Fractured academic space: Digital literacy and the COVID-19 pandemic

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Title: Fractured academic space: Digital literacy and the COVID-19 pandemic.

Structured Abstract

Purpose: The study focused on information literacy practices, specifically on how higher education staff managed the transition from established and routinised in-person teaching, learning, and working practices to institutionally mandated remote or hybrid working patterns during the COVID-19 pandemic.

Design/methodology/approach: The qualitative study forms part of a broader research project examining how information literacy and information practices unfolded during the COVID-19 pandemic. Phase three of this project, which forms the subject of this paper, employed semi-structured interviews to explore the impact of COVID-19 on the workplace and, in particular, the role that digital technologies play in enabling or constraining information literacy practices necessary for the operationalisation of work.

Findings: The complexities of the COVID-19 pandemic precipitated a fracturing of workplace information environments and worker information landscapes by disrupting all aspects of academic life. The study recognises that while the practice of information literacy is predicated on access to modalities of information, it is also shaped by material conditions. This has implications for digital literacy which, in attempting to set itself apart from information literacy practice, has negated the significant role that the body and the corporeal modality play as important sources of information that enable transition to occur. In relation to information resilience, the bridging concept of fracture has enabled us to consider the informational impact of crisis and transition on people's information experiences and their capacity to learn to go on when faced with precarity. The concept of grief is introduced into the analysis.

Originality: Original research paper

Introduction

The ongoing COVID-19 pandemic represents a significant pivot in the way workplaces operate and the way in which people wish to work. In March 2020, UK employees who were not classified as keyworkers were required to work from home wherever possible (ONS, 2020). This advice lasted until January 2022 (Gov.uk, 2022) when employees were strongly encouraged to return to in-person working. While many workplaces have now resumed pre-COVID-19 working conditions, numerous others have adopted a hybrid or flexible approach to employment wherein employees split their time between working at home and working at the office (CIPD, 2022). These moves to remote and then hybrid working represent a significant shift in the operationalisation of work and ways of working. When viewed from an information perspective, they may also represent a fracturing of instrumental and social information environments that have been established over many years. Impacting on people's intersubjectively and subjectively formed information landscapes, the rupturing of established practices further requires the development of an information resilient response, which is defined as "learning how to enter, map and navigate new environments, creating communal relationships with others in order to draw from internal and external banks of knowledge, of sharing information, and in turn, developing shared understandings and meanings" (Lloyd 2015, p.1030).

The study reported here forms part of a broader research project examining how information literacy and information practices unfolded during the COVID-19 pandemic. Previous phases have explored the initial COVID-19 lockdown as well as hesitation in relation to the COVID-19 vaccine (Lloyd & Hicks, 2020, 2021, 2022; Hicks & Lloyd , 2022).

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Phase three of this project, which forms the subject of this paper, focuses on the impact of COVID-19 on the workplace and, in particular, the role that digital technologies play in enabling or constraining information literacy practices necessary for the operationalisation of work. These questions will be explored through an examination of the experiences of UK-based higher education academics and professionals, who were suddenly forced to accommodate the shift to working online. To this end, the research questions that drive this phase of the research project include:

- What are the requirements of information literacy within the accelerated technological imperative of the COVID-19 pandemic landscape?
- How is information resilience developed?

In asking these questions, we conceptualise information literacy as a complex social practice that references situated and contextual ways of knowing (Lloyd, 2017). Composed of activities and skills that support access to formal and informal sites of knowledge, information literacy is understood as embodied, material, and relational rather than something that is attained. We further conceptualise digital literacy as one of the many "literacies of information" (Lloyd, 2017) rather than as a standalone concept. Centring information rather than more visible enactments of material practice, this definition positions digital literacy as socially shaped rather than, as is often assumed, a set of individual technology-focused skills and competencies (e.g., JISC, 2014).

