

Spatialised Practices in ILEs: Pedagogical Transformations and Learner Agency

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Abstract Across Organisation for Economic Cooperation and Development countries, there is a systematic research and policy impetus for continuous schooling engagement with digital technologies, improvement agendas and the commensurate redesign of educational spaces (OECD in Innovative learning environments, Educational Research and Innovation. OECD Publishing, Paris, 2013). The current epoch marks a transformation between what has been termed the industrial society and the knowledge age. In this article, we consider implications of the shifting currents in globalised societies for school practitioners and how moves to Innovative Learning Environments (ILEs) (also called new generation learning environments (Imms et al. in Evaluating learning environments. Sense Publishers, Rotterdam, pp. 3–20, 2016) may require close attention if the potential of spatialised practice is to be realised. Innovative learning environments are new generation schooling contexts where space and objects influence and produce spatialised practice. Spatialised practice, in this context, is indicative of a re-examination of classroom relationality. Moreover, it is an embrace of the fluid and flexible redesign of learning spaces alongside ongoing evaluation and reconsideration of curriculum, pedagogy and assessment (Blackmore et al. in Innovative learning environments research study. Department of Education and Early Childhood Development, Victoria, 2011b). Within ILEs, an engagement with spatialised practice can afford learner agency. Massey (For space. Sage Publications, London, 2005) makes three propositions about space that it is a product of interrelations, a sphere of coexisting heterogeneity and multiplicity, and always in process and under construction. Deploying Massey's (For space. Sage

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Publications, London, 2005) three dimensions of space, we consider spatialised relations in schooling settings. Principal interview data are used to illustrate aspects of spatialised practice.

Introduction

Moves to reconceptualise schooling environments through ‘unwalling’ to promote flexibility in use, are aligned with a range of practices that signal a profound shift in pedagogy. Elements associated with this twenty-first century learning discourse (Benade 2015) are multiplicitous. They include: fostering both relational trust and leadership mentoring at all levels of the school; the development of challenging learning goals to facilitate the co-creation of new knowledge; the use of diverse pedagogical strategies; the nurturing of cultures of collaborative inquiry for professional learning; processes that support high-quality feedback for all learners; and a drive for students, teachers and leaders to continuously discover and utilise digital learning tools and resources (Fullan and Langworthy 2014).

In twenty-first century discourse, students are encouraged to be accountable for their own learning whilst teachers “become the curators of learning experiences” (Imms et al. 2016, p. 6). Proponents of ‘new generation learning environments’, Imms et al. (2016) observe that “differing in important ways from the 1970s open classroom and ‘free-range learning’ concept, the best of these spaces can theoretically accommodate a variety of teacher epistemologies...” (p. 6). The intra-actions and power relationships indicated to be associated with historical pedagogical modes and experienced within these previous learning spaces are changed, influenced by technologies which previously were not in existence nor accessible to teachers and students. These mobile technologies, combined with the sustained critique of classrooms as containers (Leander et al. 2010), have resulted in policy makers’ widespread embrace of Innovative or Flexible Learning Environments (ILEs) (OECD 2013).

Learner agency is a key element in spaces that afford flexibility in learning. Co-produced within schooling assemblages, agency can be seen in complex, co-constitutive relationships of bodies, discourses and objects in classrooms. There has been interest in mapping socio-material spaces in education over the last decade (Fenwick et al. 2011; McGregor 2004; Mulcahy et al. 2015). Consequentially, a socio-material reading of agency is significant when we consider that recent profound philosophical changes in education may “render previously designed physical environments and long held philosophical views of pedagogic practice redundant” (Wells 2015, p. 73).

Through a socio-material reading of Aotearoa/New Zealand (NZ) school leader’s interview comments about flexible learning, we undertake an analysis of spatial practices and the materiality of things as agentic objects that serve to influence the relational spaces of classrooms. We draw from the work of British

social geographer Massey (2005) to consider the implications for the spatial relationality of schooling. We commence the chapter with a consideration of twenty-first century learning practices and pedagogical implications of spatialised practice in ILEs.

