## SOCIOMATERIAL PERSPECTIVES ON WORK AND LEARNING: SITES OF EMERGENT LEARNING

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**ABSTRACT**

*Purpose*

This paper introduces, explains and illustrates the concept of ‘sites of emergent learning’, which pinpoints particular instances of learning in everyday practice. This concept is located within contemporary practice-oriented and sociomaterial approaches to understanding workplace learning.

*Design/Methodology/Approach*

This conceptual development has been resourced by a secondary analysis of data from three workplace learning studies. These were: (1) an ethnographic study of a residential parenting service; (2) a case study of learning among engineers working on a railway construction site; and (3) a case study of a multicultural unit that aims to enhance health services for a diverse community. All were based in the Sydney metropolitan area. The secondary analysis was undertaken by identifying regular practices within each setting where professionals discuss past and future work. These were then subjected to theoretical scrutiny, identifying common and distinctive features.

*Findings*

Sites of emergent learning were identified within the handover, site walks and catch-up meeting practices. They arise through and are constituted in relationships between social practices and the materialities of work. Sites of emergent learning involve negotiating, exploring and questioning practice and knowledge associated with it; they are instances within work practices in which work is done about how work gets done, developing new understandings of the past in order to reshape visions for the future. Alongside these commonalities, each site of emergent learning displayed distinctive features shaped by the particularities of the practices and materialities of each site.

*Originality/Value*

This concept is presented as a valuable tool to assist researchers of workplace learning. It elucidates particular learning-intensive features of practice, extending sociomaterial conceptualisations of professional and workplace learning.

**INTRODUCTION**

This article outlines a new concept which contributes to understandings of workplace and professional learning - *sites of emergent learning* (SEL)*.* Sites of emergent learning involve instances within practices where aspects of work are called into question, provoking professionals to reconsider the past in order to imagine, anticipate, and act towards different futures. The concept emerged from a secondary analysis of three Australian studies of professional learning (Hopwood 2014a,b, 2016a-b; Reich et al 2014; Rooney et al 2015a; 2015b; Reich et al 2015). The article examines how sites of emergent learning function, highlighting common and distinctive features in three contexts: handover between nurses at a residential parenting service, site-walks around a railway line construction project, and catch-up meetings in a multicultural health district team.

The concept builds on research in workplace and professional learning that has taken up the ‘practice turn’ (Schatzki et al 2001) and what Fenwick et al (2011) refer to more broadly as ‘sociomaterial’ approaches (also including cultural-historical activity theory, actor-network theory, complexity theory). These represent a contemporary tranche of workplace learning research, marked by metaphors that challenge those based on notions of knowledge acquisition and transfer, or participation (Hager 2011). They share a commitment to a ‘strong’ role for materiality, an emphasis on relationships and enactment, and a metaphor of emergence as a means to eschew classical structure/agency binaries.

A growing body of research on workplace and professional learning has provided fresh insights by unpacking and problematising the notion of practice (Hager, Lee & Reich, 2012; Hopwood 2014a,b; 2016a,b; Rooney & Boud 2015; Fenwick, Edwards & Sawchuck 2011; Fenwick & Nerland 2014). Schatzki’s (2012) site ontology, and Gherardi’s (2012) work on knowing-in-practice and the ‘texture’ of workplace learning, have informed much of this research. While ontological and epistemological differences exist within this corpus, there are common threads (Reich & Hager 2014; see also Hager et al 2012). In this work practices are assumed to be:

* collective and situated, linking knowing, working, organising, learning and innovating – a ‘knowing-in-practice’ (Gherardi 2012);
* socio-material – constituted in bundles or assemblages of people and artefacts;
* embodied – without implying Cartesian mind/body dualism;
* relational – decentring the individual human subject;
* historically and socially located and evolving, taking shape at the intersection of complex social forces, including power;
* emergent – not fully specifiable in advance (Reich & Hager 2014).

