Title

being in place: Embodied information practices

Structured Abstract

Introduction
The concept of embodied information practices and the implications for research and professional practice are examined drawing from the authors’ empirical studies of people engaged in professional and everyday practices. The authors suggest that information behaviour research’s focus on individual cognition has led our field to overlook the important role that embodied practices play in individual and collective sense-making.

Method. Conceptual paper that draws from a number of qualitatively framed research projects, which explore the role of information practices in knowledge construction.

Conclusions. Empirical studies which focus on non-linguistic and embodied practices may appear removed from the Library and Information Science agenda, however these should become increasingly routine, because they provide the research field with a source of information about how people engage with the non-normative aspects of everyday life and learn from others to inform their practices.

Keywords: embodiment, practice theory, corporeal information

Introduction
The concept of embodied information practices and the implications for information research and professional practice are examined in this paper. With some exceptions (Godbold 2013; Lloyd 2007, Lueg 2014, Olsson 2016) few researchers in information science have focused on the nature of embodied information practices or the inherent relationship/connection between embodiment and information, and yet being in place requires that we draw from experiential and social knowledges that are central to everyday performance in all contexts.

Prevailing research in Library and Information Science tends to examine information behaviour, constructed as a problem-focussed, individual, purposive and cognitive process (Savolainen 2007). An implication of this approach to information research has been that embodiment and the body as an important actor and information source has largely been ignored.

In this paper we draw from a more ‘sociologically and contextually oriented line of research’ (Talja, 2005) which ‘shifts the focus away from the behaviour, action, motives and skills of individuals’ (Tuominen, Savolainen & Talja, p 2005, p 339) to focus on the concept of information practices. As an alternative perspective, the information
practices literature acknowledges how people engage and are shaped by existing and ever evolving discourses through social practices. Our view is that knowing and ways of knowing (Lloyd 2010a) occur through the enactments of practice, and this requires an active relationship with the socio-material and symbolic elements that are inherent in practices, and the information landscape created through practising (Lloyd 2010a). It also requires us to understand how shared, practical understanding is derived from becoming/being embodied in context (in situ). Consequently, to know is to be capable of participating with the requisite competence in the complex web of relationships among people, material artefacts and activities (Gherardi 2009, p 118).

As an alternative perspective, ‘information practices’ acknowledges that people are entwined in discourses and constantly encountering pre-existing discourses that enable and constrain social practices. While studies drawing on this have played a valuable role in highlighting the importance of language for information practices, studies considering non-linguistic and embodied practices remain, at this point in time, relatively rare in our field (Lloyd 2010b).

In this paper we will extend the information practices viewpoint by connecting it to understandings drawn from a range of different approaches, including practice theory and Dervin’s Sense-Making. Drawing on the findings of our constructionist empirical studies into fire fighters, renal nurses, patients with chronic illness, theatre professionals and archaeologists, we explore the dynamic, embodied and corporeal sense making processes which are central to a holistic view of information practices. In so doing, we create necessary connections between three key elements of embodied information practices: the social mediation involved in information practices, the iterative and social feedback loops involved in enactive nature of both individual and collective sense-making, and practice theoretic perspectives on the body and enactment. Our aim is to highlight the importance of the corporeal, and contribute to the development of a more holistic approach to understanding the relationship between people and information, that makes the body as information source visible (Lloyd 2007).

Background: Sense-making and information practice
Savolainen (2007) has argued that the dominant information-behaviour discourse has largely focussed its theorising around the purposive information seeking behaviours of discrete individuals. Focusing on individual cognition has led the field to overlook the important role that embodied practices play in individual and collective sense-making.

One early proponent of a more holistic approach was Brenda Dervin, whose Sense-Making methodology explicitly rejects a narrow focus on individual cognition, arguing that sense-making must be seen as:

...embodied in materiality and soaring across time-space ... a body-mind-heart-spirit living in time-space, moving from a past, in a present, to a future, anchored in material conditions; ...(Dervin, 1999, 730)

Sense-making perspectives have been developed by both Dervin (Dervin et. al., 2003) and Weick (1995). Whilst there are many important differences between the two approaches, both emphasise the importance of understanding sense-making’s focus as
an all-of-organism, enactive, collaborative and iterative social process which brings together mind, emotions and body. Their work might therefore be seen as prefiguring many of the concerns raised by the emergent information practices discourse.

