BLANK STARES AND FIDGETY FINGERS: EMPLACEMENT AND EMBODIMENT IN ONLINE TEACHING

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Abstract
This paper examines how management educators experienced a radical change in the milieu they were performing, and its impact on their ecological knowing. Drawing on empirical data derived from qualitative research with 13 management educators, we discuss the wider implications of understanding teaching as a form of knowing that incorporates the emplaced wisdom and embodied skills. We argue that in-person and online teaching are two significantly different place-events and reflect on the difficulty of transferring knowing from one to the other. We highlight that online pedagogies' well-intentioned goals of maximising educators' skills and competence may remain unfulfilled unless we recognise teaching as an embodied and emplaced activity.

Keywords: Ecological knowing, online teaching, embodiment, emplacement, qualitative research

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Blank stares and fidgety fingers: Emplacement and embodiment in online teaching

Introduction

Over the last two decades, educational technology has been promoted for its revolutionary potential to transform teaching and learning in higher education (Schneckenberg, 2009). This enthusiastic rhetoric has become almost universal following the "emergency online learning" (Murphy, 2020) triggered by the COVID-19 pandemic. Courses that were previously taught face-to-face have increasingly been incorporating digital elements, and with more and more courses being delivered entirely online, teaching online is now perceived as a necessary part of an educator's skilful work performance in higher education. However, there is broad evidence to suggest that educators lack the necessary competences to know why, when and how best to implement technology in their online teaching practice (Englund et al., 2007). The afflictions caused by this digital skills gap, such as an increased sense of vulnerability (Pacansky-Brock, 2012), often overshadow the affordances of online teaching (Watermayer et al., 2021). This has resulted in increased calls for technological and pedagogical training to provide appropriate knowledge, skills and resources better suited to the online environment (Dhilia, 2017), especially since the afflictions are now more visible and felt by almost all educators rather than a few.

However, we argue that the reasons for educators' struggles could be deeper than technological incompetence. With online education, educators faced a radical change in the milieu; the social and material environment they are placed in while performing. We argue that this radical change resulted in losing educators' "emplaced wisdom" and "embodied skills" which were key elements in skilful work and mastery. Our argument is based on a novel concept of "ecological knowing" which emerged as an alternative to the streams that see knowledge is being limited with competencies, skills and techniques (Butler and Cunliffe, 2023). Instead of objectifying knowledge and divorcing the mind from the body, ecological knowing underlines the importance of *"intimate, fluent engagement and sensory knowing of the activity and associated materials"* on skilful work (Butler and Cunliffe, 2023, p.8). In fact, this approach claims that the ability to perform skilfully and mastery has been embedded in this visceral and sensory knowing. In this study, we approached educators' struggles during Covid-19 from the perspective of ecological knowing with an aim to understand (1) how they experienced a radical change in milieu, (2) what is its impact on their ecological knowing and (3) how they coped with it, if they could?

We answer these questions using empirical data derived from qualitative research with 13 educators utilising storying and participant-led photography as main data collection methods, supplemented by non-participant observation of online training events delivered by these educators. As we illustrate through the visual, narrative, and observational data generated through our research, teaching is a "place-event" (Pink, 2011) with a complex ecology. In this regard, online teaching, despite still being mainly a teaching event, significantly alters the nexus of things, and their relations, that make up that ecology. Its skilful performance is thus much more than knowing the technical feats of online teaching, for example, being able to create digital content or using different digital tools. Consequently, we argue that ecological knowing is "sticky" (Szulanski, 1996) making the skills educators rely on in their teaching difficult to transfer from the physical classroom to the online environment, and vice versa.

We first begin by situating the concept of ecological knowing in the wider literature that elucidates ways of knowing and working. Next, after describing our research context and methodology, we present the skilful, human, bodily, local and specific ways in which educators perform their work activities and reveal the entwined relationship between people and

environment in teaching. We then discuss the wider implications of understanding teaching as a form of knowing that incorporates the emplaced wisdom and embodied skills revealed through our findings to propose that in-person and online teaching are two significantly different place-events and reflect on the difficulty of transferring knowing from one to the other.