‘Twenty-First Century’ Learning Practices and Schooling Spaces

There is a transformation in schools that has been described as a shift to twenty-first century learning practices (Benade 2015). The shift in the current epoch marks a profound transformation in the relational spaces of schooling, in particular with the implementation of ILEs (Charteris et al. 2017; Imms 2016). The intra-action of spatialised practice is a multiplicitous project, with fluidity in the ongoing “serial re-design” of space (Blackmore et al. 2011b, p. 13). Intra-action involves the entwinement of people and things, or the “mutual constitution of entangled agencies” (Barad 2007, p. 33). A consideration of intra-action of schooling material and non-material elements provides us an opportunity to think differently about classroom spatial relations. There is growing interest in how socio-material relations co-produce learning in schools (Frith 2015; Mills and Comber 2015; Mulcahy 2015).

ILEs are technology-rich learning contexts that capitalise on the pedagogic possibilities of “indoor and outdoor, formal, informal and implicit qualities of space and place as well as the affective and intangible aspects of school experience existent for all members of the learning community” (Blackmore et al. 2011b, p. 17). ILE spaces in schools can address various individual and social learning needs of students (OECD 2015). An intra-active reading of space provides a lens on the possibilities for evolving schooling practices.

Space and Agency

Spatial relations are socially and materially constituted, that is, the relationships that happen within a space are comprised of the interactions occurring between the ‘things’ that exist there. This means that relations are co-produced through the entanglement of bodies, objects, discourses, policies and histories. Space constructs relations imbued with distributions of power. It therefore follows that agency in schooling settings is co-produced spatially in socio-material assemblages. The power relations that are co-constituted in the spaces of schooling settings influence what children, teachers and school leaders are able to do and be.

Massey (2005) makes three assertions about specific dimensions of spatiality. Firstly spaces are co-constitutive, produced through interrelations that do not exist

prior to the configuration of an assemblage. Therefore, ILEs construct geographies of schooling relations and identities that are co-produced within those spaces. Massey (2005) writes, “[i]t raises questions of the politics of those geographies and of our relationship to and responsibility for them; and it raises, conversely and perhaps less expectedly, the potential geographies of our social responsibility” (p. 10). This concept of spatial relations suggests that we can see new political geographies of relations in redesigned or even reimagined classroom settings where wall dividers, desks and other classroom objects are used to construct newly conjured spatial designs.

Massey’s second assertion is that space is necessarily multiplicitous. This translates into the recognition that there is a “contemporaneous plurality” (p. 10) in play, where there are no fixed narratives and even selves are multiplicities. Therefore, there can be no one reading of materialities or the power of affect produced by things. The notion of multiplicity is important for any recognition of the politics of spatiality. “The political corollary is that a genuine, thorough, spatialisation of social theory and political thinking can force into the imagination a fuller recognition of the simultaneous coexistence of others with their own trajectories and their own stories to tell” (Massey 2005, p. 11). Massey’s third assertion on the spatial imagination of the political can be seen as aligned with Deleuzoguattarian becoming (Deleuze and Guattari 1987). Space itself is always in process, always in motion and therefore any material reading can only be a product of “relations-between” (Massey 2005, p. 11). In ILEs this idea of ongoing motion aligns with the serial redesign of learning spaces by both learners and teachers (Blackmore et al. 2011b). Therefore, it is possible for new political geographies in classrooms, with opportunities for enhanced learner agency and associated possibilities for pedagogical transformations.