Different consequences and implications of this turn have been explored in recent work. Hopwood’s (2014a) focus on textures revealed workplace learning to be constituted in four dimensions - time, space, bodies, things. Focusing instead on connections between practices and their socio-political, cultural-discursive and material-economic contexts, Kemmis et al (2014) explore the concepts of ‘practice architecture’ and ‘ecologies of practice’ in relation to school leadership. Nerland and Jensen (2014), building on Knorr Cetina’s (2001) work, foreground knowledge through a focus on knowledge practices and epistemic communities. Actor network theory has been brought into dialogue with new materialist feminist ideas to develop distinctive understandings of interagency practice (Stewart 2014). Research using activity theory and CHAT (Fenwick, Edwards & Sawchuck 2011) focuses on learning that may arise during expansive discussions about how work gets done in situations characterised by conflict, or contradiction. Engeström’s (2008) research, for example, considers how teams respond to disturbances, work with adversaries, or address systemic level changes. The focus of the present article is, however, on regular features of practice where uncertainty or quandaries prompt a particular kind of joint knowledge work about practice, where conflict and issues of power are less central, and where systemic change is not apparent. Billett’s (2014) emphasis on relational interdependence has provided the basis for fresh insights into workplace curriculum, subjectivity and agency, taking an ‘ontogenetic’ stance where no distinction between practice and learning is held. Indeed, the connection between learning and practice is a central concern in this article. The concept of sites of emergent learning does not negate stances that assume learning and practice to be ontologically or analytically inseparable. However it does help to pinpoint instances within practices wherein questions of learning are brought into particularly sharp focus.

Focusing on particular sites of learning at work has proved fertile in prior studies. Zukas and Kilminster (2012) explored the concept of critically intensive learning periods (CILPS) to explain the interrelationships between learning, practice and regimes of familiarity. They argue that medical education is too focused on formal codified knowledge and not sufficiently on day-to-day aspects. CILPS addresses the learning of doctors in times of transition, but what of other key moments in practice? Edwards (2016) focuses on instances when professionals need to work across practices, conceptualising *sites of intersecting practices*. This shift from transition to intersection brings us closer to the *sites of emergent learning (SELs)* discussed presently. Also setting useful precedent is work on Integrated Development Practices (IDPs), that highlighted how particular work practices such as acting up in higher positions, might intensify demands to learn at work and the processes of learning at play (Chappell et al, 2009).

While the above research has contributed to the body of knowledge on professional learning at work in particular sites, there is not yet a full picture of particular kinds of learning at work, what is learned, and how this happens. This paper contributes to this gap by describing *SELs* in very different types of professional work. The SELs within the different practices share complex, emergent qualities of learning and knowledge production that have previously been overlooked particularly in discussions of practices often regarded as mundane, routine, or primarily about exchange of information rather than production of new knowledge. There are potentially other aspects of SELs, such as issues of power and authority in these moments, or their relationship to situations of conflict or broader change, which are beyond the scope of this paper. We do not wish to close off on these issues in relation to SELs: rather leave them open for further investigation. The article introduces the workplace contexts, illustrates the concept with reference to these contrasting workplaces and then discusses the concept in terms of commonalities and distinctions across the settings.

**WORKPLACE CONTEXTS**

This secondary analysis derives from data from three studies of workplaces in Sydney (Australia). The first is a State-funded residential service for parents with young children, run by Karitane. Up to ten families arrive on Monday each week, and stay until Friday. During this time they receive 24-hour support from a team of nurses who work in a pattern of three shifts per 24 hour cycle. Handoversbetween these nurses are one of the key practices in which SELs arise in this setting (others included a case conference).