Literature Review
Home and mobile working
Library and Information Studies (LIS) research into the role that information and information activities play within home and remote working originates in the early 2000s, when the concept of teleworking was still relatively rare (e.g., Fulton, 2000, 2002). Since then, studies have kept abreast of changes within modern working environments, including cuts in corporate office space and the improvement of home internet speeds, to encompass studies of mobile working (e.g., Jarrahi & Thomson, 2017) as well as 'nomadic' workplace practices (e.g., Al-Hadi & Al-Aufi, 2019; Nash, Jarrahi & Sutherland, 2021). This means that research has built upon initial preoccupations with access to physical information sources (e.g., Fulton, 2000, 2002) to draw attention to the articulation or coordinating information work in which mobile workers engage (Al-Hadi & Al-Aufi, 2019; Jarrahi & Thomson, 2017; Nash, Jarrahi & Sutherland, 2021), as well as the role that a physical environment plays in shaping information interactions (Nash, Jarrahi & Sutherland, 2021). Social concerns also play an important part in this research, including how to 'stay in the loop,' and how to remain visible with remotely situated co-workers (Jarrahi & Thomson, 2017). In contrast, few studies have examined how information literacy is implicated within mobile or remote employment contexts despite the prominence of workplace information literacy research (e.g., Inskip, 2014). While Jarrahi and Thomson (2017) acknowledge that expert mobile knowledge practices form a "knowing in practice" there is little examination of how these workers develop this expertise.

The impact of COVID 19 on working practices has become a topic of research including the initial shift to remote working (e.g., Adisa et al., 2021; Aidla et al., 2021; Delfino & Van der Kolk, 2021; Nicol et al., 2022), onboarding and socialisation periods of new employees during this time (e.g., Woo et al., 2022; Willson et al., 2022) and ongoing considerations related to the return to in-person working (e.g., Wilf, 2022). Still predominantly focusing on white collar working practices, these studies acknowledge the major impact of the pandemic on access to social information modalities, including the

growth in virtual meetings (Adisa et al., 2021). In relation to onboarding, Woo et al (2022) note that new employees were forced to mediate various information-related challenges as part of this process, including figuring out workplace relationships and (un)acceptable behaviours. In contrast, the established workers in Aidla et al's (2021) study of office life stated that they felt just as informed about the workplace as before the pandemic. Furthermore, research examining analysis of comments in a New York Times article about remote working demonstrates that many employees actively reject the claim that physical co-presence is necessary for "free and serendipitous information flow" (Wilf, 2022, p.56). Referring to the assumption that organisational creativity is uniquely linked to informal and embodied knowledge practices, this paper argues that pre-pandemic open-plan workspaces often constrained productivity and collegiality by jeopardising everyday work and exhausting employees both mentally and physically (also see Ahmadpoor Samani et al., 2017; Wilf, 2020). These mixed accounts indicate the need for further research.

The work of higher education

Research into the work practices of academics within higher education abounds within LIS, with Case and Given (2016) dedicating almost 20 pages to summarising scholarship that examines how science, social science and humanities scholars seek information. These studies emphasise the field's origins in library needs analyses and are predominantly limited to an examination of research activities rather than other organisational or performative aspects of academics' roles. In contrast, studies of other higher education professionals, including librarians and professional services staff, have been more limited. Exceptions include a handful of critiques related to librarian working conditions, including related to information sharing (Galoozis, 2014) and emotional/affective labour (e.g., Sloniowski, 2016). Information literacy scholarship has also tended to avoid studying the professional context of higher education with Bruce's (1999) study of university staff, including counsellors, IT professionals and staff developers, remaining one of the few pieces of research to explore how information is implicated in daily campus work practices. While the study is now dated, findings that note the importance of collaboration and partnerships are replicated in Tötterman and Widén-Wulff (2007) and Middleton and Hall (2021), which state that a strong knowledge sharing culture is key to resilient and innovative working practice.

Research that specifically examines the impact of COVID-19 on higher education explores how workers have adjusted to the COVID-19 workplace, including professional services staff (e.g., Watermeyer et al., 2022), learning technologists (Watermeyer et al., 2021) and academics (Karatuna et al., 2022; Kennedy, Oliver & Littlejohn, 2022; McGaughey et al., 2021; Rode, Kennedy & Littlejohn, 2022; Stadtlander & Sickel, 2021). Almost universally noting increased workloads, these studies nonetheless tend to focus on cultural and organisational change rather than how information practices have adjusted through the shift to online and hybrid employment. An exception is Watermeyer et al. (2022), whose study of academics notes that remote working resulted in a more formalised information environment, including less 'fun' interactions with colleagues and a decline in "spontaneous and unscripted work." Notwithstanding, professional services staff, who have historically been denied the opportunity for remote working, also stated that working from home led to a sense of being 'more informed', both because of transformations in meeting management and opportunities for reflection (Watermeyer et al., 2022).