Theoretical Background

Knowledge has been a central focus among scholars who theorise work. Early writings in organisation studies about the centrality of knowledge in the so-called new economy conceptualised knowledge as an individual cognitive possession, which reflects the Cartesian separation of mind and body, thought and action. In this view, knowledge resides in the head of an individual, what Blackler (1995) called "embrained knowledge". The implication is that knowledge is acquired, appropriated and consumed by means of cognitive processes (Gherardi, 2000), and can be broken down into separate skills and cognitive schemas (Butler and Cunliffe, 2023) which allows for its storage, transmission and circulation through, for example, books and databases, in the form of "encoded knowledge" (Blackler, 1995). In the context of teaching and online teaching this type of knowledge includes knowledge of the subject matter, knowledge of approaches to curriculum design and delivery that incorporates knowledge of frameworks like personal learning styles pedagogy (Evans and Waring, 2015), cognitive styles (Kozhevnikov et al., 2014) or Bloom's taxonomy, and, of course, knowledge of appropriate digital and other technologies and resources for learning.

The practice turn in organisation studies expanded our understanding of different types of knowledge that are "embodied" in sentient and sensory information and "embedded" in specific contexts, relationships and material resources (Blackler, 1995). Consequently, knowledge is reconceptualised from something static and abstract that people have - an "epistemology of possession" (Cook and Brown, 1999) - to a practical activity associated with "doing" (Gherardi, 2008). To know, from an "epistemology of practice" (Cook and Brown, 1999), is to skilfully participate in "the complex web of relationships among people, material artefacts, and activities" (Gherardi, 2006, p. 2). From this definition, it follows that the body is not separate from the mind and does so much more than performing a sequence of movements directed by the mind. Instead body, mind and environment are in an "sensuous interrelationship" (Howes, 2005, p. 7) that incorporates social, material, aesthetic and emotive experience and judgement (Bispo and Gherardi, 2019). In fact, "sensible knowledge concerns what is perceived through the senses, judged through the senses, and produced and reproduced through the senses" (Strati, 2007, p. 62). A crucial point in regard to sensible knowledge is what Wacquant (2015, p. 3) calls "carnal know-how", acquired as we act in and upon the social world that our (work) activities are situated in.

Most recently, Butler and Cunliffe (2023) proposed the concept of "ecological knowing" to account for "[the] sensory, tacit, fluid, emerging relationship with the features of work and materials" (p. 2). Ecological knowing incorporates two components. Emplaced wisdom is an individual's ability to sense and respond to the social, visceral and multisensorial particularities of the situations and spaces which they find themselves. Embodied skill, a related but different construct, is an individual's living bodily engagement in sensing and responding to the materials around them. Embodied skill allows individuals attune their bodily movements to their social, visceral and multisensorial surroundings in a mutually responsive and relational way. From this perspective, skilful work performance is "a wholistic felt sense of the possibilities of the materials and situation and what that might mean, i.e., a *sense-ability*" (Butler and Cunliffe, 2023, p. 10) as the knowing worker, in undertaking their work activities, perceptually, sensorially and bodily influences and is influenced by their milieu.

To date this relationship between perception and embodiment has most commonly been explored in professions that conveys the image of materiality and craft skills, such as cooking (Stierand, 2015), acting and manufacturing (Butler and Cunliffe, 2023), music (Rojas, 2015), surgery (Hindmarsh and Pilnick, 2007), and watchmaking (Raffaelli, 2019). However, ecological knowing is relevant to many forms of work, including education (Butler and Cunliffe, 2023). For educators, seeing students' faces, stares and gestures, hearing them chattering in the background and giggling, sensing the energy levels in the classroom and student emotions provide a rich social work environment. Furthermore, the aesthetic and architectural qualities of the classroom require educators to engage and entwine their movements with the material work environment. The materiality of the classroom, like the position of the lectern, the beam of the projector or the layout of tables and chairs influences educator's bodily movements, but also their bodily movements influence the material, as well as the social environment.