The second workplace is a Railway Line project, led by one of Australia’s leading construction engineering companies. The entire project consists of sub-projects including 12 kilometres of railway line, two new stations, upgrade to established stations, a train stabling facility and two flyovers. A daily site-walk involves inspections of the construction site and involves senior managers, clients and specific sub-project managers. Site-walks around the sub-projects bring together engineers, managers, contractors, site foreman[sic] or teams of environmental scientists etc. Senior managers and/or estimators (both engineers) from the City office accompany the sub-project managers on a site-walk as the need arises. Within these site-walks there are significant instances of SELs.

The third workplace is a multicultural health unit (MHU) in a local health district. The district provides community health and hospital care for a population of 350,000. The MHU’s main purpose is to improve safety and quality of health services delivered to culturally and linguistically diverse (CALD) communities. To this end the MHU focuses on developing, managing and evaluating innovative programs, projects and strategies; providing consultancy advice and support to service deliverers within the local health district and to other providers and CALD community organisations. Central to this is working in partnership with other organisations within and beyond the district. A key daily practice in this setting is the daily ‘catch-up’, an organic space for sharing and discussing previous and coming days’ activities and a practice in which SELs are prevalent.

The table below summarises key aspects of each setting, and an overview of related empirical work.

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| --- | --- | --- | --- |
| Aspect | Handover | Site-walk | Catch-up |
| Industry | Health | Engineering | Health |
| Profession | Nursing | Engineering | Community development/ multicultural |
| Professional composition | Within one profession | Multi-professional | Similar professions |
| Group size | Paired or group | Two or more as circumstances dictate | More than five |
| Spatiality | Private space away from parents / clients | Various construction sites that may change daily | In a designated tea-room, sometimes off-site (e.g. café) |
| Temporality | Sequential passing on in single thread of work | Multiple, parallel and hierarchal trajectories of work in one larger project | One team resourcing support for multiple projects across multiple services |
| Organisational purpose | Shared aim to ensure consistency and quality of care | Varied immediate priorities among site manager, foreman, environmental scientist | Both shared and differentiated |
| Empirical detail | Year-long ethnographic study: shadowing of professionals at work over 60 visits; document analysis | Two rounds of focus groups; semi-structured interviews; observations, document analysis | Paired and collective interview to the double (Nicolini 2009); observations, document analysis. |

**SITES OF EMERGENT LEARNING**

The concept of *sites of emergent learning (SEL)* focuses on specific instances of practice where prior analyses showed significant workplace learning to be occurring. This is not to suggest that learning does not occur elsewhere in these settings, nor that this other learning is not emergent or occurs in all instances of practice. While acknowledging the substantial research on learning in everyday work practices, SEL provides an analytical focus on learning of a particular, and important nature which arose at these moments. This learning involves more than transfer of information or communication – an important point as the practices in focus here have on occasion been characterised in this way (eg. ACI 2013; Yang and Maxwell 2011). The term *site* is used in a Schatzkian (2002) sense, referring to social practices entangled with the material world. Not only are the social composition and social interaction highlighted, but also complex temporalities, fluid spatial relations, embodied and material dimensions (see Hopwood 2014a). Note, in ‘site of emergent learning’*,* the word ‘site’ is used in this technical sense. When ‘site-walks’ is used, the term refers to the building site in a more everyday sense.

The relationship between common work practices and SELs is important to clarify. Following Schatzki (2012), handover, site walks and catch-up meetings are understood as heterogenous practices and may unfold in qualitatively different ways. SELs arise within routine work practices, but refer to particular instances when professionals question, negotiate and explore their own practice and the knowledge associated with it. When the approach to working on ‘problems of practice’ takes on these particular qualities, then the concept of SEL applies. While there can therefore be handovers, site walks, and catch-ups, or moments of them, where SELs are not being enacted, in the three studies examined, the SEL was a consistent feature.

Key features of the SELs and the practices in which they were embedded are outlined below.

