# Pedagogies of Difference and Desire in Professional Learning
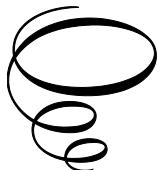
# Pedagogies of Difference and Desire in Professional Learning:

## *Plugging in to Shared Images*

By

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# PREFACE

This book explores the pedagogical potential of images shared during intra-professional conversations held on the social media platform, Twitter.

Twitter chats are loosely synchronous exchanges of tweets sharing a unique, identifying keyword or hashtag. They are increasingly being used among professionals to create professional networks in which practice-knowledge and opinion might be shared and where communal connections may be created. As such, they are sites in which professional learning unfolds, both in relation to workplace practices and in relation to the development of new forms of professional practice around social media use.

Because the exchanges and broadcasts on Twitter are, for the most part, public, and the conversations are ongoing, they also provide open, freely-accessible, and constantly renewing resources for use in pre-service learning contexts. Inspired by the increasing use of images in new forms of digital communication, I use images tweeted during Twitter chats among two professional groups (one of midwives and one of teachers) as starting points from which to explore flows of knowledge and affect both within these digital assemblages and beyond them, as professionals, educators and students interact with them.

The findings suggest that Twitter chats such as those described here can provide rich opportunities for professional learning. Practice knowledge can flow from one participant to many others, and flows of affect can be used to remoralize individuals and communities. Both chats seem to serve as sites in which professionals could experience a positivity and affirmation that was not always available in the workplace.

However, the forces and intensities at play in these spaces influence both what is said and what is not said, creating new norms of online interaction that generally seemed to avoid negative comments or open disagreement.

Educators saw potential to use images such as those shared in the chats in a variety of ways. For example, images could be used as prompts for

examination and critique of practices. The educators I interviewed also suggested that the images could be used to help student professionals develop their sensitivity to the forces and intensities that produce particular practices. Group interviews with student professionals suggested that the former happened spontaneously when students encountered and discussed such images, but that the latter might need deliberate facilitation or prompting.

The book concludes with some recommendations for: (i) educators considering using such images in pre-service professional learning; (ii) professional developers considering using Twitter chats; and (iii) policy-makers involved in drafting guidelines for professionals' use of social media.

# CHAPTER 1

# WHY TURN TO IMAGES SHARED ON SOCIAL MEDIA TO LEARN ABOUT PROFESSIONAL LEARNING?

This is a book about several things: professional learning, social media, research methods and pedagogies. It is an account of empirical research, but it is also an account of methodological developments that I hope other researchers will find useful and perhaps even usable. It is also a story of different people's interactions with visual images, containing some observations and leading to some suggestions that I hope will be useful to those involved in the education (whether formal or informal) of professionals in various roles.

This book asks questions about the informal learning that may be unfolding in digital spaces, via professionals' use of the social media platform, Twitter. It also asks questions about the pedagogical potential of images shared among these professionals for use in pre-service training in higher education contexts. The research I describe includes experimentation with ways of visualizing Twitter chats, drawing on techniques from Social Network Analysis but inspired by a sociomaterial, rather than purely social, perspective. It also includes an attempt to combine an approach to reading and "being with" data inspired by ideas drawn from the work of Deleuze (1994; Williams 2013) and Deleuze and Guattari (1988; Massumi 1992), with approaches to reading images drawn from visual social semiotics (Kress and van Leeuwen 1996).

In this opening chapter, I set out some reasons for imagining that this research might tell us something useful about both professional learning and professionalism in digital spaces, and about the professions of midwifery and teaching in particular. I describe the increasing importance

of social media as spaces in which professionals in a range of occupations exchange knowledge and build supportive communities. I also describe the growing use of visual images as forms of communication in these communities, as well as in digital communication in general, to help motivate my focus on such images.

## Professionals and social media

Social media are increasingly being embraced by professionals and professional groups (Fenwick 2016). Individual professionals blog about their practice and experience, and upload videos and photos to content-sharing sites such as YouTube and Flickr. Informal professional networks and communities come together on micro-blogging sites such as Twitter and social networking sites such as Facebook and LinkedIn. Some of these communities set up shared blogs, or "meet" live on Twitter. Formal professional networks, organizations and institutions also appear to be using social media for a range of reasons. These include the creation and display of a public face; reaching out to remote and time-poor members and clients; providing updates, public information and advice; crowd-sourcing; and providing forums for clients to interact with one another.