When we conceptualise the skilful educator not only as a knowledgeable mind with requisite disciplinary and pedagogical expertise, but also as a "knowing body" (Hindmarsh and Pilnick, 2007) in a sensuous interrelationship and attunement with its milieu (Butler and Cunliffe, 2023), we can then come to realise that online teaching offers a different milieu interrelating with educator's ecological knowing. However, scholarly discourse on online teaching, or even technology-enhanced teaching more broadly, has paid little attention to the body (Enriquez-Gibson, 2016). Recently, Fox et al. (2021) reported some empirical data on online educators' experiences of embodiment in the context of COVID-19-induced online teaching. Their findings allowed us to glean some insights into the extent to which material aspects of teaching have been taken for granted and what was lost when the materiality of the classroom experience was taken away from teaching. However, their study predominantly focussed on the spatial experiences of online teaching and its impact on educators' emotions. Therefore, we lack a holistic understanding of how a change in the milieu, with its material and social, relational aspects, changes the way educators understand, perceive and approach their work. To address this important research gap, this study aims to answer the question: What is the impact of a change in milieu on educators' ecological knowing and their skilful work performance?

Research Context

This research was prompted by a cross-national capacity-building programme that focussed on training management educators at International University (pseudonym) in creative methods and pedagogies. The training was designed and delivered by the Southwest University (pseudonym) faculty who were experienced facilitators in using creative methods on all academic levels. This training programme was disrupted by COVID-19 forcing the second author, the programme lead, and her team of facilitators at Southwest University to shift their teaching online which meant a radical and unexpected change in milieu.

The programme was delivered between October and November 2020, but the COVID-19 induced disruption to management education persisted, meaning that educators at International University as well as those in Southwest University carried on using the methods covered in the programme in virtual learning environments in their own practice for a prolonged period. This context inspired us to deepen our understanding of educators' lived experiences of performing in an entirely different milieu.

Methods

We have employed utilised story completion (Braun et al., 2019) and participant-led photography (Warren, 2002). This data was supported with observation of online teaching sessions. Story completion involved asking research participants to write a story about a

hypothetical scenario (Gravett, 2019). In order to do this, a brief story stem was provided to participants to provide a context for participants to discuss a fictional character who is transitioning into and through the virtual world of teaching. A wide variety of scenarios could be constructed into story stems (Gravett, 2019), and in our case the story stem was '*Thinking of your experiences of online teaching practices over the past year, if you were a hero on a journey, what would your story be?*.' The stories were issued electronically to thirteen participants, alongside completion instructions providing guidelines about how to complete the stories, while fostering comfort and safety (Clarke et al., 2017). Perhaps owing to the clear guidelines we offered, participants engaged well with the task and reported they enjoyed writing the stories. The ten stories we collected were rich and varied, ranging in length from 108 to 606 words (combined length 3,843 words). Some stories were light-hearted in tone, and some were more emotional. Inspired by Gravett (2019) we deviated from previous published story completion research and supported the stories with semi-structured, story-mediated interviews. The aim of these interviews was not to scrutinise or reveal the true meanings of the stories, rather were seen as an opportunity to use stories as a prompt for further discussion of educators' experiences and interpretation of how their experiences related to those of their fictional story characters. All interviews were audio-recorded and transcribed.

The second method involved the use of participant-led photography (Warren, 2002), where we asked thirteen educators to contribute up to ten photographs that were meaningful to them and that said something about their experiences of using arts-based methods in their online teaching practices. This method was instrumental for offering the participants an alternative means to explore the often 'intangible' parts of their working lives (such as identity [Warren, 2005], rather than relying on textual narratives alone. Participants were given the choice to contribute 'found' images (pre-existing photographs, such as those found online) or images they created. Some photographs were literal, such as their desk setup for an online class, some were metaphorical. In total 64 photographs were collected, and these were then discussed in one-to-one, photo-elicitation interviews conducted with participants, and conversations were audio-recorded and transcribed.

Finally, we also observed seven online teaching sessions, all of which were delivered by our participants who contributed to the story completion and participant-led photography elements of the research. In three sessions, we were 'participant observers', meaning that we were shadowing a session with a more passive stance witnessing the session dynamics processes and looking outwards onto the facilitator. In the other four, we were 'observant participants' with an increased direct involvement where we directed our analytical gaze inwardly onto ourselves where we aimed to make sense of *our* personal, yet socially relevant, experiences in the session during our own facilitation (for a deeper discussion of discussion between participant observation and observant participation please refer to Seim, 2021). Field notes were written during the session, real-time, and after the session. These notes were further expanded on by rewatching the recordings of the session, a few months later.