*Example 1: Handover between nurses in residential parenting service*

In this service, nursing work is spread over three shifts per 24 hour cycle. Handover involves one nurse handing over to a peer who will assume responsibility for the same clients in the next shift, one nurse reporting to the in-charge nurse, or multiple nurses receiving handover from the in-charge. The latter functions as multiple paired (one to one) handovers in rapid succession. While inter-professional exchanges do occur through case conferences and other interactions, these handovers are all within the nursing profession.

These handover practices display strong patterns. They follow a predictable script in terms of topic and sequence; deviations from this are quickly restored with little fuss. If a nurse forgets to share the result of the domestic violence screening, her colleague simply asks ‘DV negative?’ (see Hopwood 2014b for a discussion of such restorative practices). These handovers are not merely scripted, they are choreographed. The bodily arrangement, described by Hopwood (2016b) as body geometries, is always either around the end of a desk (when paired), or in a circle (when as a group). These arrangements are maintained even when the physical location of handover moves from the primary room to alternative settings.

Also significant are two artefacts. One is a clipchart onto which are attached a sheet recording a child’s behaviour since arrival (in terms of bowel movements, sleep, feeding etc.), and a summary of parents’ goals. These guide what the nurse giving handover reports, providing a family-specific, chronological set of cues. However they are not just treated as representations of a fixed past. They are used to explore reasons for change (or lack of change) and to open up questions about what to do next. As such they function as ‘why’ and ‘where to’ tools (see Hopwood 2016a).

The second artefact is a ‘clients in residence’ sheet. Each nurse has her own copy, which lists the names of all parents and children, and other information (child age, allergies, results of domestic violence and depression screening, medications etc), accompanied by personal marginalia added by hand. These ephemeral artefacts feed into the discussion, as the hander makes reference to notes she has made during the shift. They are also produced through handover, as the handee adds new notes that influence what she does over the coming hours.

Handover is conducted in part as a formal requirement within health services, with a relatively straightforward intention of securing continuity of care through transfer of relevant information (ACI 2013). However, the handover practices observed in Hopwood’s (2016a; 2016b) study achieve much more than transfer of information and responsibility. Most of the handover involves nurses telling colleagues about parents’ responses to their questions and suggestions, what the relationship between particular parents and the staff body as a whole might demand in terms of further exploration or information seeking, benefit in terms of support, and permit in terms of challenge. They also share the current state of play in terms of what appears to be effective in relation to parents’ goals, which may have changed during the last shift. As the foci of these discussions, these were incredibly stable - handovers in this setting *always* cover this territory, although their relative emphasis on specific details vary each time.

*Example 2 Site walk in Railway Construction Project*

Site-walks are common among various branches of engineering. They typically involve the regular inspection of ongoing projects (terrain, plant, equipment) by a number of engineers. In the research (Rooney et al 2015a; 2015b; Reich et al 2015), site-walks involve the inspection of construction sites of bridges, railways, or other structures. While often involving a bodily walk, at times the group may drive or even fly over larger areas. An experienced engineer looks for progress of work, compliance to external standards and plans. A key aim is to identify problems or hazards that have occurred, or might occur, to find solutions and mitigate further problems.

The site-walks are heterogeneous in their professional composition (Rooney et al 2015a; 2015b). The site foreman [sic], service managers, the diggers or leading hands, a blast crew, production superintendent, senior supervisor, various consultants, an environmental team or scientists, heritage consultants, graduate, interned and/or mentored engineers, as well as the client and/or their proxy may be present. This diverse composition is also fluid, varying from day to day. Both features have important implications for the learning that ensues.

As Schatzki (2002) suggests, professional practices are shaped by particular rules, forms of understanding, and intentions. In these site-walks, safety standards and codes of practice, personal and collective histories as engineers, and wider engineering cultures are in evidence, in different forms. While engineers seek to identify problems, progress or compliance issues, the foreman’s [sic] intent is to understand and plan future work, the client’s attention may be on the job’s alignment to the project brief, and the environmental scientist’[s focus on the actual or potential environmental damage.