According to Fenwick (2016), however, there is "only sketchy evidence of how practitioners in different professions are actually working with social media" (667). Perhaps because of this lack of research attention to current established and experimental social media practices, the regulatory and academic discourse surrounding the use of social media by professionals is predominantly one of risk-avoidance (Fenwick 2016; Wylie 2014). The issue is usually positioned as one of professional ethics; emphasis is placed on safety, privacy, and identity management in the interest of maintaining public trust. Regulatory and accrediting bodies, particularly in public service professions in health, education and social care, have produced documents and guidelines that are both prescriptive and proscriptive, focusing on behaviours that will not be tolerated, often with the threat of deregistration. These guidelines are often heavily emphasised in programmes preparing students for professional practice, and indeed fears about students' inability to behave appropriately online

(Greysen et al. 2010) have led some authors to suggest that "e-professionalism" is a new domain that must be taught independently in its own right (Cain et al. 2009; Greysen et al. 2010; John et al. 2012; Spector and Kappel 2012). There have even been suggestions that these skills are of paramount importance: for example, Megele (2015) claims that "developing students' e-professionalism and blended communication abilities is foundational to their social competency and their personal and professional success" (414).

This view seems to me to miss both an essential attribute of social media and an opportunity. Social media generate a rapidly changing environment, but regulatory bodies appear to be responding to and seeking to control existing practices, rather than shaping or creating new ones. Prescriptive guidelines (and academic studies emphasising the need to teach student professionals how to obey these) fail to recognize that professionalism itself is evolving and developing alongside new social media practices. That is, they overlook the "role digital media might play in emergent notions of professionalism" (Fenwick 2016, 665). Because the guidelines are based on the concerns of those that commission them (usually employers or institutions), there is no encouragement for practitioner or student professionals to determine how professionalism is changed by social media.

Prescriptive guidelines are also likely to be difficult to comply with. Today's pre-service professionals have never known a world without social media: relationships lived out partly or wholly online are normal to them. Requiring that they block selected channels of connectivity in their professional lives might suggest that their professional lives are less real, less full and less connected than their personal lives. Given that there is some evidence that student professionals in higher education are inadequately introduced to conceptions of professionalism generally (Wilson et al. 2013), a narrow focus on e-professionalism and e-skills, divorced from a broader critical consideration of what being a professional might mean and entail, seems misguided. Instead, we need "a rethinking of professionalism that can embrace online practices" (Fenwick 2016, 667); that is, we need a reconceptualization that encourages practitioners, students and educators to work out what constitutes professionalism as

regards to social media interactions and relationships, and that recognizes that such professionalism will be both evolving and multiple.

This book demonstrates how the adoption of a sociomaterial perspective facilitates such a reconceptualization. Such a perspective implies that online practices and interactions are emergent, performed into existence through relational arrangements of humans and non-humans, including features of social media platforms and the images that ultimately became a focus for this research. Indeed, any research into social media that ignored its uncontrolled, serendipitous, creative and emergent possibilities would inevitably fail to recognize its actual and potential impact.

## Professional learning

This book is concerned with professional learning, both in formal, pre-service, higher-education-based contexts and informal, ongoing, social media contexts. However, the notion of professional learning is itself complex and multiply-defined. How a researcher conceptualizes professional learning influences the kinds of evidence that might be enrolled to identify or trace its unfolding. In my case, this conceptualization developed through the research, evolving from a more conventional view based on situated and reflective practice, to a socio-technical/sociomaterial perspective.

Professional learning, as distinct from purely academic learning, is characterized by an emphasis on the development of profession-specific practice knowledge; professional competence; and (shared) professional values. For a long time, professional education was dominated by the conception of professional learning put forward in the works of authors such as Schön (1983; 1987). This placed substantial emphasis on individual reflection on and in action. More recently, approaches to professional education have embraced the social dimension of learning, with conceptions such as Communities of Practice and Legitimate Peripheral Participation (Lave and Wenger 1991; Lave and Wenger 1999) resulting in an emphasis on near-peer learning and mentoring.

While acknowledging that material objects (particularly specialist tools and workplace environments) have an influence on professional learning and practice, these approaches foreground humans and tend to position tools and environments as secondary features that might perturb but not produce learning. However, other writers (e.g. Fenwick et al. 2012; Fenwick and Nerland 2014; Hager et al. 2012; Hopwood 2015; Knorr Cetina 1997; Knorr Cetina 2007; Mulcahy 2012) have begun to develop theories of professional learning that are rooted in sociomaterial perspectives. It is this (multiple and still developing) body of work that informs this book.

One feature that the various sociomaterial approaches to professional learning have in common is a conceptualization of knowledge, practice and values as emergent, arising from and circulating within complex webs of interaction and relation: they "understand human knowledge and learning to be embedded in *material action and inter-action*" (Fenwick et al. 2012, 6, original emphasis). In so doing, they de-centre not only the individual human, but also the individual's mind in their accounts of learning, acknowledging the importance of the material and embodied as well as the social.