Spatialised Practice

There has been interest in the flexible approaches to learning that can occur within ILEs (Murphy 2016). Moreover, spatialised practices are produced in “spaces of assembly” when “bodies, spaces, subjectivities and the differentiated curriculum... are entangled together” (Mulcahy 2015, p. 507). Students may be able to make decisions about their mode of learning. They can also be withdrawn to designated spaces for specifically targeted micro-lessons in small groups or individually. Research findings suggest that spatialised practices tend to occur when there is “less emphasis on structuring timetables, routines, sound, movement, and other variables, and... more emphasis on teachers and students learning together about how best to make use of space as a learning resource” (Saltmarsh et al. 2015, p. 326). Spatialised practice implies a sense of fluidity, with the continuous redesign of space and ongoing evaluation and reconsideration of curriculum, pedagogy and assessment (Blackmore et al. 2011b). It involves an interplay between pedagogical

structures and spatially influenced classroom interactions. This interplay is an important consideration for ILEs yet it does not imply a ‘free for all’ where excessive reliance is placed on motivated individuals ‘doing their own thing’ or coming together spontaneously in learning groups (Istance and Kools 2013, p. 48). In particular, a socio-material reading of these new generation environments suggests that learner agency is influenced by the entire assemblage of histories, discourses, bodies and objects that frame what is possible for human decision making.

Comber and Nixon (2008) suggest that space as a focus for learning and curriculum design is both generative and productive. They highlight that an engagement with spatial practices can enable us to imagine how different spaces may be populated by students, practitioners and the wider community and how spaces may be reconfigured (Comber and Nixon 2008). “A reconsideration of the redesign of schooling spaces foregrounds school philosophies and aspirations for community life. This is the interplay between materiality and social worlds” (Blackmore et al. 2011b).

In order to explore the possibilities that such a relationship may provide, data extracts were drawn from interviews with Principals from New Zealand schools regarding the dimensions of spatiality. There have been moves in the NZ context to mandate that schools adopt ILEs (Ministry of Education 2015). In accordance with the current OECD (2015) policy trend toward ILE, there has been strategic school property reform aimed to embed ILE in NZ schools (Ministry of Education 2015). This context provided a backdrop to the study. Six semi-structured interviews were conducted with Principals from five primary and one intermediate school. These Principals were all working within the context of this policy reform. Three had purpose-built hubs and two strove to create flexible learning spaces in existing, single cell classrooms. During the interviews the participants (given pseudonyms) were asked: What effect do you think the policy mandate to develop ILEs will have on learners? The Principals have shared their understandings, as well as their views on the logistics of spatialised practices. The analysis was informed by the question: What are the dimensions of spatiality evident in the comments made by the school practitioners? The results from these interviews are illustrative of practitioner engagement with spatialised practice in response to the ILEs policy direction for NZ Schools (Ministry of Education 2014).

Considerations for Spatialised Practice

Issues around spatialised practice in ILEs are illustrated in the following socio-materialist reading of Principal data. A discussion follows on the implications of the ILE policy for spatialised practice in NZ schools and possibilities for potential pedagogical transformations.

Customisation of Classroom Space

Marius is the Principal of a newly designed urban primary school that opened in 2015 and caters for 600 students. In the school, there are ILEs that enable children to make choices, share learning, and work independently and collaboratively. Furthermore there are open and shared spaces that allow for teacher and student flexibility in their learning interactions. Marius frames the conjuncture associated with the uptake of twenty-first century learning as an aspirational shift in Education from traditional to personalised child-centred approaches. He makes explicit links with spatialised practice in the classroom as a flexible customisation of classroom space.

I'd like to think that there's a real shift from that traditional type of learning to a lot more child centered... developing their thinking in a more personalised way. That there is a focus on process as opposed to outcomes... There is real shift of focus in terms of physical environments. It's about the flexibility of the spaces for the children to be able to learn and succeed in a number of ways, whether it is individually, or in small groups, large groups or working explicitly with the teacher...(Marius)

Mark, the Principal of a state-integrated primary school, visited ILEs in Melbourne and Adelaide, Australia, where the architectural design was “phenomenal” and accordingly he has been able to redesign the school to create innovative spatial designs. With the assistance of an architect, the school remodelled a block that was built in 2006 to design two hubs within that space and creating half as much floor space again. The spatial design of the classroom influences the pedagogy possible in the room. While small group instruction occurs in single cell classrooms, Mark's comment illustrates a reflexive shift in relationality, made possible by the different types of learning spaces in an ILE.