Table 1 summarises the data collection undertaken.

Data source	**Data collection points**	**Total amount of data collected**
Participant-led photography	13	64 photos
Story completion	13	3,843 words
Photo elicitation interviews	13	4 hours 31 minutes

		(40,398 words transcribed)
Story-mediated interviews	13	4 hours 40 minutes (41,898 words transcribed)
Participant observation	3	4 hours 12 minutes
Observant participation	4	5 hours 23 minutes

Table 1. Data sources

These data were then subject to a bi-partite analytical process. The first part included a thematic analysis of the textual narratives that were shared within the semi-structured (story-mediated and photo-elicitation) interview setting. This stage of the process is rooted in the existing and well-established method of qualitative coding (Saldaña, 2012) where the transcripts were coded inductively to preserve the participant-centred character of the research. As codes were developed, modified, and collapsed into each other and discarded, key themes, for example, centred on issues of 'competence', 'corporeal', 'relational' and 'affective' emerged.

In the second part of the bi-partite analytical process we undertook a 'pattern analysis' (see Shortt and Warren [2019] for an application of this analysis approach to visual data). This included thematically grouping the stories and photographs according to their *content* based on what characters, objects etc. were captured in them. For example, the contents of all the stories and photographs associated with the 'exploration' theme included photographs of outdoors, stories that used the forest and the sea as their setting. This part was important to data analysis; it brought the stories and photographs back into the analytical process, as opposed to being simply used as prompts for talk during the interviews (Shortt and Warren, 2019). If, as Saldaña suggests, the analysis of interview transcripts was seen as one part of 'first cycle coding' (Saldaña, 2012), then the pattern analysis could be seen as the 'second cycle', where unexpected discoveries emerged (Lindof and Taylor, 2011) as it allowed for for similarities and differences to be acknowledged through a 'final exposure to the whole' (Collier, 2001: 44).

Therefore, the method of analysis integrated the meanings assigned to the stories and photographs by the participants (textual analysis) and the content of the stories and photographs themselves and what they are of (pattern analysis). While we accept that our accounts are one of many potential interpretations (Van Maanen, 1998), we worked in two ways to ensure that the data offered a credible and trustworthy explanation of our participants' lived experiences: first, we triangulated between data types; second, we triangulated across analysts, as we challenged and interrogated each other's theorising during data analysis.

Findings

Tech(no)bodies

Our participants, as skilful educators, were well-rehearsed in terms of the bodily performance necessary to symbolically represent and incarnate certain conventions of the discipline, in terms of content, style and technique. While formal, intellectual disciplinary knowledge was important, it was with their posture, stance, gaze, gesture and utterance that they conveyed to their students that they know what they are talking about, and that they seduce students into the discipline. In this regard, their anatomic body was the instrument, the material they were working with in performing their work.

> "When teaching I got too close to the screen. As if I'm walking up to learners. Imagine how it must look, a gigantic face approaching you. I don't care how I look. To me that's

how I communicate interaction, I guess, the desire to come close to students." *(Zara, story mediated interview)*

Not being able to stand and deliver to students who are literally there out front was experienced as the loss of the means they performed their work activities. They confronted the challenge of understanding what was happening to their teaching bodies in the disembodied classroom.

> "You can't quite get the same interaction. I literally want to get into the computer to get in and be with people so that I can do that. I just feel quite literally I'm behind glass and I can just sit here, be as enthusiastic as I can be, but there's some sort of barrier to just create a more three-dimensional environment. It is two-dimensional and it feels two-dimensional online." (*Hayley, photo-elicitation interview*)

As early as 1995, McWilliam and Palmer coined the phrase "tech(no)bodies" to describe how online teaching troubles boundaries, and the empirical data collected through the photographs and stories provide an evocative imagery of how bodies are being experienced or 'lived out' when they result in the removal or semi-disappearance of the anatomical bodies and students from the university classroom. The dual presence of educators and students in online education meant that they were simultaneously present at one location in physical form and at another in virtual form. What is their ecology? Were they at home or at university / work? Were they there to learn or to relax? Umberto described a sense of the loss of intensity in pedagogical encounters because of a loss of bodily engagement in the same physical space:

> "I remember teaching students who were in a kitchen in southern India. And you see in the background of the screen, the kitchen. The members of the family are around, having dinner or lunch. So, I am a university student, and I'm, for a while, not in the kitchen, but in the classroom. You are in the kitchen, but at the same time, you are in the classroom, yeah? It's very difficult to imagine yourself, as a university student, as a member of the class, when you are permanently seeing and listening to the noises of the kitchen, your mum talking with your brother over dinner. Of course, you are still a member of that family. But you are also expected to be part of this place with your classmates." (*Umberto, photo-elicitation interview*)

On the one hand they realised that "every time someone puts their camera off you can't be like 'where have you gone? What are you doing?'" (*Hayley, photo-elicitation interview*). But on the other hand, they felt like playing hide-and-seek in a forest, in the disembodied classroom. Sarah reflected on the struggles of understanding her work environment and herself within it when she was not able to see the students, the classroom boundaries were permeable and ever-expanding, compared to a physical room with four walls which was familiar to her. She described the uneasiness of not knowing if the other players (i.e., students) can hear her counting, if they are hiding, if they are going to come back when she calls them, if they are still there or if they have walked out from the forest, if they are playing along or if they wandered off to pick up wild strawberries. In Sarah's sessions we observed, we noticed before sending the students to breakout rooms, she would repeat the guidelines, on average, three times, each time raising her voice slightly, as if she is trying to get her voice heard in a forest.

The teaching body as the knowing body

Ecological knowing in teaching brought together flows of sensory experience, such as bodily gestures and auditory cues, to couple perception and action in the classroom. For our participants, teaching required sensitivity to what the social and material environment might be saying to them which might catch their eye or which they feel in working with the flow when delivering teaching. This was mostly unconscious and tacit but a very fundamental and situational understanding of the classroom upon which they judged and acted. Specifically, our participants talked about the significance of the micro moments of blank stares, the fidgety

fingers, the change in breathing, the posture, the note-taking, the phone-checking and how these moments were caught and clocked in during teaching.

> "I find it quite hard to articulate but there's just something about the tiniest things with students when you're in a room. You only need to look at the way somebody is sitting, anything, and you're able to adapt and then think, right, 'within ten minutes I'm going to make sure I ask that person a question' or 'actually I'm not going to pick on that person but I am going to say something to the group' so that person might suddenly switch their behaviour or shift their behaviour slightly." *(Hayley, photo-elicitation interview)*

Defining skilful performance in this context is not about pedagogical knowledge and tools, but a sensuous knowing in one's being in the classroom as they involve themselves and live through the social and material qualities of the milieu afforded to them in a particular moment. In this sense, as suggested by Hayley's quote above, as feeling and experiencing beings our participants were sensitive and also "sense-able (ability to use that sense)" (Butler and Cunliffe, 2023, p. 10), and therefore attune their work performance deliberately and responsively to what the milieu might be telling them. When a class went well often this was not because they copied and repeated actions and activities from another, previous (and successful) iteration of the class but because they were able to pay attention and intentionally engage and entwine themselves with the nuances in the qualities of the milieu. The pace, the timing, the relations with and between students and material artefacts, the energy and the physical presence seem to just come together effortlessly and feel "in place", as they understood and acted upon the qualities of the milieu.

> "To a certain extent it shouldn't be that everything is clear and regimented and works through… Whereas if you take, and maybe clumsily, allow things to emerge you notice more and more things in the environment… Finding out the connections, finding some way of making a connection that allows you to do things more creatively, which you couldn't do at the beginning." *(Alan, story-mediated interview)*

The limited sensorial qualities of the online teaching milieu hindered our participants' sense-ability. Not being able to see the whole person, or not being able to see the person at all because their camera is switched off or because they are in a breakout room meant that their work performance was not as responsive as it was in the physical classroom. Hayley and Murad recounted the importance of the social environment, including a private conversation with the student, to (re)engage them with the teaching activities, especially if the student "looked"" concerned.