Today's society places great emphasis on knowledge generation and the rapid growth and change in knowledge, particularly in the professions. Thus one key aspect of professional learning is the perceived need to continually learn in order to stay up-to-date. Within a sociomaterial perspective, rapid knowledge production leads to a "wide range of knowledge resources … a manifold of partly conflicting evidence which lives and circulates in complex networks" (Fenwick et al. 2012, 3). Social media present networked spaces in which such resources and evidence may indeed circulate, and one aim of this book is to explore these flows.

Finally, from a sociomaterial perspective, change, whether in knowledge, practices or systems, is understood as "a series of complex negotiations at micro-levels setting in motion complex dynamics" (Fenwick et al. 2012, 7). In the context of social media, change may relate to both the spread of new professional knowledge and practice, and the emergence of new norms of professional behaviour around social media use.

In adopting this kind of perspective on professional learning, I focus attention on the circulations and negotiations taking place when professionals use social media to interact with each other. I acknowledge and explore the effects of interactions between humans and digital platforms and objects, in an attempt to see where and how knowledge and affect circulate and learning unfolds. As I hope to show below, new norms of (online) professional behaviour can be usefully understood as emerging from complex individual negotiations around the affordances offered by particular social media platforms, and the balancing of proscriptions against particular actions and the desire to contribute to the circulation of knowledge and affect.

## Social media and the dominance of the visual

It is important to understand why an improved understanding of the relationship between social media and professional learning is needed. Social media use has become an almost omnipresent part of modern society (Lovink 2011), including professional practice and learning. The Oxford English Dictionary (OED 2016) defines social media as:

> *Websites and applications that enable users to create and share content or to participate in social networking.*

Such sites and applications are now infused into both the personal and the professional, the private and the public, through platforms such as Twitter, Facebook, WhatsApp, and more. Although specific platforms and formats come and go as the latest trend or next algorithmic or technological development provides a new attraction, the new channels for interaction, relation and communication that they provide seem to be here to stay. This has led some commentators to ascribe great importance to our ability to learn to use social media. For example, Rheingold suggests that the future of digital culture "depends on how well we learn to use the media that have infiltrated, amplified, distracted, enriched and complicated our lives" (2012, 1).

As described above, my conceptualization of professional learning admits the importance of micro-level interactions and negotiations. In the

following chapters, I explore the nuances and details of particular instances of social media use on the Twitter platform, using shared *images*, rather than text, as a focus. Images are now ubiquitous in digital communications (van Dijck 2013). Social media are accessed through screen-based devices such as mobile phones, tablets and computers. Because of this, they are highly visual media. Facebook and Twitter encourage users to upload and update profile pictures, and also to personalize their spaces or elaborate their messages with photos and other images. Images have become part of the way users define and even create themselves as parts of the online world (Kaplan and Haenlein 2010; Marwick and boyd 2011).

Not only are social media themselves accessed visually, but other technologies mean image creation is now open to everyone. A photo can easily be taken using a mobile phone. Other images (including other people's photos) are easily found using search tools such as Google Images. Software such as Microsoft Paint, PowerPoint, GIMP, and Photoshop has long enabled users to create and edit images on computers. Now apps such as PixlrExpress, Studio Design and Wordswag extend visual content creation to mobile devices. The ease with which digital images can be created, modified and shared means that their proliferation on social media sites is not surprising.

When I first embarked on research into professional learning and social media, I spent time on various professional-related social media and social networking sites. I was increasingly struck by a frequent use of images, and particularly photographs. Sometimes images seemed to be part of the information being shared; sometimes they seemed to be decorative; sometimes they seemed to be there simply to get attention. Some images showed practising professionals in workplace or other professional contexts. Some showed clients or service users. Some were depictions of professional objects, equipment or practices. Many seemed to open up a window onto the materialities of professional practice. I began to wonder about the glimpses into professional life these images offered, the opportunities for exchanges of practice and advice, and the impact they might have on student professionals, should they encounter them.

## Caution and control: guidelines for online professionalism for midwives and teachers

As social media have infused into our culture and communications, the guardians of professional conduct have reacted with the development of specific guidelines governing professional conduct in online spaces. The professional learning explored in this book took place among two different professional networks on Twitter—one of midwives and one of teaches. Both professions have well-developed guidelines about social media use. For midwives based in the UK, these are issued by the professional body, the Nursing and Midwifery Council (NMC 2015). For teachers based in the UK, the guidelines depend on location. For example, the advice of the UK government to schools in England is that they should develop their own guidelines, but that these should be based on those provided by the charity Kidscape (Kidscape 2014; nd). Teachers in Scotland are governed by the guidelines provided by the General Teaching Council for Scotland (GTCS 2011).