**Information practices**

There is a growing corpus of literature in the Library and Information Science field that focuses on information practices from socio-cultural or practice theoretical approaches (Lloyd 2010; McKenzie 2003; Sundin 2008; Savolainen 2008). This discourse acts as a critical alternative to information behaviour, focusing on the intersubjective experiences of people who are acting, working, performing or participating in shared endeavours. Savolainen suggests that this approach ‘shifts the focus away from the behaviour, action, motives and monological individuals. Instead the main attention is directed to them as members of groups and communities that constitute the context of their mundane activities’ (Savolainen 2007, p. 120).

Lloyd provides a holistic view of information practice and of practising, as something that references the ‘social’ and emerges corporeally as ways of knowing in situ - as situated action. She defines information practice as

*An array of information-related activities and skills, constituted, justified and organized through the arrangements of a social site, and mediated socially and materially with the aim of producing shared understanding and mutual agreement about ways of knowing and recognizing how performance is enacted, enabled and constrained in collective situated action. (Lloyd 2011, p. 285)*

This definition treats information practice sociologically and dialogically as emerging from the ‘saying, doing, and relating’ of a context. Practices are prefigured over time (e.g. they are formed and reformed in relation to embodied knowledge) and therefore reflect the various knowledge and ways of knowing in a social setting. This understanding of information practice has been build up over time through an exploration of information literacy as practice. The findings of Lloyd’s study of fire fighters, ambulance officers, nurses, renal patients and refugees indicate that information practices are context specific, and are entwined with a range of modalities (social, corporeal and epistemic) through which information work and performances of a specific setting are referenced. Lloyd’s research has led her to conclude that embodied information practices are rich sites of knowledge in that they:

- are always situated (in situ);
- are expressed corporeally, and central to actors understanding the social and epistemic modalities of the landscape;
- act as site for know-how knowledge, which cannot be effectively expressed in written form (e.g. learning how to recognize an artefact; learning how to write; learning how read a fire);
- are local/nuanced, drawing from expertise in situ and may be contingent and only available at the ‘moment of practice’.

Embodied information practices therefore act as rich sources of information about the social conditions that enable and/or constrain them, allowing us to view embodiment and embodied knowing as central to practical accomplishment. As Gherardi suggests;
Knowledge is not what resides in a person’s head or in books or in data banks. To know is to be capable of participating with the requisite knowledge competence in the complex web of relationship among people material artifacts and activities…On this definition, it follows that knowing in practice is always a practical accomplishment (Gherardi 2008, p. 517).

**Corporeality of embodiment**

The corporeal information experience is central to concept of embodiment, and yet the physical presence and its central role in the co-construction of knowledge is largely silenced and remains uncoupled by the persistent duality of mind/body split in the library and information science field (Lloyd 2007; 2014). Our contention here is that that body should not be viewed as an absent presence (Shilling 2012) but as a point of reference for the visible enactment of knowing situatedness. Acknowledging the body’s role as a central source of information about performance has implications for understanding how and why things happen.

Outside the Library and Information Science field, the concept of the body, corporeality and embodiment is well established and represented through a number of theoretical frames. Dewey (1939) argued for the social body as part of the learning process. Merleau-Ponty (1962) contended that the body represented the centre of experience and therefore should be viewed as a storehouse of information and understanding. O’Loughlin (1998) suggests: “The body is the inscribed surface of events; it is a text to be decoded and read - a locus of production, the site of contested meaning’ (p.276). Foucault (1979) views the body as holding the inscriptions of organisational regimes, which reflect the institution through regulatory discourse and symbolic processes. Goffman (1983) takes up the concept of the socially inscribed signifier body (1983) and suggests that the body is central in the generation of meaning, by creating the visual clues about performances (i.e. roles, activities) that can lead to the construction of a shared vocabulary that enables embodied knowing. The concept of embodiment has been identified by Nagatomo (1992) as knowledge residing within and through the body. Drawing on her research in education, Davis (1997) describes embodiment as experience or social practice in concrete social, cultural and historical contexts, and bodies are therefore not only subject to external agency, but also influenced by “agents in their own social construction’” (p.15). O’Loughlin (1998) argues that the ‘body and self do not stand in a relation of owner/occupier; rather, the body is itself both communicative and active’ (p. 279). The centrality of corporeal information to embodied practices and practice-based learning was highlighted by Yakhlef (2010) who suggests that the body is the connection between the social and material worlds, and is therefore central to ‘learning and knowing’ (p.409).