Plans and blueprints are not just reference points to the future but also guide what is noticed and attended to in the present. These plans are understood as necessarily incomplete and tolerate changes as structures are built. Something noticed on a site-walk can result in changes to the plans. Cameras are used to provide snapshots of the immediate landscape on which the future structure (represented by the plans) will be built. Photos are also taken to enable comparisons over time, or facilitate further discussions off-site. Smartphones are used to look up information on the Internet, diaries to check and add to schedules. Whiteboard markers enable the windscreen to become a medium for drawing collective attention, and guiding noticing to features outside the vehicle.

The construction site itself is a material form in, amid, and through which the site-walk progresses. The emerging physical structure prompts and demands attention. The site-walk discussions refer not only to the current state of the actual structure (codified in a plan that anticipates change), but to changes that have happened, and which need to happen next. These can reflect the activity of construction itself, but also changing weather (pools of water collecting *here* now, when they used to collect *there*); the arrival of new equipment or materials; and so on. These materialities, which may be more or less ephemeral, become practically intelligible (Schatzki 2002) through the professional gaze: a large puddle or sloping soil surface might be seen as particular kinds of hazards; a change in the structure might signal to a learned eye the need to reorganise work or the spatial rearrangement of equipment.

Just like the handover, the site-walk often involves re-interpretation of the past in order to change anticipation of the future. A change – perhaps an increase in the structure’s height, or in weather conditions – can mean that what was safe yesterday may be hazardous today or tomorrow. A different change can mean the order of work that seemed sensible yesterday is no longer efficient. The site-walk is strongly driven by questions such as: ‘What could go wrong? How can we anticipate problems’? There is both a concrete (no pun intended) and an epistemic quality to this work.

*Example 3 ‘Catch-up’ In A Multicultural Health Unit*

An important daily practice of the Multicultural Health Uni is the ‘catch-up’. This happens each morning or at lunchtime, around a table in a shared space adjacent to offices and the kitchen. The catch-up involves checking up on how colleagues are going over a cup of coffee and a snack. Crucially, it also involves sharing important information about the previous days events (how things are going in work). However, when viewed through a sociomaterial lens, significant features of emergent learning becomes apparent, connecting the past with the future, the collective and the individual. Key aspects of projects and the networks of contacts involved in them are discussed, pulling the team into questions of knowledge. The catch-up performs vital functions given the fluid nature of work done by the MHU, and the constant need to marry individual project responsibility with a collective contribution and division of labour.

The catch-up meetings embody the tension between following frameworks that require specific outputs, and being innovative and flexible in order to meet specified remits. Multicultural and refugee policies, state and local implementation plans, District and Unit-specific business plans all provide rules that govern what is done, but they do not negate the need for workers to take initiative. The catch-up is a moment when the need to inhabit a delicate, loosely defined space between such prescriptions and the emergent negotiated vagaries of day-to-day work, is discussed explicitly. For example, the morning catch-up might include mention of the latest refugee policy and then the discussion ensues of the implications for all the MHU’s projects. While based on ‘agreed practices’, much of the MHU work needs to continually be reinvented (for each CALD group; for each program; for each geographical area, etc.). Gherardi (2012) describes this as learning how to work between prescription and negotiation: working with and around plans, contracts and standards to meet local, particular needs. The catch-up addresses not only *that* this work involves navigating such tensions, but also involves collective resourcing of *how* this can be accomplished. It has become a way of doing things to achieve both individual and collective needs.

Unlike the nursing handovers, which follow a predictable script, and the site-walks, which are structured by movements through the physical space of work, the catch-up shifts between informal, loosely structured chat, and a more organised interaction that some participants described as a ‘meeting’. The content of discussion in the catch-up reflects the nature of MHU work: driven by initiative and innovative strategies rather than compliance with protocols. Stable, codified knowledge is less visible here, instead the catch-up contributes to filling a gap in fluid know-how that cannot be addressed in job descriptions, competency standards, or formal training. As a result, much of the talk focuses on connections between team members, and their multiple knowledge networks within the health district, ethnic communities, and other multicultural services in the area and beyond.