> "When they close their camera and microphone, I can't reach out to them. Once somebody logged out of the session, they didn't give us the chance to make it up, to talk through how this activity would be beneficial. If I was there physically, in the same room with them, I could have stopped them, I could have gone after them… Online, I wasn't given the chance." *(Murad, story-mediated interview)*

Ecological knowing related to the ability to understand what may be happening - such as they are checking their phones, they are bored - but also to the ability to understand what needs to be done. Butler and Cunliffe (2023, p. 11) calls this as "feeling forward i.e., anticipating possibilities", "a form of 'anticipatory foresight'" that allowed our participants to be alert to the milieu to shape their future engagements with and movements within it. Sensitivity and sense-ability to the milieu allowed them to anticipate the student reactions if they pushed them a little further or whether they would go into a potentially sensitive area when doing so.

> "I feel much more confident in my ability to know how far I can take things when I'm with people." *(Camille, photo-elicitation interview)*

Camille's reflections suggest that feeling forward in the context of skilful performance of educator's work is not fixed purely by curriculum design or lesson plan but by being able to

follow and reconcile what was codified in these design and planning documents, as a step-by-step mechanistic process, with what is emerging in the act of delivering the teaching. This interplay between planning, following, sensing, anticipating and adjusting was not described in analytic terms, as in a systematic assessment of the characteristics of the situation, but in more intuitive terms suggesting a tacit dimension to such knowing.

In the new milieu of online teaching, which was perceived by our participants as sensorially limited, their ability to "read the room" was hindered. Consequently, they tried to gain sensitivity and sense-ability through other means. In addition to more traditional feedback tools offered by online learning environments such as emojis and chat box, some closed the breakout rooms inadvertently. That short minute or less when students had not yet realised that they were reconnecting to the main room was used to check if the discussions were on the topic or not. For Sarah, online shared boards, such as Google Jamboard, were her "peephole" to the breakout rooms:

Figure 1. *Image contributed by Sarah to the photo-elicitation interview*

> "The reason I use Jamboard very often is actually not for the benefit of the students, but me. I can see what is happening in the breakout rooms only thanks to Jamboard, so I pick up clues from there. For example, I send them to breakout rooms, 5 minutes pass, and if there is nothing on the Jamboard, I get very nervous. I have no clue, I don't know what is going on." *(Sarah, photo-elicitation interview)*

We observed several of Sarah's classes, and we noticed that when students were working on their Jamboards in the breakout room, every few post-its were welcomed with Sarah's exclamations like "wow!", "look!", "fab!".

Gaining the requisite proficiency went beyond acquiring knowledge as a purely cognitive or informational process that would lead to adjustments in classroom delivery but required having to (re)figure out the job the educators had to do. Our participants felt quite strongly that all of their expertise had been stripped away, and they acknowledged that they had very limited ecological knowing that would make them perceive themselves as skilful educators. They worried about "looking stupid, like I didn't know what I was doing" (*Hayley, story-mediated interview*). They recognised that they were performing in a new milieu and skilful facilitation in online environments required accumulation of new knowledge, which they did not have the time or energy to rebuild and enact.

> "If I only had the time to do some deep work on these tools and techniques, if I could spend some time learning and discussing it with others, I would develop a peace of

mind. When that happens, I can feel the change physiologically, I can physically feel fulfilled." (*Banu, photo-elicitation interview*)

There was so much out there, but so little time to find out, learn and integrate. This contributed to an ever-present sense of unfulfillment and guilt.

Affective dimensions of ecological knowing

Data also pointed us towards the affective processes in the production of skilful performance of work in teaching. The previous section alluded to instances where our participants drew on affective processes that supported their interpretation and judgement about how their practice was unfolding, in real time. For example, they judged the affective 'atmosphere' in the classroom by interpreting the signals from the milieu about students' level of excitement, engagement, apprehension, or boredom. They would also attune their performance of the practice to affect the affective 'atmosphere' of the classroom, for example, to invigorate students about the topic or to create anxiety about the upcoming assignment. In this regard, educator cognition is not separated from their perception and the capacity to affect and be affected by the milieu.