In the practice field, embodiment and corporeal information are central to understanding practice as a social site, where bodies are viewed as referencing the nature of practice (social site), the performance of work and the demonstration of practical- reasoning and know-how. In highlighting the role of the body, Schatzki (1996, p.44) states ‘that it is through the performance of bodily actions that the performance of other actions is constituted or effected’. In discussing the relationship that exists between knowledge
and practice, Gherardi (2009) argues ‘that not only do people work with bodies, they also know through them’ (p.354).

The notion that the bodies are central to knowing, suggests that they are central to knowledge construction and not just an absent or silenced presence (Shilling 2012). The following section we describe our various studies, which draw attention to the body and embodied information practices as sources of information and sites of knowledge.

**Corporeal experiences of renal care nurses and refugees**

The theme of embodiment has been central to Lloyd’s work (2010), emerging from her early work with fire fighters, and then further described in research with Ambulance officers, nurses, and patients suffering from chronic illness, and more recently in relation to health literacy and refugee information use. Two central questions that interest and influence Lloyd’s work in this area have been how does the body and the bodies of others act as an information source? And, how do we bring the body into focus, as the subject of research in the field? For Lloyd, the corporeal modality is central to the formation of an information landscape and acts as to entwine social and epistemic sites, enabling actors to become emplaced (2007; 2010). The concept is therefore central to understanding the enactment of information practice.

Embodiment has been explored and connected to information practices and information work in research which explored how information literacy emerged in the workplace (Lloyd 2004). Embodiment was conceptualised as being in place and knowing the information landscape and how this landscape was shaped by the textual, social and corporeal modalities of the lived experience. As sources of information and sites of knowledge, fire fighter bodies were described as reflecting the actioned, reflective, institutional and non normative sources of information that are inscribed on the body over time, representing both the practice and practising of work. The embodied experience was explained by one participant as an entwining of mind and body which occurs over time:

*You have to have time for your mind, and body to come as one. If you took one them out then you wouldn’t be a fireman” (2004, p. 151)*

Medical settings provide strong evidence of embodied information practices. Embodied information practices can be constructed around the performance of work or around disease. The importance of corporeal information and the role of embodied information practice in nurses were highlighted by Bonner and Lloyd (2011). Nurses recognised that it was not only their own bodies which acted as a source of information, but also the bodies of other nurses and of patients. Over time and through practice, nurses began to recognise the important sensory cues about renal care that came from the bodies of patients, and they began to trust their sense of smell and touch (Lloyd 2014). A nurse participant describes the importance of the body as an information source, and how unexpressed corporeal cues trigger alarm bells in their dealings with patients:

really important, I use my sense of touch to assess the patient, in my eyes to sense what I am hearing…my sense of smell is really important…( Bonner & Lloyd, 2011).
Sensory activities such as touching and smelling represent critical activities that are enacted as part of the suite of nurses’ embodied information practice.

Accessing the experiential and nuanced local knowledge of others is an important aspect of connecting and developing embodied information practices in the everyday resettlement process for refugees. To effectively transition and resettle requires those in transition to recognize and apply a suite of activities that will aide access to information in order to become situated and emplaced. In this context, learning to listen and observe, and developing “watchfulness” become critical corporeal activities that can provide opportunities to access information. The ability to recognize visual affordances is especially important to groups who have limited communication or literacy skills.

In studies of refugees (Lloyd, Kennan, Thompson, Qayyum 2013; Lloyd 2014) participants recognized the importance of other people’s embodied and experiential information, and listening and observing became important elements of the information practice.

*I think hearing a story from someone who’s actually already navigated that process, is very powerful, because it’s like, I was like you were, ... this is where I’ve got to and I can tell you my story and show you how that might help you, ... I think learning from other people’s experiences is a good way to do that.* (Lloyd, Kennan Williamson, Thompson, Qayyum 2013, p. 14)

Observation provided access to tacit and contingent forms of knowledge, which were often hidden in everyday activities. An everyday occurrence was knowing when to do certain routine things such as putting out the garbage. To undertake this task required local knowledge that was not easily accessed by the non-English speaking residents. To address this gap in knowledge, participants described routinely looking out into the street, to observe what the ‘locals’ were doing.