In contrast, difficulties resulting from a lack of communication were picked up in Karatuna et al (2022)'s study of academics, who noted that not being able to see a "glow" of interest in a colleague's eye proved to be one of the biggest barriers to remote working. Similar difficulties were noted by Kennedy et al., (2022) whose study of teaching staff highlighted the impossibility of keeping track of students' body language in an online setting.

Yet research has tended to overlook the strategies that higher education staff developed to mediate these issues beyond Stadtlander and Sickel's (2021) recognition that many academics developed "guru-like" organisational techniques to deal with challenges they faced. One exception is work by Willson et al (2022), who note that early career academics started to avoid and reprioritise information to mediate the amount of incorrect information being circulated. This subsequently led to difficulties finding information that was critical to everyday working practice. However, to date there has been little focus on the impact that technological shifts have upon HE workplace information practices as well as the ensuring implications for digital literacy.

Methods

The methodology for this study was reported extensively in Phase One of this study (X&X, 2021). To summarise, this study employed a qualitative methodology and the constant comparative techniques of constructivist grounded theory to interrogate information literacy requirements within the COVID-19 working landscape. This methodology was selected to access "multiple, processual and constructed" social realities (Charmaz, 2014, p.13) or meaningful themes and perspectives in pandemic information access and use.

Semi-structured interviews were carried out online from February-May 2022 after the UK workforce has been encouraged to return to face-to-face working. Interview questions centred on modifications to teaching, research or administrative practice during the 2020-2022 period, including individual and collaborative forms of working, home and hybrid working arrangements and the changing use of technology within the Higher Education sector. Interviews took place through an end-to-end encrypted video conferencing tool and lasted between 35 and 60 minutes. Interviews were audio-recorded and professionally transcribed.

Participants were recruited via researcher and institutional social media accounts as well as through a snowball sampling method. Ten participants took part in the workplace phase of the research, including five women and five men. Interview data from Phases one and two were also reviewed by both researchers for areas related to workplace participation before inclusion in the sample. Participants were recruited from a range of higher education institutions around the UK, including research intensive, professional, and vocational programmes. Participants represented a wide variety of ages, higher education roles, disciplines, and positions. All respondents had engaged in a variety of teaching, research or administrative tasks during the pandemic but only one participant had prior experience of online working. All participants had engaged in various remote and hybrid working permutations over the pandemic period, with most working remotely for the 2020-2021 period and returning to a more hybrid configuration for the 2021-2022 academic year.

Data were coded using constant comparative techniques associated with grounded theory (Charmaz, 2014). Each researcher carried out individual coding of the transcripts before coming together to perform a joint analysis in a series of online sessions. Limitations of this study include the relatively small number of participants in the Phase Three study, which was linked, in part, to the coincidence of the recruitment period with a series of strikes within the higher education sector. There were also fewer respondents from a science-based university context or in an administrative role.

Findings

In the workplace, the complexities of the COVID-19 pandemic precipitated a fracturing of workplace information environments and worker information landscapes by disrupting all aspects of academic life. This fracturing, which was shaped by feelings of loss and grief, was exacerbated by accelerated and intensified information flows, which disturbed established

discourses. These flows also shifted a reliance on established informal or observational forms of information gathering to instrumental or epistemic information sources, including new rules and regulations. Accelerated changes that impacted on workers' ability to map information landscapes subsequently helped to establish the conditions for precarity, uncertainty and the need to become information resilient.

Key Themes
Fracture
From an information perspective, transition into the new workspaces is precipitated by the fracturing of information environments. In turn, these ruptures challenge established information landscapes (Lloyd, 2017). The concept of fracture represents a bridging concept that references the disconnection that occurs when people become untethered from "the normative contexts and reference points associated with their established communities, institutions, organisations and practices" (Lloyd, 2017, p.40). Fracture also provokes feelings of grief as people are forced to contemplate loss of established ways of knowing.

In the pandemic context, fracture is associated with a sudden unloosening from institutional discourses as universities grapple with changing governmental directives related to work and education. The rapid pivot from face-to-face to online teaching, for example, results in the exponential increase of meetings due to the shattering of shared expectations about teaching arrangements:

> "We had loads and loads and loads more meetings about how we were
> actually going to do the teaching… It was just so intensive and exhausting,
> actually" (Participant K)

This sense of fracture is intensified as important decisions become rushed (Participants A, B, C), which further distances participants from established paths, nodes, and edges within their information landscapes:

> "It's made it more difficult to do certain things. So, I think in terms of
> education, it's much more fractured and less easy to get a clarification of
> what we're doing" (Participant E).