More interestingly, data also suggested that the affective processes of teaching depended on the specific cultural, historical, and local knowledge schemata of a certain system of practice. The traces left by affect, as experienced during teaching, were recorded and kept in their memory. Consequently, some affective experiences and processes were 'normalised' and coded in the knowledge schemata of "this is how you will feel during teaching". Our participants, as soon as they felt competent to perform a practice, they also incorporated and actualised the affective processes associated by that practice.

In this respect, a change in milieu disrupted the knowledge schemata that defined the culturally, historically, and locally standardised affective routines and bundles of practices that our participants affected and were affected by. The new milieu came with new, often ambivalent emotions, such as feeling inspired, excited, and adventurous and whilst struggling the shake off the feelings of hesitation, nervousness, anxiety and overwhelm. A common metaphor employed to describe the affective traces of the new milieu of online teaching was a forest.

Figure 2. *A collage of images contributed by participants to the photo-elicitation interviews*

"The walk in the forest" was often described in positive terms, as it meant breaking free from the routine. They expressed enthusiasm for discovering a "different universe", a "different planet" (*Begum, story-mediated interview*) where they could perform. However, this exploratory journey was always accompanied by a deep sense of fear and doubt, like the feelings that would accompany opening a grotty garden door (pictured below by Camille):

> "When I first started, I definitely didn't want to open the door because it looked rusty, and nasty, and it looked like there should be something really intimidating behind it. When in fact I know in my head that it actually opens up onto a deer park, and it's kind of quite cute." (*Camille, photo elicitation interview*)

Figure 3. *Image contributed by Camille to the photo-elicitation interview*

The potentials offered by the new milieu gave our participants "an itchy foot" *(Hayley, story-mediated interview)* to experiment with things, but they also felt frightened and nervous wondering whether their usual practices would work or not, and often clung on the knowledge they accumulated in the old milieu. As a result, our participants frequently described an internal struggle between pushing themselves out of their comfort zone to learn more about the milieu and increase their ecological knowing within it versus finding refuge back under their comfort blanket.

> "There is so much to discover, so many paths deep inside the forest … There's always a voice inside me saying 'But you haven't gone deep into the forest, you haven't checked out the flora'. And the other voice says 'But you've had some fresh air. Is it a must to go deep? No need for more, this is it'." (*Banu, photo-elicitation interview*)

> "I want to do so many different things, new things which I find exciting. But then it creates a pressure as well, I shoulder too much, and then I feel burned out. A continuous feeling of inadequacy and guilt." (*Zara, story-mediated interview*)

Performing in a different and new milieu required bravery and courage. This experience reminded Murad the first time he did paragliding – "a pretty serious jump" (*Murad, story-*

mediated interview) that is full of risks and uncertainty but rewarding and empowering in the end. Within this context, engaging with a community of educators, to do things together, to talk, to construct an image of the new milieu and themselves within it, was crucial to reflect on the new milieu, to orient themselves within it and explore possibilities. The existence of a community of practice was also crucial in providing inspiration, as well as more concrete solutions to challenges.

> "When the fruit is ripe the insects and birds are attracted to it. They pick up the bits of the flesh that had seeds in them and then fly somewhere or walk somewhere else and then drop it or wipe it on the soil. That's how it spreads. You suddenly get to a place where you begin to take it to other places. You take it to a colleague... It gives people wings. Lift them up. They take it away but it also lifts them up." *(Alan, photo-elicitation interview)*

For Murad the community of practitioners were the pilots in his paragliding experience, a trustworthy expert reducing the risk to an acceptable level. In this respect, the community of practice was a way to (rebuild) sense of confidence in one's own practices.