*Well like for the garbage, ... come out look at the street and [if you] see the [neighbor’s] bins, take your bin out.* (Lloyd, Kennan, Thompson and Qayyum 2013, p14).

This activity forms part of the everyday information practices that support the settling in of newcomers by connecting them to the everyday activities of the community.

**The embodied information practices of theatre professionals and archaeologists**

Olsson’s studies of the information practices of theatre professionals (Olsson, 2010a, 2010b) and field archaeologists (Olsson, 2016) demonstrate that embodied practices can also play a central role in sense-making in artistic and academic communities.

The findings of Olsson’s study clearly demonstrate that for theatre professionals, understanding Shakespeare involved much more than a cerebral process. Their professional lives are based on the ability to embody their knowledge: they need to manifest their understanding in the physical world, as physical actions in physical space. Directors, for example, do this through ‘blocking’ the movements of their actors, constructing the action to suit the confines and challenges of a particular physical space:
As I’m going through the text, I need to constantly think about how I’m going to make this work ... especially in this theatre with its long thrust stage and audience on three sides... sometimes an actor is going to have to be acting with his back. (Iago¹, director in Olsson, 2010a, p. 277)

For actors, embodiment is an even more literal process: they need to physically become their character (at least for a few hours’ traffic upon the stage). Participants’ accounts emphasised that developing the skills to enact an embodied performance were central to their professional practice. Participants described the important role that specialist coaches and other cast members played in developing and honing these skills:

I need to find the character’s voice ... the way they move. That’s where the voice and movement coaches can be so helpful. (Portia, actor in Olsson, 2010a, p. 277)

Several participants described how working with and being mentored by more experienced actors was central to their learning:

You learn the most just being in the rehearsal room with other actors ... not that you try and copy them but just seeing how they work, what the process is ... when I understudied for Julia, it was like following her tracks in the snow ... you know, I could see where I should put my feet... (Portia, actor in Olsson, 2010a, p. 275)

Olsson’s more recent study of the information practices of archaeologists in the field (2016) aimed to explore the role that embodied practices might play in a research context. Field archaeology seemed a promising case study with which to challenge the conventional wisdom that academic research is a principally cerebral activity.

MacGregor (1999) has argued that a multi-sensory approach to the examination of archaeological artefacts can provide insights that visual analysis alone cannot. In particular, he emphasised the importance of haptic analysis for archaeological practice:

The tactile perception of a three dimensional object is usually an active experience involving information on touch, texture, temperature and the movement and position of the hands and fingers in order to identify an object through touch alone... (MacGregor, 1999, 264)

The study’s observations demonstrated that haptic elements were a common feature of archaeologists’ sense-making.

Identifying Neolithic pottery is quite difficult. Feeling the texture is one good way to do it. I’ll sometimes rub a piece against my cheek to feel it... (Morrigan², finds expert in Olsson, 2016)

The multi-sensory nature of archaeological analysis was encapsulated for the researcher in the words always used by Alliquippa, the resident geologist at the Ness, when

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¹ Participants were invited to choose their own pseudonym using the name of a character from Shakespeare
² Participants were invited to choose their own pseudonym using the name of an historic or mythological figure.
briefing each new group of students. Alliquippa’s expertise had led directly to the identification of a hitherto unrecognised type of archaeological artefact: unworked stones, often large river-washed pebbles, brought by Neolithic people from other parts of the Orkney islands or the Scottish mainland to the Ness site, presumably for ritual purposes. In briefing students, Alliquippa would say:

- If it feels heavy…
- If it feels light…
- If it feels smooth…
- If it looks darker…
- If it looks lighter…

... Bring it to me! (Alliquippa, site geologist in Olsson, 2016)

Haptic analysis was only one example of the embodied practices that archaeology students and volunteers working on the sites needed to acquire.

Students come to us with a theoretical knowledge of archaeology but being in the field requires a different set of skills. It’s physical as well as mental. You can’t really understand that until you start getting your hands dirty. ...

(Boudicca, site director in Olsson, 2016)

Field archaeology involves a range of physical activities: some, such as lifting heavy stones or moving dirt to the spoil heap, are physically demanding:

I prepared for volunteering here by reading lots of archaeology books. I realise now I should have prepared by going to the gym! (Eleanor, site volunteer in Olsson, 2016)

Others, however, such as uncovering and lifting a fragile artefact, require both dexterity and a delicate touch.