It's a space where children have the ability to learn independently, where teachers don't do any full class teaching. Teachers take individuals or small groups for instruction while the rest of the group is actually involved in learning that is authentic. It is more engaging than the whole class doing reading where one group is with the teacher, and everyone else is follow-up 'keep me busy' or 'keep me quiet' activities. We have gone away from that to try and get learning occurring, where it's actual learning, not just filling in time. So, for us, the Innovative Learning Environment is about creating different spaces that cater for the different needs of children: the wide-open spaces, the collaborative spaces, the cave where they can go where it's quiet -those sorts of things. (Mark)

Influence of Spatialised Practice on Student Engagement

Mark also noted that spatial design has had a “big impact” on the types of learning possible. The spatial design influenced the learning so that students were able to initiate learning. The relationships were enhanced within the classroom, to the degree that fewer students were sent to the principal for inappropriate classroom conduct.

We draw from a fairly affluent community so our kids are pretty well behaved. But if they're bored, and get distracted they become disruptive and so you have all sorts of issues happening in the classroom. I keep a record of all the dealings I've had in the last two years. When we were a single cell and operating with one teacher with a group, I would have about 65 incidents a year that ended up at my desk... This year so far, I have had four and that's solely because children aren't sitting waiting for the teacher. They are not bored, they are actually getting on and they are learning. They are initiating their learning. (Mark)

External Evaluation and Spatialised Practice

Raleigh is a principal of an urban primary school with a roll of 450 students. In the school, major building redevelopment work has been undertaken to create ILEs for pupils and staff. There is extensive use of glass, open space and physical connection in the design that are intended to enhance learning experiences. Raleigh articulates spatialised practice as the intra-action of space and pedagogy. The school spent over two million NZ dollars on the redesign and Raleigh reported working with staff to purposefully consider the question, 'how does space influence learning?' Below he describes how the children responded when they were asked by an external quality assurance officer with the Education Review Office to take photographs to show how learning works in the school. He describes the importance of children being aware of spatial practice and being able to articulate how learning happens.

[They were] taking photos of small work booth type things and saying 'Well, when I want to work on my own, I choose to go there.' So, to me, that actually says that children are aware of physical space and how space works for them. 'There's times when I work in a collaborative space.' 'There are times when I work in a little isolated space.' But I make those choices and I can articulate those choices for people. So when a child is working in a collaborative space, a very standard question would be 'why did you choose to work here?' and the child will be able to say, 'well, I need to work with so and so and we came out to the round table and we're working here together.' 'Oh okay, so where would you go if you just had a task on your own?' 'Well, I might sit down over there.' or 'I might sit in the corner', 'I might go to my own classroom.' And so children are able to articulate that. (Raleigh)

Resourcing ILEs for Spatialised Practice

Katya is a Principal in a small rural public school. She acknowledges the importance of the flexibility of spatialised practice, yet challenges the notion of needing a purposefully remodelled environment and new furniture to do this. The digital devices are agentic in that they make intra-activity possible—co-producing what learners can both be and do.

But pedagogically an Innovative Learning Environment to me is something quite, quite different... I've got old desks and we move those every day depending on what our needs are... Children can be moving into different areas for learning and there are quiet spaces for learning. Mine can take the laptop and sit outside if they want to do that. Because we've got the laptops they can come into group things or whatever. For me the Innovative Learning Environment should be more about the way that you are teaching. [If] you're still going to teach the way you've always taught, having a million dollar building that looks really nice is a waste of time. (Katya)

Although children can agentially move desks according to their needs in a traditional classroom, having mobile furniture and devices allows for more freedom and easier spatial pedagogy where learners work with environmental materials in ways that spontaneously support their learning. Clare is principal of an urban, full primary school with students ranging from Years 1–8. The school is newly built and has been designed with hubs catering for up to 80 students and three teachers. Clare speaks about the students' redesign of learning space in the ways that they are able to move furniture and their bodies to create places to learn.