Rapid changes also fracture social relationships, which leads to an upsetting sense of precarity or insecurity that participants are suddenly unable to reconcile:

> "I think it's harmed, quite obviously, your kind of co-worker relationships in
> that kind of way. It's fragmented that, you know?" (Participant E).

The fracturing of information landscapes subsequently establishes the conditions for transition as participants are forced to engage with emerging institutional discourses related to the COVID-19 environment.

Transition
Transition provides the underlying analytical concept that weaves through this study as higher education professionals adjust from predominantly face-to-face engagement to remote and then blended modes of activity. Within this framing, transition is catalysed by sudden uncertainty about established ways of working and knowing, which produces a sense of disconcerting precarity and insecurity. This is intensified by the multiplicity of transitions

that participants note during this time, including the initial shift to pandemic working and, subsequently, the return to blended or on-campus life.

The sudden shift to online working marks the initial transitional period for higher education professionals. On the surface, a transition to technologically created spaces for teaching, learning and everyday working represents a veneer of normality or a continuation of typical work practice, particularly as most participants indicate high levels of technical comfort with online communication and collaboration tools. However, in reality, these shifts are characterised as "lifechanging" (Participant K) or a "major change in all aspects of the job" (Participant A) due to the alterations in the semantic, material/economic and social/cultural spaces of this environment. Forcing participants to reconcile theoretical understandings of workflow with new practical requirements, this transition also requires increased and more intensive information work to problem solve:

> "It was so different to what we were used to doing, and… we had this square peg of stuff that we needed to fit into this round hole" (Participant K)

Providing a vivid illustration of the painful complexity that participants face within the transition to lockdown learning, the scale and extent of these barriers also suggests that they cannot merely be resolved through critical thinking, a concept that is frequently (and problematically) often associated with information literacy.

Transition into new working environments is further complicated for participants who started a new role during the pandemic (Participants C, G, J). Required to suddenly navigate new systems and ways of doing things when they have not yet had the opportunity to build an understanding of new information environments, new employees must also manage these demands at a time when typical onboarding support structures may be less available:

> "I didn't really know what the wellbeing options were, and I didn't know what the extensions policies were, so getting to know that is difficult to do and time-consuming, and people that are still at an institution for a long time forget how difficult it is to learn those outside-of-the-department features of university" (Participant J)

Pressures are further intensified by the inability to recognise the differences between pre-pandemic and pandemic practice:

> "It's really odd, like, speaking to my boss, and I have to keep saying, "Is this normal or is this a COVID thing?" because I don't know because I haven't done it before" (Participant C).

Catalysing the need to check and confirm information with more established members of staff, transition is further complicated in this context by disconnection with the physical space, which limits opportunities to liaise with and ask questions of peers and colleagues.

Participants indicate that they are then forced to transition again when they return to campus, particularly when unexpected material changes to their working environments make the resumption of in-person work less straightforward than expected. Numerous participants, for example, note that their universities took advantage of the pandemic to implement organisational or estate modifications, including removing dedicated departmental space (Participants C, E, G, K) or merging departments and programmes (Participant D). Impacting transition by challenging the "practicalities" (Participant E) of office life, these shifts return

participants to a sense of <mark>discouraging precarity</mark> by replacing collaborations that are so key to information acquisition, sharing and exchange with onerous workarounds:

> "The main issue was that you couldn't tell on the system who else was booked to go in that day, which is the only reason I would go in, is if there were other people there. So, then it was, like, I'm going to have to tell the whole team, see what days people are going in and then book the same day" (Participant C)

> "Everyone feels orphaned because we lost – we had this building; we had a floor on the building… I don't know what my job is anymore. I don't know what I'm doing" (Participant G)

Changes in the semantic space and the material practices of higher education illustrates that transition is marked by the need to reconcile established ways of knowing and practising with those of rapidly altering workplace environments. More broadly, the sense of frustration and sadness expressed in these quotes also demonstrates how transitions are marked, for some participants, by a sense of grief for the loss of established ways of working and the rapid shift that is needed to accommodate emerging landscapes of practice.