Discussion and Conclusion

In this paper we aimed to examine how management educators experienced a radical change in the milieu they were performing, its impact on their ecological knowing and their strategies to adapt themselves in the new ecology. Wacquant (2005) argues that it's important to study "the reality and potency of carnal know-how, the bottom-up, visceral grasp of the social world" (p. 3) to understand people's sensorial experience of their lives and work. Unfortunately, to date, the carnal know-how have mostly been explored in professions that engage "skillful hands" and "clever brains" (Schumacher, 2011, p. 27), such as such as cooking (Stierand, 2015), acting and manufacturing (Butler and Cunliffe, 2023), music (Rojas, 2015), surgery (Hindmarsh and Pilnick, 2007), and watchmaking (Raffaelli, 2019). Teaching, despite being a profession that requires "anticipation, judgement, imagination, and sensitivity to our surroundings" (Butler and Cunliffe, 2023, p. 19) has not received empirical attention to understand the fusion of technique and sensorality in its work performance.

Our first contribution to the literature is through capturing the embeddedness and responsiveness of teaching as a living activity in which educators have a holistic sense of their relationship with the social and material environment within which they teach. This is particularly important to advance research on online teaching and learning, which has been overwhelmingly driven by Cartesian models of knowledge and information processing, and therefore, failed to understand pedagogy as "embodied" (Shapiro, 1994) that involves some body teaching some body (Ungar, 1986). Consequently, the desire to teach (and to learn) have been rendered as merely cerebral, with little recognition of the visceral, multisensorial and relational aspects of online teaching.

Drawing on the concept of ecological knowing, our findings suggest that while formal knowledge of subject content, pedagogy and pedagogical tools, including digital, are important, the skilful performance of teaching implies an intimate, fluid engagement and knowing with the milieu, i.e., the social and material work environment. In this respect, online teaching uproots educators from the milieu that their ecological knowing is tied to plants them into a milieu that feels alien. This is where our second contribution lies. In their original conceptualisation of ecological knowing, Butler and Cunliffe (2023, p. 8) argued that it "develops as one engages in an activity, experiences and learns from its nuances over time". However, our findings extend their argument to underscore the importance of not only the activity, but also of the place and space within which the activity is performed. Teaching is a "place-event" (Pink, 2011) with a complex ecology. In this regard, online teaching, despite still being mainly a teaching event, significantly alters the nexus of things, and their relations, that

make up that ecology. Its skilful performance is thus much more than knowing the technical feats of online teaching, for example, being able to create digital content or using different digital tools. It involves our ability to feel, to sense through our bodies and to attune our performance to the social and material environment. In an online environment where sensory information is limited, and visual and auditory input is constrained to what is mediated through the webcam and microphone, teaching requires a different form of mastery associated with knowing, judging and working with different sensitive-aesthetic cues. This knowing, as with the ecological knowing required for in-person teaching, is learned in and through time that affords competence and fluency of movement during online teaching. This was what our participants lacked: the evolving mastery that is learned and realised by observing, interacting and improvising in online classroom environments.

Furthermore, we argue that affective processes that educators have gone through in online teaching were different from those they experienced in the physical classroom. The "knowing body"'s knowledge also contains traces of affective processes from previous practice which help educators to make meaning out of phenomena (Bispo and Gherardi, 2019) and inform their present and future practice. Although the criticality of affective attitude (capacity to affect and be affected) has been underlined as a key to embodied practice (Bispo and Gherardi, 2019) in the existing literature, its role in emplaced activities has been overlooked. Our research, with its conceptualisation of online teaching as a "place-event" (Pink, 2011) sensitises us to the disruption in affective processes that accompany the move from the physical classroom to the online classroom. In the new milieu of online education, educators have lost the affective traces they have accumulated that shaped their perception, judgement and action in their classroom practices. Increased experimentation and practice in the new milieu afford them with opportunities to build a new local knowledge schema, specific to the materialities and relationalities of the online classroom, that will, over time, contribute to the ecological knowing necessary to skilfully perform in the new milieu.

For these reasons, we conclude that ecological knowing is "sticky" (Szulanski, 1996) making the skills educators rely on in their teaching difficult to transfer from the physical classroom to the online environment, and vice versa. Lack of prior-related ecological knowledge required for skilful work performance in a given milieu, as well as the different nature of relations that exist within it, is likely to create barriers to ecological knowing, even if we assume that the educators recognise the value of building new knowing and are motivated to do so. We highlight that without an awareness and understanding of teaching as an embodied and emplaced activity, the good intentions of online pedagogies that will maximise educator skills and competence may remain just as mere good intentions.

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