue. Staff at the satellites are uncomfortable with this – there are issues around student reluctance to speak into the microphone and respond to other venues and students they cannot see; there are time issues around getting the microphone to the student [who may be at the back of the lecture theatre] and there are concerns that the microphone may fail due to low batteries etc... (PCL6).

Lectures became prescribed events that lacked spontaneity and originality.

You can't be creative you have to stick to these, quite rigid in the box type guidelines just to be able to work within the system ... it stifles... your ability to be an individual even, like we all just end up just being clones of each other (PDL3).

In this situation, it appears that the 'dark side' of locational capital surfaced, the capital of a particular kind of place that deters activities and ideas that do not fit its contours, and produces the benefits of place only at a cost (Temple, 2009, p. 221). Teachers were striving to make sense of and harness the new technology and spaces to create the effective learning place they were used to, while the broader aspects of place were perhaps more powerfully shaping them and their practices (Collinge & Gibney, 2010).

Conclusion

In this paper, we aimed to examine how teachers were able to harness new spaces and technologies to create effective learning and teaching spaces. For the majority of teachers involved in our study of videoconferencing to large classes, a sense of being physically, virtually and pedagogically lost and an inability to create such places prevailed. While technical issues undoubtedly contributed to this, we suggest that the profound disconnection from students that visually-mediated and virtual teaching imposes has not been sufficiently addressed from a pedagogical perspective. The understanding of how academics make sense of these new spaces and the ways the spaces shape those practising within them needs more focused investigation before the potential of new technologies to create effective places can be realised. Our study, while providing particular insight into how academics experience a changing teaching environment, also identifies that initiatives implemented to address certain objectives may well have unintended outcomes. In the case of videoconferencing, we identify that changing teaching modes can reinforce conventional pedagogies at the expense of innovation, and further impact the institutional learning and social community. Research into these aspects provides an interesting future challenge.

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References

- Bayne, S. (2008). Higher education as a visual practice: seeing through the virtual learning environment. *Teaching in Higher Education*, 13, 395–410. doi:10.1080/13562510802169665
- Baynham, M. (2003). Narratives in space and time: Beyond “backdrop” accounts of narrative orientation. *Narrative Inquiry*, 132, 347–366. Retrieved from <http://www.benjamins.nl>
- Billot, J. M. (1998). *Women's agency in the North Shore and Waitakere cities of Auckland*. (Unpublished doctoral thesis, University of Auckland, Auckland, New Zealand). Retrieved from <http://search.proquest.com/docview/304461352>
- Blackmore, J., Bateman, D., O'Mara, J., & Loughlin, J. (2011). *Research into the connection between built learning spaces and student outcomes*. Melbourne, Australia: Department of Education and Early Childhood Development. Retrieved from <http://www.deakin.edu.au/arts-ed/efi/pubs/deecd-reports-blackmore-learning-spaces.pdf>
- Bonner, A., & Tolhurst, G. (2002). Insider-outsider perspectives of participant observation. *Nurse Researcher*, 9(4), 7–19.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. doi: 10.1191/1478088706qp063oa
- Burwood, S. (2007). Imitation, indwelling and the embodied self. *Educational Philosophy and Theory*, 39, 118–134. doi: 10.1111/j.1469-5812.2006.00232.x
- Burwood, S. (2009). ‘Are we our Brains?’ *Philosophical Investigations*, 32, 113–133. doi:10.1111/j.1467-9205.2008.01366.x
- Casey, E. S. (2001). Exchange: J. E. Malpas's Place and experience: A philosophical topography. *Philosophy & Geography*, 4, 225–230. doi: 10.1080/10903770123141
- Collinge, C., & Gibney, J. (2010). Connecting place, policy and leadership. *Policy Studies*, 31, 379–391. doi: 10.1080/01442871003723259
- Dall'Alba, G., & Barnacle, R. (2005). Embodied knowing in online contexts. *Educational Philosophy and Theory*, 37, 719–744. doi: 10.1111/j.1469-5812.2005.00153.x
- Emmison, M., & Smith, P. (2000). *Researching the visual: Images, objects, contexts and interactions in social and cultural inquiry*. London, United Kingdom: Sage Publications.
- Felten, P. (2008, November-December). Visual literacy. *Change*, 40(6), 60–64. Retrieved from <http://www.tandf.co.uk/journals/titles/00091383.asp>
- Gildersleeve, R.E., & Kuntz, A.M. (2011). A dialogue on space and method in qualitative research on education. *Qualitative Inquiry*, 17, 15–22. doi: 10.1177/1077800410389440
- Harklau, L. (2005). Ethnography and ethnographic research on second language teaching and learning. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 179–194). New Jersey, NY: Lawrence Erlbaum.
- Hillier, B., & Hanson, J. (1984). *The social logic of space*. Cambridge: Cambridge University Press.
- Jamieson, P. (2003). Designing more effective on-campus teaching and learning spaces: a role for academic developers. *International Journal for Academic Development*, 8(1/2), 119–133. doi: 10.1080/1360144042000277991
- Jessop, T., Gubby, L., & Smith, A. (2011). Space frontiers for new pedagogies: a tale of constraints and possibilities. *Studies in Higher Education*, 37, 189–201. doi:10.1080/03075079.2010.503270
- Kuntz, A.M. (2010). The politics of space in qualitative research. In M. Savin-Baden & C. Howell Major (Eds.), *New approaches to qualitative research. Wisdom and uncertainty* (pp.145–153). Oxon, United Kingdom: Routledge.