Acceleration
Transition to and from pandemic working is also marked by acceleration, including a sense of urgency and less time for typical roles and activities as participants adapt to sudden shifts in working practice. Further accelerated by the affordances of technology (Rosa, 2015; Wajcman & Dodd 2016), these changes to pandemic working spaces impact information seeking and sharing opportunities as well as forcing the development of additional information management techniques. At the same time, changes in requirements related to physical presence meant that the pandemic also de-accelerates certain aspects of the workplace.

Speed and acceleration forms one of the constant backdrops to the shift to pandemic working. At the outset of the pandemic, participants commented on the need to enact "rushed" plans (Participant C) or to make decisions "on the hoof" (Participant A), activities that demand a continual checking of information with others as well as keeping up with emerging developments. As the pandemic progresses, however, this initial sense of urgency becomes even more intensified as technology becomes further inculcated within the working environment. Increasing both the speed and the means of communication, the growing reliance on technology contributes to a feeling of always being available (Participants A, B, D) as boundaries between work, lunch (Participant D) and the home (Participants A, B, D) become eroded. This expansion of the working day consequently leads to feelings of information overload, a sentiment that is further intensified by the increased integration of personal devices into work contexts as participants try to recreate a missing sense of collegiality and collaboration.

Acceleration further <mark>contributes to feelings of loss by minimising opportunities for interaction, which impacts the construction and maintenance of sociality</mark>. As Participant K points out, an increased reliance on technology for teaching, learning and everyday work impacts the lived working space by shrinking time and space as well as expanding it:

> "You would be walking between buildings; all that's gone. You might bump into somebody in the corridor; all of that's gone. So, there's no sort of – very little chit-chat or – you know, you'd sort of pick things up word-of-mouth" (Participant K)

Impacting the establishment and maintenance of relationships, the reduction in physical space also decreases opportunities for incidental information seeking, which further diminishes the collective sharing necessary for intersubjectivity. Collaboration is also stymied by the increased workload that technology brings, including the need to disseminate information to students and accreditors (Participants D, H, K) and carry out additional preparation for online teaching activities:

> "You're asking us to monitor forums, you're asking us to put up things on slides. The prep time for the sessions will be increased" (Participant G).

> "I spent six hours straight off recording stuff which is not the way to do things" (Participant K).

Often accompanied by advice to deprioritise research in favour of teaching (Participants A, H), the intensified use of the technological space coupled with instrumental acceleration reduces the opportunity for reflection on practice, another important loss to working life.

In response, participants start to develop techniques to help them manage the impact of an accelerated information environment, including by cutting back or deleting intrusive technologies, including email apps (Participant E) in favour of more bounded means of engagement, such as calling people on the phone (Participant H). Participants also focus on developing more efficient ways of accessing information, such as by asking colleagues for advice in a WhatsApp group rather than taking the time to battle official channels (Participant B) or avoiding travelling into campus for a meeting when they otherwise did not have any other appointments (Participant B). All these shifts have important implications for information literacy.

Shifting from informal to instrumental information
A notable outcome of the shift to pandemic working is the increased formalisation of the workplace, which is represented by the jump that all participants note in the number of online meetings between colleagues and co-workers (also noted by Watermeyer et al. (2022)). While these meetings permit the dissemination and sharing of information, the platforms that tend to be used in higher education, including Zoom and Microsoft Teams, create a very formal structure for these interactions. The transition to technologically driven spaces consequently changes the semantic space by foregrounding the exchange of instrumental rather than incidental and serendipitous information:

> "We just pop into each other's office and that, but because we couldn't do that anymore… we had loads and loads and loads more meetings about how we were actually going to do the teaching. Like the actual nitty-gritty of really planning down almost to the minutes, and how everything we wanted to do was going to relate to the assignment" (Participant K)

The loss of serendipitous and informal information is intensified by the deliberateness of online interactions, which, unlike face-to-face interactions, typically require encounters to be set up in advance. Information-sharing is also forfeited through the decreased opportunities to build the trust that is needed for productive working relationships, including research collaborations, something that is also noted by Karatuna et al (2022):

> "I mean, that was really hard; that's still hard to set up, because you don't

have the – kind of the water-cooler conversations with people that – to get to know who they are, what they're working on, whether or not you think you work well with them, how your work could meaningfully come together" (Participant J)

In turn, the ==disappearance== of opportunities for informal or spontaneous conversations means that opportunities to exchange tacit workplace information were ==regrettably== reduced:

"Missing out with the chats with people where other students say, "Well I skipped that bit." As staff, we were saying, "Skip that bit," and people didn't believe us" (Participant H)