At present, these guidelines barely touch upon image-sharing, but where they do, they focus on warning professionals not to post images with inappropriate sexual content, or bar them from posting any professional-related images at all. For example, the NMC guidelines include the following:

> Never post pictures of patients or service users, even if they ask you to do this. Our guidance on record keeping states clearly, "you should not take or keep photographs of any person, or their family, that are not clinically relevant" (NMC 2009b). If your mobile phone has a camera, you should not use it in the workplace. (NMC 2015, np)

They also explicitly instruct healthcare professionals not to distribute sexually explicit material.

The guidelines produced by Kidscape, where they relate to teachers' use of social media (Kidscape 2014), focus on identity protection, examples of behaviour that might bring schools into disrepute, and the kind of sanctions that should be brought to bear in such cases. The sharing of images on social media is only mentioned in the context of protecting

children from exposure to pornography, sexual grooming, and bullying
based on sexually-explicit images (Kidscape nd).

A slightly less prohibitive approach is evident in the GTCS (2011)
guidelines, which advise teachers to:

- Manage your privacy settings and keep them under review.
  These are particularly important in regard to photos, and
  remember that no privacy mechanism is 100% guaranteed;
- … ensure your settings prohibit others from tagging you in any
  photos or updates without your permission …
- … be aware of and comply with your employer's rules and
  policy in regard to taking and sharing photos of children.

However, these guidelines also remind teachers that their registration is
at risk if they post sexually explicit pictures or possess, make or distribute
indecent images of children.

The concerns underlying these guidelines have also led to substantial
bodies of academic work around the teaching of online professionalism.
For example, one study of student health professionals concluded that:

It seems clear that progressing the professions through the use of social
media means ensuring that everyone is aware of what to do and how to
behave when using them … We recommend that work by the respective
professions at both an undergraduate and graduate level include a focus on
the implications of social media use for policy and practice, to ensure that
everyone is aware of when and how to engage in social media platforms,
what to do and how to behave when creating and using social media.
(Tuckett and Turner 2016, 203)

Similar concerns have been expressed in relation to teachers:

[S]ocial media use does not seem likely to abate any time soon and today's
pre-service teachers will have to wrestle with the roles these technologies
play in their future classrooms and schools. (Carpenter and Krutka 2015,
29)

Guidelines issued by the International Society for Technology in
Education (ISTE 2007) specify that teachers have to "model digital
citizenship and responsibility" (Kumar and Vigil 2011, 144), leading to
suggestions that student teachers should create digital artefacts and learn

how to behave on social networking sites so that they can model such behaviours in their future practice.

Research and guidelines relating to students' online professionalism are perhaps equally over-simplifying and restricting. The majority of research into education for online professionalism (see, for example, Cain 2008; Cain et al. 2009; Coffield and Joiner 2010; Dodsworth et al. 2013; Kjos and Ricci 2012; Klich-Heartt and Prion 2010; Ross 2012) generally approach social media as something to either shut down or colonize. Sites such as Twitter, Facebook and Flickr are positioned either as places of significant risk, in which student professionals might do damage with or be damaged by their actions, or as places that could be co-opted for educational purposes by forcing students to tweet or create Facebook groups as part of their formal coursework. In either case, it appears that educators and educational institutions are out to take control. For all the discourse about student-centred teaching and active, personalized learning (McLoughlin and Lee 2008; Rennie and Morrison 2013), social media use is presented as either to be proscribed or prescribed.

However, there are some within the professions who seek a re-appraisal of the type advocated by Fenwick (2016) and in this book. For example, Wylie (2014) argues that professional regulations for nursing and midwifery professionals have resulted in missed opportunities to revolutionize healthcare. She claims that, in the health professions, "[t]he usefulness of social media within one's professional life has been largely ignored" (502), and describes the advice given by managers and academics as "alarmist" (ibid.). Wylie's criticisms of the guidance given to midwives and student midwives are based on her perception that "members of the profession who have a good knowledge of the concept of professionalism may have the least experience of social media" (ibid.). She describes how the NMC guidance "not to befriend patients and service users online even after the patient is no longer in their care" (ibid., 503) is inconsistent with the traditional practices of midwifery, which include encouraging the development of close relationships with clients. She also praises Twitter chats among midwives (such as the one studied in this work) as opportunities to discuss current events.

# Navigating this book

With this book, I want to provoke a wider reconsideration of what both
research regarding professionals on social media might look like, and what
pedagogies for a digitally connected professional world might include. The
book thus has a set of parallel aims:

- to develop new ways of researching digital interactions;
- to develop new approaches to exploring learning (understood
  as distributed and collective) online; and
- to suggest creative, constructive ways of exploiting the vast,
  continually renewing pedagogical resource that social media
  can offer.