There is a degree of knowledge sharing in catch-up meetings, though this is not just between members of staff: rather individuals often act as a conduit and mediator of knowledge from diverse, fluid professional networks (a circulation of knowledge that flows in many directions). The meetings involve rapid, unpatterned movement between social knowledge of each other’s working lives, and professional knowledge about projects, contacts, changing policy.

**DISCUSSION**

This section enriches the SEL concept by discussing similarities and differences across the three workplaces and explains how within each of these three practices, SELs were present. The secondary analysis highlighted commonalities that elucidate important aspects of learning at work and professional expertise. In all these settings, theSELinvolved negotiation, exploration and questioning of practice – a focus on the ‘problems of practice’. Beyond the joint accomplishment of work itself, these SELswere framed around developing fresh understandings of the past in order to reshape visions for the future and guide the present. In each case the knowledge emerged through entanglements of the social relations and materialities of the workplace. Those involved acknowledged and embraced fluidity of work. Rather than working on adherence to fixed plans, they focused on how to be agile and appropriate in response to changing conditions and emergent challenges. Also common was recognition of the boundaries of knowledge and of epistemic factors that limit what particular forms of knowledge can do in terms of informing what to do next. In each instance of SEL there was a productive readiness to admit to not knowing, to treat knowledge as changing and perhaps fragile. Determination of what to do next, and epistemic consideration of how to reach such judgements, were fuelled by artefacts made practically intelligible in particular ways. Representations of the past (behaviour charts) or future (structural plans; state health policies) and other objects were transformed into tools that helped professionals explore questions of what to do and why. They are not only ‘where’ and ‘why’ artefacts, but become ‘epistemic objects’ (Knorr Cetina 2001). At times this pulled workers into discussions of the nature and status of knowledge – to work on ‘problems of practice’ These commonalities provide a stable core of the SEL concept. Considering, what was different in each site pushes towards the edges of the concept, and goes beyond the empirical differences outlined in the Table above.

Some features of SEL within the handovers were distinctive. Here, the strive to work in partnership with clients (see Hopwood 2016a,b) foregrounds relational work. Asymmetries between professional and client (see Hopwood 2014a) shape how this SEL works and what is learned during it. These handovers involve limited passing on of fixed, clinical information. Rather they address these questions: What do we know of what matters to this family, their goals, strengths and vulnerabilities? What does our relationship with the family permit us to do, and what further investments in relationship-building are required? What seems to be working as a means to address parents’ goals, and why is this so? All these questions contribute to an emerging understanding of what it makes sense to do next (see Hopwood 2016b). Interestingly this is not something that nurses resolve through detailed exchange, rather much of the work of responding occurs on the next shift.

Unlike the handover, knowledge is treated in the site-walks as more certain, and in some cases more directive, particularly when safety is at issue. But as well as questions of the order of ‘what do we know and what does it mean?’, there are also questions of ‘how can we do this work, how can we make decisions?’. Crucially it is the act of walking (driving, flying) through the site that prompts questioning, pulling the group into coordinating and knowledge work. The physical structure itself, supplemented by diaries, whiteboard markers, cameras and phones, becomes a ‘where to’ tool, and at times, an epistemic object.