I'm always surprised at the way that the furniture is used. That one is a really basic one, but the children are so inventive in the ways that they use the furniture... They create cave spaces under tables and they can turn their chairs into desks... They can say... I'm going to go with my group of peers that are working on the same thing. We are going to hop into a breakout room to do that learning. (Clare)

Nathan is Principal of an urban co-educational intermediate school (Year 7 and 8 students) with approximately 120 students. He suggests that funding can influence what is possible with spatial practice. Although many of the leaders indicated that they are making shifts in the way they locate learner decision making and choice about where and how they undertake their learning, the opportunity to experience new generation learning environments can be influenced by what is possible within their contexts and the vision school leaders, teachers and the school community have of education.

In Innovative Learning Environments there are little areas where kids can go and work by themselves, or classrooms that are all glass. There are a few property things in regard to ILEs, which if you have got lots of money, you can do. But where money is tight, you can't do it. (Nathan)

These contrasting views of fiscal constraints or economic affordances can influence the perceptions of spatialised practice. Having drawn together aspects of spatialised practice, links are now made to the spatial theories in the literature.

Discussion

Learning spaces are context dependent, situational, open to change and shaped through social and material dimensions (Mulcahy 2015). Although it is well established that “teachers and students are mutually constituted with the materiality

of schooling, and have always been so” (McGregor 2004, p. 346) the constitutive and intra-active influence of materiality in educational spaces is not widely acknowledged. In the Principal data, there was evidence of the intra-activity of agency, with furniture and equipment influencing the human relations. Humans—teacher and students—were making emergent and flexible use of the materials and spaces. In many respects, learners themselves were able to initiate this emergent and flexible use.

As more than something we pass through, a consideration of space enables us to think about power and agency in classrooms and how they are co-produced in schooling milieu. Although there has been large-scale remodelling in many classrooms, it may be prudent to carefully consider the agency of the materials that remain in ILEs (for instance, textbooks and whiteboards). These items may suggest the persistence and stability of particular power relations associated with historical pedagogical modes (McGregor 2004). It is also worth noting that as communities are not bounded in space, or time, they are made and remade and therefore, as McGregor (2004) observes, “there is openness for change” and “spaces for a more critical pedagogy and democratic relationship” (p. 369).

The geographies of schooling relations that are co-produced within ILEs are always in flow (Massey 2005). As identified in the Principal comments above, there are transformations in social responsibility as learners are provided with space and opportunities to act, to curate classroom objects and redesign spaces to suit their learning needs. The described classroom assemblages are multiplicitous with various activities and the coexistence of possible selves produced through the curation of objects and structuring of relational space.

In order to maximise the potential of relational space, it is valuable for practitioners to envisage how agency can be socio-materially produced in ILEs. Murphy (2016) cautions that the combination of a lack of well-defined discourse around ILEs reform intentions and inadequate support for teachers in how to actually orchestrate teaching and learning effectively in open spaces, may result in a historic recurrence where 1970s open plan initiatives were not capitalised on. Murphy (2016) writes, “[a]lthough the purpose-built spaces are modern, if the rationale is still in flux and the practical applications not clear, there is potential danger that what happened in the 1970s will occur again” (p. 25). As articulated by Clare, moving from a single cell environment allows for a plethora of classroom activities that stream as a series of tangential and intersecting trajectories. As highlighted in the Principal comments above, these complex environments, the relationality of classroom spaces, are always in flow, in a process of being serially redesigned (Blackmore et al. 2011b).