In the next chapter, I provide more detail on Twitter chats and start to
develop ways to explore "the heterogeneous configurings and reconfigurings
of human engagement with the affordances of social media software and
the continually generated content" (Fenwick 2016, 670). In doing so, I
"challeng[e] humanist preoccupations with a single individual 'using' the
tool(s) of social media for certain pre-determined objectives" (ibid.) and
instead illustrate one possible way of exploring Twitter chats as
sociomaterial assemblages. Readers who are primarily interested in
researching online spaces may find this chapter particularly helpful;
readers who are primarily interested in professional learning or the
pedagogical potential of images shared online by professionals can choose
to skip it.

Chapter 3 takes a step sideways to identify key theoretical concepts,
drawn from the works of Gilles Deleuze and Félix Guattari, that I believe
offer powerful ways to understand both the flows of information and
feeling in online spaces, and the ways in which viewers interact with and
learn from (digital) images. This chapter may be of particular interest to
researchers seeking new ways to conceptualise online and learning
interactions. It may also appeal to educators who want to go beyond a
conventional, social constructivist perspective on learning in Higher
Education.

Chapter 4 develops an approach to reading and learning from images. This chapter is likely to be of particular interest to researchers working with images shared on social media; educators preparing professionals for effective use of social media; and educators considering using images in their own practice.

In Chapters 5-8, I draw on interviews with chat participants, educators and student professionals to illuminate the interdependence, contingency and emergence that I believe characterise learning on and from social media. Chapters 5-6 may be of most interest to readers interested in professional learning and the emergence of ways of practicing among online professional groups. Chapters 7 and 8 are likely to be of primary interest to those involved in researching or developing learning in Higher Education.

Finally, in Chapter 9, I put forward some suggestions for the future. I hope this chapter will be of interest to all readers.

# CHAPTER 2

# TWITTER CHATS:
## MIDWIVES AND TEACHERS ON SOCIAL MEDIA

This chapter explains what Twitter chats are and describes the two chats that form the basis for this book. It answers the questions: What is a Twitter chat and how does it work? How can we begin to "see" the configurations and interactions that such chats consist of? How can we begin to learn about and from them? In it, I introduce some social network-based graphical representations to illustrate the chats and to start to develop approaches to researching online spaces that de-centre human participants. This chapter is likely to be of interest to anyone trying to find different ways to explore the vast amount of information and data relating to social practices and processes available via social media.

## Twitter chats

Twitter is increasingly being used as a platform through which to hold real-time conversations or chats among interest groups or communities (Megele 2014). Twitter chats are loosely synchronous exchanges coalescing around the use of an identifying keyword or hashtag. The hashtag is a string of characters preceded by the "#" symbol that functions to identify a tweet as part of a specific conversation. It is the glue that binds the tweeting and image-sharing of a large group of people together. It also works as a call to action, encouraging professionals who participate in such chats to broadcast their own tweets with the hashtag and so be part of the conversation.

The increase in the popularity of Twitter chats is particularly marked among professionals (Megele 2014). Chats are frequently used as intra-professional forums: that is, spaces in which practitioners from the same

profession exchange ideas, practice and opinion. They thus form new spaces in which professional learning may unfold. Where these chats are informal and emergent, questions arise as to the ways in which conversational norms (and so new social media forms of professionalism) develop, and how these are understood or enacted by chat participants.

The trend towards increasing image sharing seen across social media may be particularly strong on Twitter because of the platform's message length limit. The fact that users are allowed only 280 characters of text (140 at the time the research described in this book was carried out) limits what can be said in a micro-blog; accompanying that text with an image significantly increases what the tweeter can "say" and what his/her followers can "read." Professional conversations are no exception to this, with images accompanying tweets with increasing frequency. As one of the participants in the research below said, *"pictures really do speak a thousand words; "* as another observed, images seem to be processed more immediately and somehow more intuitively than text: "they're in your brain very quickly, and they stay in your brain a long time." They therefore offer a potentially rich and complementary alternative to analysis that focuses on the text of tweets, opening up new possibilities for investigating the learning that is likely to be unfolding in these exchanges.