As the pandemic progresses, some attempt to re-establish opportunities for informal conversation is made, using non-university approved technological tools for private conversation spaces, for example texting and WhatsApp. Forming spaces in which participants check and confirm information with colleagues, these also become mechanisms through which people mediate their frustrations with changes to working environments to each other:

"So, we started texting each other in these meetings – naughty schoolchildren, you know. "What's he on about now? What's… – so is this right?" "That's not true; I heard something else." So, there's this whole – there's this kind of hinterland of different stuff going on" (Participant K)

While helping to build morale ==that stands in opposition to the losses that staff are facing==, these interactions are, nonetheless, often imbued with a sense of wrongdoing or furtiveness (Participants E, G, K). This is primarily because in operating outside the protocol of the formal meeting, the conversations they support are less 'transparent.' Interestingly, issues are not helped by the shift to open plan offices, which is seen to create rather than remove barriers to spontaneous or informal exchange of information (Participants E, K), an issue also highlighted by Wilf (2022).

Physicality
Physicality forms another important theme of the shift to lockdown work practice, both in terms of the loss of physical information as well as an intensified reliance on the few remaining opportunities to engage with corporeal information. Accessed through observational practices, which enables participants to build an understanding of new workplace etiquette, physical information is also referenced in the changes that participants note in their own bodies as they adjust to a more sedentary lifestyle.

The sudden loss of physical information proves to be one of the hardest challenges in the switch to technology-mediated work practices. While physical interaction may have gone unnoticed before the pandemic, participants are swift to recognise how the new technological space limits their ability to access corporeal information upon which they had previously relied. Participant J, for example, found that teaching and learning is immeasurably harder when students decide to keep their cameras off or use them intermittently during online teaching sessions, something that is also noted by Kennedy et al (2022):

"You don't get to know them the same way; you don't get a chance to read body language because they [the students] don't turn their cameras on" (Participant J)

Participants also note how the loss of physical information also disrupts the smooth running of their working day as they find it considerably more challenging to assess and read their colleagues within a digitally defined space:

> "When you come into the room physically you've got a sense of how they're [your colleagues] feeling or what their day is like. Whereas now, you're just instantly, the screen pops up and you're in the meeting and you have kind of no pretext of anything" (Participant F).

The initial misinterpretation of signals, such as the volume of a person's voice (Participant H), also speaks to the challenges that participants face in establishing new online social etiquette.

Observing others subsequently becomes particularly important as participants adjust to new online practices. For some, observing what comes across as rude or disruptive helps them to figure out accepted ways to act within an online space:

> "And I suppose I learned it by seeing people do it poorly... I saw the way they were not learning to mask… things, and that really reinforced for me how I needed to do it, because they were very distracting, didn't turn their microphones off, didn't understand when to speak and when to be quiet" (Participant J).

For newcomers, observing also plays a key role in their socialisation process as they became aware of established local community norms related to the use of specific features within online meeting tools, including chat, camera, mute and hands up functionality (also noted by Woo et al (2022)). Observing others' bodies also helps participants to establish more informal ways of being online, such as "how not to look distracted when you're clearly not paying attention" (Participant J). Finally, participants also observe changes to their own bodies, particularly as different parts of their physical form come under stress, including back, shoulders and eyes (Participants C, F, J, K). Illustrating how participants are modified and altered during the online lockdown periods, physical strains also speak to how the pandemic makes the material shape of educational labour more visible.

Discussion

Participants in this study highlight that the complex conditions created by the Covid-19 pandemic fracture the established information environments that influence ways of knowing and working. This is particularly apparent as semantic and material spaces are splintered by rapid changes in university discourse about teaching, learning and research practices. Within this redefined academic space, the imperative of information literacy practice is to sift through changes to information dissemination and material and physical conditions to re-establish information landscapes.

During the pandemic, the operationalisation of work occurs within rapid institutional and technical acceleration which, in turn, swiftly alters the way in which information practices associated with academic teaching and learning play out. Rosa (2015) refers to this as "the circle of acceleration" whereby technical acceleration increases the pace of social change. In the context of this study, social change is evidenced through the shift in information practices and marked by the increased use of online communication platforms, reduced social contact with peers and a shift in power relations. This period of technological and information acceleration subsequently creates the conditions for precarity and uncertainty through information saturation (Lloyd & Hicks, 2021) that is linked to the increase of technology platforms used within higher education work. At a social level, the inability to

access information at the moment of practice (Bonner & Lloyd, 2011) or via informal routes that afford opportunities for information sharing impacts on participants' ability to shape their pandemic working landscapes. It also causes them to rely heavily on institutional discourses or messaging about working online, which increases participants' sense of precarity.