- Kuntz, A.M. (2012). Reconsidering the workplace: faculty perceptions of their work and working environments. *Studies in Higher Education*, 37, 769–782. doi:10.1080/03075079.2010.541556
- Kuntz, A.M., & Berger, J.B. (2011). Faculty work practices in material environments: a case study. *The Journal of Higher Education*, 82, 239–264.
- Lengen, C., & Kistemann, T. (2012). Sense of place and place identity: Review of neuroscientific evidence. *Health & Place*, 18, 1162–1171. doi:10.1016/j.healthplace.2012.01.012
- Massey, D. (1993). Power geometry and a progressive sense of place. In J. Bird, B. Curtis, T. Putnam, G. Robertson, & L. Tickner, (Eds.), *Mapping the futures: local cultures, global changes* (pp. 60–70). London, United Kingdom: Routledge.
- McCurdy, D. W., Spradley, J. P., & Shandy, D. J. (2005). *The cultural experience: Ethnography in complex society* (2nd ed.). Long Grove, IL: Waveland Press.
- Merleau-Ponty, M. (2002). *Phenomenology of perception*. (C. Smith, Trans.). London, England: Routledge. (Original work published 1945)
- Murchison, J.M. (2010). *Ethnography essentials. Designing, conducting and presenting your research*. San Francisco, CA: Jossey-Bass.
- Neary, M., Harrison, A., Crellin, G., Parekh, N., Saunders, G., Duggan, F., Williams, S., & Austin, S. (2010). *Learning landscapes in higher education*. Retrieved from <http://learninglandscapes2010.blogs.lincoln.ac.uk/files/2010/04/FinalReport.pdf>
- Oblinger, D. G. (2005). Leading the transition from classrooms to learning spaces. *Educause Quarterly*, 1, 14–18.
- O'Toole, P. (2010). Locating space in qualitative research. Questioning culture through the corporeal. In M. Savin-Baden & C. Howell Major (Eds.), *New approaches to qualitative research. Wisdom and uncertainty* (pp. 121–130). Oxon, United Kingdom: Routledge.
- O'Toole, P., & Were, P. (2008). Observing places: using space and material culture in qualitative research. *Qualitative Research*, 8, 616–634. doi: 10.1177/1468794108093899
- Temple, P. (2009). From space to place: University performance and its built environment. *Higher Education Policy*, 22, 209–223. doi:10.1057/hep.2008.30

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