Although the contribution Twitter may make to learning has been the object of some recent research attention, this research has largely neglected both tweeted images and Twitter conversations among professionals. To date, research on Twitter use in education has primarily focused on its use in formal class contexts (Forgie et al. 2013; Kassens-Noor 2012; Kurtz 2009; Seo 2012; Trueman and Miles 2011), with a great deal of interest in the use of Twitter to create and orchestrate learning communities or facilitate communication among large classes in higher education. Other education-related research touching upon Twitter has focused on education for professionalism, including a perceived need to warn students of the dangers of unprofessional behaviour in online spaces (e.g. Cain et al. 2009; Greysen et al. 2010; Osborne and Connelly 2015).

Recently, research attention has started to focus on the use of Twitter conversations in professional learning (Bingham and Conner 2015; Evans 2015; McCulloch et al. 2011; Sie et al. 2013). Bingham and Conner's

(2015) work emerges from the field of organizational studies, and encourages organizations and professional development teams to exploit social media for professional learning. They present social media in an extremely positive light, asserting that "we can be—we must be—learning from everything and everyone possible in order to see the world in new ways and face challenges never seen before" (*xv*) and suggesting that social media, and in particular Twitter, allow for this to happen. However, they position the "microsharing" that occurs through Twitter-based conversations as a useful supplement to structured learning, giving those being trained a way to share insights with and ask questions of other students without taking up an instructor's time. This vision of the potential role of Twitter conversations in professional learning thus continues to position social learning as subordinate to learning from a designated figure of authority.

McCulloch et al. (2011) report on teachers' use of social media for ongoing professional development. They include a short case study on the Twitter conversation #ukedchat, which they describe as 'fast and furious' (16). The #ukedchat conversations are regular, topic-based and facilitated through the @ukedchat Twitter account. Although these authors describe #ukedchat as "one of the finest examples of how educators have used social media for continued professional development" (ibid.), they provide no evidence of impact on teachers' practice or increased student attainment, simply asserting that "with such a diverse mix of people being involved, inevitably many useful resources, links and connections are made" (ibid.). However, the conclusions they draw from their subsequent review of evidence for the positive impact of social media use on teaching practice suggest it needs to be relatively strongly structured and facilitated. For example, they recommend that "like-minded participants should be invited to take part and form a learning community … the community should serve a clear, shared purpose … leaders should be brought on board" and participants should have "access to external, specialist support" (ibid., 25–26)—again suggesting a model of professional learning in which Twitter conversations are a supplement to more formal, directed training or collaborative projects.

In his study of two Twitter conversations held among professionals working in the education and learning sectors, Evans (2015) takes up a rather more nuanced approach. He adopts a sociomaterial perspective, viewing the conversations as assemblages of human and non-human components such as text, images, user-interfaces and software. He argues that roles such as facilitator cannot be identified with specific, designated individuals, and instead are better understood as effects of these assemblages. He suggests that "[t]he hashtag performs the facilitation functions of encouraging group communication, clarifying the content of discussion and organizing the structure of the group" (Evans 2015, 34) and "@_user mentions … encourage group communication and connecting the thoughts expressed between participants" (ibid., 35). However, Evans also highlights the key connecting role played by individuals. He describes some users as "key 'networked' individuals" (ibid.) who "facilitate the structural cohesion of the event community" (ibid.). There is thus some tension in his findings between the techno-facilitation of fluid assemblages and the rather static conception of "individual" users taking on key roles in "real" networks.

My research complements Evans's work, adding a new focus on images. It explores the dynamic assemblages constituted by serial chats, and interviews with chat participants who form part of these assemblages, to identify forces that shape the flow of knowledge, practice, opinion and affect. The tracing of such forces calls for a sociomaterial approach, with a sensitivity to the role of non-human as well as human agents. In this book, this is coupled with a sense of Twitter as offering a conversational space which is itself shaped and patterned by the various forces at play.

Twitter chats seem to be an especially popular way for professionals to stay in touch with each other and talk about practice. There are many to choose from, with teachers in particular seeming to embrace this social media form. In this book, I explore chats identified by the hashtags #wemidwives and #pedagoofriday (also referred to as WeMidwives and PedagooFriday chats). These chats are deliberately positioned as forums for the sharing of knowledge, experiences and examples of good practice.

Both conversations have "grass roots" origins, having been started by practitioners with the explicit aim of sharing practice and experiences, and

with implicit aims of creating supportive professional networks. Neither is associated with any commercial activity. Both rely on volunteers from within the practitioner/chat participant community to provide both promotion and facilitation. Both were initially UK-based, but have subsequently attracted participants based in other countries. While it is not possible to find out through observation how many Twitter users view Tweets from the conversations, some idea of their level of potential influence may be given by the number of followers that accounts representing the conversation facilitators have: 9,000 for the midwives' facilitator account; 25,000 for the teachers' facilitator account at the time the research data were recorded. Both are thus large enough to be potentially influential, but small enough to retain a communal feel, given the small fraction of Twitter users who actively and regularly tweet.[1]