Importantly, reduced access to the corporeal modality reinforces how physical information is a vital source of information for academic teaching practice. The recognition that the corporeal is a primary rather than secondary source of information for teaching and learning practices has long been advocated by Lloyd (2004, 2009, 2017). In previous work, Lloyd has argued that the body references the materiality of our practice and provides central cues about place, identity, practice understanding and knowledge of the information landscape. In the present study, the silencing of the corporeal (by technology or institutional knowledge claims) impacts on participants' ability to gain access to embodied or nuanced knowledge about practice (Lloyd, 2004).

How does information resilience develop? In the context of the pandemic, academic workplace information resilience plays out in participants' awareness of the changing information environment and their attempts to reconcile their established information landscapes with these shifts. Information resilience is also marked by an identification of the affordances of changing workplace practices that reduce a sense of precarity. The need to draw upon funds of social capital and connect with other employees to pool and share information about the changing workplace landscape subsequently acts to reorient participants towards new institutional teaching and learning discourses and to accommodate this new knowledge. The capacity to reconcile changing information environments has been identified in other contexts, such as firefighters' transition from novice to expert (Lloyd, 2009); nurses' attempts to reconcile the art and craft of nursing knowledge (Bonner & Lloyd, 2011); and resettling refugees' attempts to map out their new information landscapes (Lloyd, 2015). All these studies demonstrate that in a time of rapid (technological) change, participants construct information resilient practices by learning how to enter, navigate, and map new everyday environments.

Nonetheless, the abrupt shape of fracture as well as the extent of its impact draws attention to how, unlike some academic transitions, these rapid shifts are also marked by a sense of loss as people are suddenly and unexpectedly cut off from life as they know it. The sorrow that participants express throughout these interviews lead us to suggest that the transition to remote and then hybrid working is marked by a sense of grief as people start to become aware of what has been lost as well as the unwanted situation that has become. Grief is a complex topic and bereavement constitutes a complex transition in itself. However, the disruption that the pivot to online working occasions indicates that any transition may be accompanied by a sense of loss as people deal with the "passage from one life phase, condition, or status to another" (Chick & Meleis, 1986, p.239). Within information research to date, transition has generally been studied as forward focused; information activities help people to anticipate and prepare for where they are going (Allard & Caidi, 2018) and who they are becoming (Bronstein, 2018; Hicks, 2019). Less emphasis, however, has been paid to what people leave behind and, importantly, the information work that these losses may engender. While loss has often been hinted at obliquely through the recognition that people must work to reconcile new and existing information practices, there has been little emphasis on how information work may constitute grief work. Exploring transitions through the lens of loss consequently paints a more nuanced picture of adaptation to change as well as extending understandings about how experiences of grief are informed.

Within the context of this study, participants mediate the demise of established ways of knowing through what grief theory has labelled as restorative and loss-focused approaches to coping (Stroebe & Schut, 2001). Within the restorative approach, emphasis is placed on

how people reorient themselves in a changed world, or how they rethink and replan their lives after the original bereavement (Gross, 2016, p.55). During the pandemic, participants adopt a restorative approach to loss through the work they do to reconcile existing and emerging ways of knowing, including mastering new tasks and reorganising social affairs (Stroebe & Schut, 2001), which helps them to adjust to new roles and structures. In contrast, a loss orientation focuses on processing the experience of grief itself, including facing or reflecting on the deprivation. While the emphasis on the past might seem removed from typical information work, the sense of disorientation and confusion that participants express could be seen as an important acknowledgement of the impact that the disappearance of taken-for-granted truths about the world has upon them (Gross, 2016, p.50). Lamenting the disappearance of physical interactions with colleagues might further represent a recognition of the effect that the diminishing of social support systems has upon familiar ways of operating. Focusing attention on the fracture itself, the emphasis on loss mediates transition by recognising and honouring the importance of prior bonds as well as the change that dispossession brings to social worlds. Further work will explore these ideas in more detail.