Just as spaces themselves are transitory assemblages, the Principals’ data signal transformational processes. There was a sense of flux with leaders coming to terms with changes in relation to spatialised practice. ILEs pose a challenge for traditional teacher/student power relations and prompt a rethinking of agency. Spatialised practice implies new relationships and new pedagogical possibilities. For ILEs to be truly innovative as a disruptive materiality that produces different ways of conceptualising education, we suggest educators reconsider relationships between

pedagogy and space. We join Wells (2015) to challenge educators to consider whether ILEs are examples of idealised curricula or merely disruptive innovations. Wells (2015) points out that philosophical shifts from previous models of schooling both significantly influence learning environment design and surface opportunities to question the relevance of current pedagogy and curriculum.

The deterritorialising of traditional classroom relations can be seen at policy level (Mulcahy 2016) where governments in affluent countries are committing large-scale investment in building redesign and refurbishment (Imms et al. 2016). These moves are clearly signalled in the OECD literature (2013) and visible in schools where overlapping networks of relations, technologies and practices are constantly remade in space-time relations (Blackmore et al. 2011c). However, there is still a question around the degree to which students are actually involved as active participants in ILEs. To what extent do students co-determine governance, influence curricula and planning and have input into assessment-related practices in ILEs? With possibilities for new political geographies of relations producing an international emphasis on the rise of ILEs as dynamic schooling spaces, it is beneficial for practitioners to know how to collaboratively navigate and closely read the relations in Innovative Learning Environment spaces. It must also be acknowledged that the dynamics of spatial relations can only ever be partially read.

Further Research

It is clearly a limitation that we draw only on reports from principal interviews to describe the socio-materialism of spatialised practice, thus privileging a linguistic method of data collection over a material engagement in the research contexts. A fruitful direction for further research could be the use of time-lapse photography to track and map the dynamics of spaces over time (Blackmore et al. 2011a). Video capture software with a robotic swivel could be used to record images and audio to support teacher professional inquiries into the dynamics of spatialised practices. Visual analysis methods can be used to record daily narratives of children's and teachers' relationality. Visual data may be logged against a time scale which enables patterns to be identified and comparisons made between different time-lapse sequences (Frith 2015). It is worth considering the relational flows in ILEs that create spatialised practice.

We pose a range of questions for further consideration: how can the disruptive materiality of technologies and architectural redesign challenge and enable a reconceptualisation of embedded pedagogic practices? (This reconceptualisation foregrounds the notion of co-produced agency within socio-material assemblages.) Further, how might the affordances of reconstituted spatiality best address the changing needs of learners, who require an education to equip them for a rapidly changing society? What do we need to understand about spatialised practice, where space and practice reflexively impact on each other in classrooms?

Particular consideration could also be given to questions on spatial dynamics posed by Leander et al. (2010):

What are the specific spatiotemporal dynamics of a particular learning “environment”- its rhythms, tempos, extensibilities, connections to other social spaces, durations, internal divisions, accelerations, fluidities, and other qualities? What would accounting for these spatiotemporal dynamics tell us about a learning environment, that simply considering it as a resource cache—a box for learning “affordances”—would leave out? (p. 383)

There is also scope to research the extent to which specific spatialised practices influence student outcomes and in what ways (Byers and Imms 2016).

Conclusion

By underestimating the importance of socio-material relations in ILEs, the potential richness of spatialised practice may be marginalised to become instead a greater technicism in the guise of learner agency. If the agencies embedded in the intra-actions of human and non-human dimensions are ignored, the potential for new, reconfigured relationalities could be overlooked. Classroom spaces could yet again be constructed to replicate the ‘industrial’ “egg crate structures” (Lortie 1975) that are self-contained and cellular. Teacher education is an important element if practitioners are to see, and think differently about, the spatiality of their contexts and to envisage the potential of Innovative Learning Environment spaces in reconstructing relations.

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