The two conversations also have some significant differences. The midwives' conversation is more tightly topic-based. Each chat session has a theme and might address, for example, professional dispositions such as compassion, professional issues such as morale, or professional practices such as birthing practices or the use of social media among midwives. They approximate the Twitter conversation or "Tweetstorm" structure described by Evans (2015) and Sie et al. (2013), with one or more visible facilitators or topic leaders introducing the chat and asking initial questions or acting as sources of expertise for other chat participants. With the exception of the chat-reminders tweeted by facilitators, participants only rarely tweet with the relevant hashtag outside the designated chat time; the facilitators produce and tweet a word cloud of the chat as a wrap-up/summary activity; and transcripts of chats are available after the event on a dedicated website. A typical conversation might include around 50 tweeters, plus additional visibly active participants who favourite or retweet the posts of others but do not tweet directly within the conversation.

In contrast, the teachers' conversation, although nominally time-limited, often extends beyond its official time slot with teachers tweeting with the conversation's defining hashtag both before and after. Formal

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[1]According to C. Smith (2015), in 2013, 87% of accounts had either never tweeted or not sent a tweet in the last year and only 10% tweet monthly or more often, even though 46% of users indicated they look at Twitter at least once a day.

facilitation is minimal, effectively restricted to tweets reminding Twitter users to participate, frequent retweeting and occasional (positive) comments. These chats are themed, but the theme is the same each week. These chats do not follow the structures described by Evans (2015) and Sie et al. (2013); there is nothing resembling an introduction or context-setting act, and there is no summary or wrap-up at the end.

The two chats, therefore, have apparently similar functions but somewhat different degrees of structure and organization.

## Theorizing Twitter

The nature of Twitter and the affordances for communication it provides affect its potential function as a site for professional learning, and so it is important to understand how Twitter functions as a communicative space. Twitter is an evolving technology. Over time, it has shifted from a personal social network space (Java et al. 2007) to a space in which users connect to and broadcast news and opinion (Jansen et al. 2009; Java et al. 2009; Kwak et al. 2010). Rogers (2013) has rather neatly characterized this shift as from following friends to following events or interests.

At the time of the research described in this book, Twitter allowed users to undertake the actions listed in Table 2.1.

| Action | Description |
|---|---|
| Tweet | Send messages of 140 characters or less, accompanied by images and web links if desired. Tweets may include "@mentions," the user-names of Twitter account holders preceded by the @ symbol which indicate that a tweet is directed at, about or of interest to that account holder. |
| Retweet | Analogous to forwarding an email, a retweet is when a user sends a tweet originally posted by another user. |
| Favourite | Essentially, to press a button that records approval of a tweet, with that approval visible in the favouriting user's (public) profile. |
| Reply | Send a tweet as a direct response to someone else's tweet. |

| Follow | Subscribe to a user account and thus automatically receive tweets broadcast from that account in your Twitter feed if using the Twitter app. |
|---|---|
| Direct Message (DM) | Send private messages to individuals. The recipients must be members of the sender's follower network |
| Search | Search for accounts and tweets based on criteria such as keywords, names, dates and @mentions. |

*Table 2.1: Actions available as part of Twitter*

With the exception of the last two (Direct Messaging and searching), the actions listed in Table 2.1 are visible to anyone who looks at a user's profile or uses Twitter's search function, regardless of whether the observer has a Twitter account.

Since its inception, Twitter has been a popular site for and subject of research in both sociology and media/communication studies. Much of the research from these domains that theorizes Twitter as a social system has focused on identity. For example, Marwick and boyd's (2011) influential work focuses on self-presentation and Twitter users' attempts to strike a balance between authenticity and interestingness. These authors use empirical data obtained from Twitter users to explore ideas such as imagined audience and context collapse (Marwick and boyd 2011, 122). Murthy's (2012) explicit attempt to theorize Twitter focuses on similar themes, but describes them in terms of surveillance and a blurring of boundaries between private and public. Megele's (2014) work, which describes Twitter chats using ideas about learning such as Communities of Practice (Lave and Wenger 1991) and the Zone of Proximal Development (Vygotsky 1986), is likewise concerned with collapsing boundaries and notions of audience and performativity.

These examples are typical of much of the work in this area in that they draw heavily on Goffman's (1959) writing on identity and performance. Such preoccupations with identity and context collapse are inconsistent with an interest in images shared online as starting points for research, rather than the Twitter users who were posting them. Our aim

here is not to investigate the practices of individual Twitter users, but rather to explore the ways in which images and users connect to enable knowledge and affect to flow.