Lastly, fracture and the technological and information acceleration noted within this study has various implications for digital literacy, which has remained relatively uncritiqued within LIS research. From an early focus on computer literacy (Onyancha, 2020) to more recent work integrating metaliteracy (Mackey & Jacobson, 2011) into standardised models of practice, the digital has long been seen as irrevocably entwined with information literacy practice. Within this framing, digital literacy is generally referred to as a set of hard or soft, basic or advanced skills related to the manipulation of digital tools, including computers and the internet (Bawden, 2008; Julien, 2015). From the perspective of this study, participants' difficulties adjusting to online working could be seen as evidence for a lack of digital literacy skills, a charge that has often been levelled at HE workers (e.g., Udeogalanya, 2022). However, participant issues with Zoom or Teams, for example, demonstrate that the issue lies with the need to acclimate to the disembodied and formalised information environments that video conferencing tools engender instead of digital functionality. Speaking to "the intertwined nature of analogue and digital literacy practices," these observations illustrate how typical conceptions of digital literacy remain fixated on decontextualised representations of practice wherein the tool is presumed to be at the command of the user (Gourlay, 2022, p.3). The recognition that there is a negative consequence associated with the use of digital tools, including the loss of valued social connections and practices, further indicates how a reluctance to engage with technology cannot merely be seen as regressive (cf. Eynon, 2021).

Conclusion

The COVID-19 pandemic has presented a unique opportunity to investigate how information literacy practices were shaped during a time of crisis; the conditions that enable and constrain them; and the information work that is required to support ways of knowing that have become challenged as people transition into risk-driven information environments. This study focused more specifically on how higher education staff managed the transition from established and routinised in-person teaching, learning, and working practices to institutionally mandated remote or hybrid working patterns. Our first research question focused on the intensified technological imperative that pervaded higher education in 2020-2021. The second research question attempted to examine how information resilience was developed in response to the challenges of this new working environment. The period of study allowed us to identify and start to understand the complexity of people's experiences of information at a time of risk and unfolding uncertainty.

In relation to the technological imperative, the study recognises that while the practice of information literacy is predicated on access to modalities of information, it is also shaped

by material conditions. In the present study, we focused on how the technological imperative drove information literacy practice, illustrating that while technology can enable information literacy, it can also act to constrain it. This has implications for digital literacy which, in attempting to set itself apart from information literacy practice, has negated the significant role that the body and the corporeal modality play as important sources of information that enable transition to occur. Digital literacy work must consequently build upon the observations of this study to interrogate current conceptions of digital practice more closely, including the emphasis that continues to be placed on functional and technical skills. As Eynon (2021, p.158) points out, uniquely focusing on operational functionality could be considered exclusionary or even unethical given the complex social and embodied entwining of digital tools within every day and workplace information practice.

Beyond teaching, the impact that the adoption of digital tools has upon working life also speaks to the need to interrogate the techno-utopian narratives that frequently underpin information literacy research and practice. While research has started to explore the impact that 'brave new world' (Gourlay, 2022) technological discourse has upon information literacy, including in relation to user experience (Hicks, Seale & Nicholson, 2022), learning analytics (Jones et al., 2020) and algorithms (Lloyd, 2019; Haider & Sundin, 2021, digital technology still tend to be uncritically centred within information literacy research and practice, including related to disability and accessibility. The recognition that accelerated technological information landscapes can also be seen as minimising opportunities for tacit knowledge sharing also speaks to the need to progress digital literacy research beyond a focus on developing and updating skills and competences. Future work should explore the connections between information and digital literacy in more detail, including how the two could be integrated or brought more closely together.

In relation to information resilience, the bridging concept of fracture has enabled us to consider the informational impact of crisis and transition on people's information experiences and their capacity to learn to go on when faced with precarity (Lloyd, 2022). Within this framing, the concept of information resilience has the potential to provide a focal point and analytical tool for understanding and describing the outcomes of information literacy practice that extend beyond typical skill descriptions. It does this by drawing attention towards the significant role that information literacy has in (re)constructing the knowledges bases, networks, and information landscapes (Lloyd 2022) that operate within formal and informal spaces, and which become disrupted during transition. A similar focus on the regaining of equilibrium can be seen through both the restorative and loss-oriented approaches to grief that are noted within participants' transition to and from remote ways of working. In this respect, the emphasis on information resilience shifts the focus away from traditional views of resilience as 'stretchiness' or bouncing back to focus on the role that information plays in enabling people to reconcile and recreate their information landscapes in time of risk. In this regard, information resilience is about learning to go on or moving forward with newly shaped practices rather than bouncing back.

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