In the catch-up in multicultural health work, what is more apparent than in the other two sites is the sense that the object of work itself is at stake. In nursing handover, the object of supporting parents through partnership remained stable, even as specific family goals shifted. In the site-walk the structural plans evolve through the course of work. But in the multicultural work, the meaning and aims of each project are comparatively more fluid. This highlights the need for agility and innovation, and connects with the tensions between prescription and negotiation discussed above. The catch-up involves work that updates, enriches, and challenges understandings of the intention behind work on each project. The presence of the whole team means that this work extends beyond particular projects. In further contrast with the other two SELs, the catch-up is a site where the team questions who they are, what their role and purpose is, and what broader changes in policy, community demographics, and so on, mean for their vision for the future. In nursing handover, learning emerged within a single professional group, in a succession chain that reflects the organisation of work in shifts. In the site-walk, at issue is prior and subsequent work in parallel by different stakeholders working on the same bigger project. In the multicultural health unit, there is both a parallel division of labour and a collective trajectory as a team, at stake.

Clarifying these distinctions elucidates a crucial feature of SEL as a concept within broader practice theoretical and sociomaterial traditions. While there are common features that apply at least across the diverse settings discussed here, equally if not more important are the ways in which each SEL is shaped by (and shapes) the practice context in which it emerges. In other words, the concept we are presenting here is not defined by universal characteristics, but rather by a property that connects it intimately to any particular setting. In this way the Schatzkian site ontology remains intact, as the specific form and function of any SEL are determined by the practices and materialities through which it is constituted.

**CONCLUSION**

These SELsdo not sew up the question of what each practitioner should do next. As each person then leaves and begins their work for the day, there remain issues where they have to make judgements and act. These *are* informed by the outcomes of the most recent handover, site-walk or catch-up, and bounded by professional knowledge, protocols, regulations, or the degree of tolerance around them (permitting work-arounds). Not everything is solved or resolved in these SELs but they do influence what people do alone and with others. At the heart of what makes these SELs effective is the ability to question together in ways that enable people to be agile, individually and collectively, in response to changing conditions and problems of work.

SEL as a concept brings to the fore fresh understandings of the past in order to reshape the visions for the future and guide the present. It embraces the fluidity of work and the epistemic work needed in such sites. Significantly the concept of *sites of emergent learning* assists understanding learning in relation to work as an emergent phenomenon. In all three sites knowledge was ‘unstable’ and emergent through the SEL. In the parenting service it was at moments when this unfinished, open quality was evident, partly because knowledge of families, relationships and solutions is never exhaustive; what is known about a mother and father today may be enriched, added to, refined, adjusted, or even replaced tomorrow. Furthermore, the families themselves are changing, perhaps as they develop confidence, or their priorities change. As a result knowledge of the family, the status of client-staff relationships, and working solutions is treated by the nurses as uncertain, incomplete, and fragile. On the site-walk, the building site is changing in many aspects – the effects of weather, the impact of a construction in one part of the site, the discovery of indigenous artefacts or a koala habitat. The knowledge of the site is constantly unstable and changing requiring the daily site-walks. In the MHU, the projects are fluid and ever changing – the ethnic communities they work with respond to refugee crises in far away countries; budget cuts change the resources available for a project. These instances in the catch-up become a site in which the instability of project knowledge is shared with the team in order to negotiate new solutions.

This view contrasts with accounts of professional learning based on trajectories of participation, or learning by doing in work. This is a view of professional learning that embraces non-linearity, built on complex temporalities in which past, present and future are entangled, bringing a strong notion of materiality alongside that of the social nature of workplace learning. It also contrasts with accounts of learning at work primarily occurring in challenging rather than routine work. SELs occurred in sites that in the past may have been considered routine (handover, site-walk) or even frivolous (catch-up). However, in highlighting the knowledge work done, and pointing to the significance of this for the changing course of practice, this article marks out a sharper sociomaterial notion of learning that holds practice, learning and knowing in close connection, tying learning more closely to the emergent features described above. It allows for their analytical separation, and guides us into readings of work and workplaces in which learning is not ubiquitous, but rather differentiated. For researchers and practitioners of professional and workplace learning, SEL may offer a new concept for seeing similar learning in other workplaces – but as discussed above, looking different as they do not share universal features, but importantly are shaped by the particularities of the practices and materialities of each site.

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