In work that has not been so troubled by the idea of context collapse and performance, some authors have noted that it is the layering and connecting of communication spaces that make Twitter unique as a social media platform. Drawing on Schmidt's (2014) notion of personal publics, Bruns and Moe (2013) suggest that Twitter offers three interconnected layers of communication, at the meso (follower network), micro (tweet/reply conversations) and macro (hashtag) levels. Direct Messaging, which is not covered by Bruns and Moe, might be characterized as a nano level, with communication visible to only one pair of users.

The Twitter conversations that are the focus of this book knit together all three of Bruns and Moe's levels. Organized around hashtags, they clearly work at the macro, broadcast level. However, their conversational nature means that communication at the micro and nano levels, involving both public replies and private direct messaging, are key components. The conversations are loosely synchronous, taking place within defined and regular periods of time. Any tweet including the relevant hashtag is part of the conversation, allowing parallel threads and an element of non-linearity to develop. Participants include anyone interested in sharing professional practice with other midwives or teachers; but because participants' tweets are broadcast to all their followers, and tweets are retweeted with different hashtags, the boundaries of these networks are highly porous.

## Studying Twitter chats

### Tracing user-image interactions

Having explained what Twitter chats are "in principle," and provided some contextual information on the two chats that form the basis for the research described in this book, I now shift gear a little in order to talk about things we can do to generate ways of "looking at" the chats and the constellations of people, text and images they involve.

Images constantly act on and react to one another, produce and consume … We are thus held in a chain of images, each in its place, each in itself an image, and also in a web of ideas which function as words of command. (Deleuze 1978, np)

The images tweeted during the Twitter chats formed both chains and webs: chains of images tweeted with the relevant hashtags; chains of images tweeted by individual users; webs of images and users that connect with them in one way or another. These chains and webs have the potential to tell us a great deal about how knowledge and affect flow among chat participants; patterns that can be visualised using techniques borrowed from Social Network Analysis.

In this study, in order to generate data, immediately after each chat session, I used Twitter's advanced search function to identify all tweets made using the relevant hashtags. I then recorded details of each of the tweets including images, and visible interactions with them in the form of retweets, favourites and replies.

Such laborious, non-automated data collection may seem at odds with the rapid fire, technologized sphere in which Twitter functions, but I wanted to make sure that I saw *every* Tweet in each chat session. Twitter's feed and basic search functions are non-neutral. The tweets a user is fed by the Twitter app, or the results of a search made using Twitter's search function, are ordered by an undisclosed, Twitter-defined measure of popularity, combined with data on what the user has favourited in the past (Patkar 2016).

A manual search let me feel more secure in relation to my ability to capture the unpopular and unnoticed as well as those tweets and images that trended or generated substantial attention. Manual recording also allowed me to easily gather data about who retweeted or favourited an image. Perhaps most importantly, it began the process of immersion that would provide to be so important to the directions the research took. A more app-literate researcher might have automated the process, but for me this stage of "reading" the chats was as important as reading interview transcripts.

Drawing on the techniques of Social Network Analysis (Scott 2012), the interactions within the conversations can be envisaged as bimodal

networks with users connected to tweets by multiple types of tie. This approach has the effect of equalising tweets and Twitter users, and emphasises that both *participate* in the chats.

All tweets are connected to at least one user (the original tweeter) but may be connected to many more through their favouriting, retweeting and replying activities. A user may be connected to an image in more than one way; for example, it is fairly common for a user who retweets an image to also favourite it. I used the software NodeXL (Hansen et al. 2010) to visualize such relationships, and thus to "see" representations of the chats—there are many other SNA programmes that would enable similar visualizations, but I found NodeXL allowed me to play with both the analysis and the visualizations in ways that increased my understanding.

Figure 2.1 illustrates this approach. It shows all publicly visible interactions from the first observed PedagooFriday chat session. Tweets are indicated by black diamonds; the accounts or users that interacted with them in publicly visible ways are indicated by coloured discs. The size of a symbol indicates the number of interactions that particular network node was involved in, ranging in this image from 1 to 372.

In this graph, the colour of a disc indicates the nature of the interactions that user was observed to undertake. For example, red discs indicate users who only contributed their own tweets to this chat session, and did not respond to tweets originating from other users. Grey discs indicate users who only interacted with tweets by favouriting them. Green discs indicate users who only interacted with tweets by retweeting them. Blue discs indicate users who only interacted with tweets by replying to them. Other colours indicate combinations of these interactions: for example, dark red, dark green and dark blue indicate users who combined favouriting with originating, retweeting and replying to tweets respectively. Khaki-coloured discs indicate users who engaged in all forms of visible activity except replying. Gold discs indicate users exhibiting all possible visible forms of chat participation.