Watching Morrigan [finds expert] bring those tiny pieces of bone out of the ground, it was like watching a surgeon at work! (Minerva, site volunteer)

Throughout the ethnographic fieldwork, the researcher observed numerous instances of experienced team members explicitly modelling embodied practices by demonstrating the correct way to use a trowel or to lift or clean a delicate artefact. Students and volunteers were often deliberately rotated so that they might learn from different senior team members recognised as possessing a particular expertise. Students were seen to model their own actions on those of the senior team members they worked with.

The everyday discourse of team members also emphasised the importance of embodied practices to field archaeologists. Numerous stories and anecdotes shared with the researcher focused on the idea that a “real archaeologist gets down and dirty”, “isn’t afraid to get their hands dirty”. One visiting TV presenter was received warmly as a “real archaeologist” based on his previous field experience, while some team members described another academic visitor less approvingly as a “book archaeologist”.

Team members’ discourse about embodied skills as a defining characteristic of a “real” field archaeologist strongly brings to mind Coupland and Gwynn’s (2003) argument that embodied practices can play a crucial role in defining the social identity of a
community. The discourse also suggest that recognition by community members as possessing such skills was an important source of authority, of Foucault’s (1979) pouvoir/savoir, in a field archaeological context.

When Macbeth [finds expert] or Icarus [trench supervisor] talk about what we’re doing, they’ll often talk about how it’s like something they’ve done last season or on another dig somewhere else. That helps me understand why we’re doing something… (Artemis, archaeology student in Olsson, 2016)

The embodied practices demonstrated by the participants in Olsson’s studies bring to mind Gherardi:

…the material body - the body that works - assumes shape and location within the set of practices that constitute the work setting. The knowledge acquired via the five senses is aesthetic, not mental. It often forms the basis for specific competences. Craft trades required trained bodies - ones, that is, which have incorporated an expertise. It is through the body that 'an eye' (or 'an ear' or 'a nose') for something is acquired, so that aesthetic knowledge ... also comprises the ability to develop a professional 'vision' in the broad sense. (Gherardi, 2008, 521)

Olsson’s findings provide strong evidence to suggest that such embodied practices should not be seen as solely a characteristic of craft trades.

Discussion:

Evidence from the studies above illustrates that bodies are not passive, but actively anchor information, and makes the embodied experiences of practice visible. The studies expand the boundaries of the information practices discourse by demonstrating that embodied practices, like linguistic ones, are products of social construction. The studies highlight the need for library and information science researchers to understand how an information landscape is constructed and what modalities of information are privileged. While much research in Library and Information Studies is focused on textual/epistemic/social information, few studies have focused on the centrality of embodied information practices, which are born from being in situ, connecting people to the materiality of their performance and to bodies (their own and others) that practise. What we have attempted to demonstrate here is that corporeal information and embodied information practices are central to understanding the information and sense-making experiences of people as they connect to practice and actively practise. We suggest that accessing this source of knowledge requires a broader understanding of what constitutes information, and acceptance that activities which may be considered non normative and outside the traditional scope of Library and Information Science research are in fact central to it, and fundamental to descriptions of information behaviour.

This leads to questions about embodiment and embodied information practices that must have “information at their core” (Lloyd 2015). Questions about:

• ways to bring the body into information research
• the relationship between corporeal information, information behaviour and information practice
• how to access and capture the local nuanced information that is contingent and only available at the moment of practice.

Conclusion
Broadening our research horizons and agendas in Library and Information Science requires a willingness to think in creative and innovative ways, to take risks and to draw from literatures that may appear disconnected to our established ways of thinking. Empirical studies which focus on non-linguistic and embodied practices may appear removed from the Library and Information Science agenda, however our argument here has been that these should become increasingly routine, because they provide the research field with a source of information about how people learn about non normative aspects of everyday life. An information practice approach differs from traditional information behaviour approaches, because it places information at its core, recognising that information landscapes are not only shaped and represented socially and dialogically but also reflected corporeally.

Wilson (2000) defined “information behaviour” as “the totality of human behaviour in relation to sources and channels of information” (p. 49), yet analyses such as Savolainen’s (2007) have demonstrated that the majority of information research has adopted a much narrower focus. We would argue that if Library and Information Science research is to live up to its aspirational rhetoric of representing the totality of the human relationship with information, then it must do more, both theoretically and empirically, to address areas such as embodied information practices, which it has so far largely neglected.

References


