Professional Learning for Self-Management Support: the Problem of Generic Skills Development

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ABSTRACT

Supporting people to self-manage long-term conditions, such as diabetes and heart disease, is a concern for health-care providers globally. Despite continued attention being paid to the production of educational resources for workforce development nationally and internationally, reports have highlighted that we do not yet know how to best help health-care professionals learn to undertake this work. This article employs sociomaterial workplace learning perspectives to show that many educational resources focus unhelpfully on generic skills and give insufficient consideration to the complicated and complex nature of this work. Using data from a wider study, which explored how health-care professionals in the United Kingdom learn to support children and their parents to self-manage type 1 diabetes, this article examines the informal learning that unfolds in the actions and conversations at work as professionals encounter, consider, explore and (temporarily) resolve specific challenges. This article provides novel insights into this area and suggests alternative ways of understanding, investigating and enabling professional knowledge.

KEYWORDS: informal learning, sociomaterial, professional knowledge.

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INTRODUCTION

Health-care workforces globally continue to face a series of seismic transformations, including those related to the radical redistribution of hospital and community health services, increases in the integration of health and social care services and the growing adoption of digital technologies in the organisation and delivery of health care. Entwined in these transformations is the promotion of people's capacity to self-manage long-term conditions, such as diabetes and heart disease. As the number of people living with long-term conditions continues to increase and unprecedented pressures continue to be placed on available resources, the promotion of self-management is expected to lead to a number of benefits, including those related to a reduced reliance on health services (Department of Health 2010; de Longh et al. 2015). However, such benefits require what was described in a report of the World Health Organisation as a fundamental shift in the relations between professionals and those receiving care (Wallerstein 2006), such that patients are repositioned as experts and personal responsibility for health is prioritised.

Considerable effort has been expended to develop and produce national and international resources to facilitate the required shift. Such resources aim to help health-care professionals develop and use the requisite knowledge and skills to support self-management and include practical guides (de Longh et al. 2015), strategic frameworks (Health Service Executive 2017; Mills et al. 2016) and toolkits (Health Navigator New Zealand 2014; Institute for Healthcare Improvement, n.d.). However, reports highlight that we remain unsure as to how best to help health-care professionals learn to support long-term conditions (Fagan et al. 2017; Health Foundation 2011). As policy initiatives make repeated attempts to guide the work of practitioners, accounts of progress make frustrated reference to the 'gap between policy and implementation' (Alliance Scotland 2017) and the 'chasm between evidence and practice' (COMPAR-EU 2019). One of the difficulties that arises in talk of chasms and bridging gaps is that such discussions rely too much on problematic assumptions about implementing policies in everyday clinical practice and treat professional knowledge as an object that can be acquired and transferred across diverse contexts. As Hager (2004) has argued, this conceptualisation of knowledge often has the effect of separating learning products from learning process, such that generic skills are prioritised in the publication of educational resources while local, context-specific learning in and for work practice remains invisible and unaddressed.

In this article, I adopt an alternative framing of professional knowledge that recognises that learning products and processes are inextricably entangled with one another and with clinical work practices in the production of knowledgeable care provision. If we pause and look more closely at what professionals do in their work to support

self-management, we might begin to better identify and understand the interplay among specific practice, knowledge and learning in this context. We might also begin to explore what Markauskaite and Goodyear (2017, p. 120) have described as the 'heart of learning for knowledgeable action'. This 'heart of learning' comprises the messy, contingent and entangled ways of knowing and doing that characterise the accomplishment of professional work. An understanding that professional knowledge is situated, collective, embedded and embodied in particular contexts, arrangements and practices of and for work (Gherardi 2006; Hager et al. 2012) highlights the serious problems that arise because of the continued emphasis placed on generic skills.

This article draws on findings from a larger study of professionals who were learning to support self-management in a children's diabetes clinic in a busy urban teaching hospital in the United Kingdom (UK). The article focuses on what Fenwick (2008) refers to as 'learning struggles'; that is, the informal learning that unfolds as professionals encounter, consider, explore and (temporarily) resolve particular challenges. Showing that many current resources dedicated to workplace learning give insufficient consideration to the specific practices that are the intended focus of learning, this article provides novel insights into this issue by exploring how the observation and investigation of these specific practices might lead to the development of educational interventions that are better aligned to the learning struggles. It also suggests alternative ways of understanding and enabling professional knowledge to support self-management.

STUDYING HOW HEALTH-CARE PROFESSIONALS COME TO KNOW

The sociomaterial understanding of learning that frames this article enabled the study of learning as enactment (Fenwick & Edwards 2010; Mulcahy 2012; Sørenson 2009), or to put it differently, the study of how learning materialises. Sociomaterial approaches direct equivalent attention to the social world, materiality and material affects, such that there is 'no social that is not also material and no material that is not also social' (Orlikowski 2007, p. 1437). This approach focuses on heterogeneous relations among people and things. Respecting these commitments is 'not simply a matter of adding objects to the account and stirring' (Mulcahy 2012, p. 135); rather, it is a carefully nuanced sensibility that considers the active participation of human and non-human forces and closely examines the effects produced. For example, knowledge is recognised as an effect of relations among individuals and entities, including but not limited to practitioners, buildings, tools, technologies and policies (Fenwick & Edwards 2010; Gherardi 2006).

For the purpose of this study, professional learning is defined as 'expanding human possibilities of flexible and

creative action in contexts of work' (Fenwick 2008, p. 19). Learning is investigated as a practical accomplishment. Adopting the approach of Gherardi (2006), knowledge is construed as something that people do rather than something people possess. Of central interest in this approach are the 'relations among the everyday interactions, routines and material arrangements in particular environments and forms of knowing generated from these' (Hager et al. 2012, p. 3). Thus, consideration is given to what professionals actually *do* in response to workplace problems.

The notion of learning struggles is a helpful heuristic that enables work problems to be framed as learning problems (Fenwick 2008). Consideration is given to the challenges and difficulties that professionals face, and the aim is to trace the moment-by-moment learning that unfolds. In a different but related conceptual move, Reich et al. (2017) broadened their focus on work problems to include aspects of work that might be considered unproblematic but are nonetheless pedagogically relevant. Introducing the term *sites of emergent learning*, defined as key learning intensive instances, Reich et al. (2017) suggest that empirical researchers might adopt this concept to help discern professional learning as it emerges in the workplace. These learning intensive instances are characterised by professionals negotiating, exploring and questioning practice and associated knowledge and offer a way of spotlighting aspects of work practices 'wherein questions of learning are brought into particularly sharp focus' (Reich et al. 2017, p. 568). These conceptual moves are important, as informal learning in workplaces is often not recognised as learning at all and tends to be viewed as being part of everyday work (Boud & Middleton 2003). Of course, not all work problems are learning problems. The important point is that certain work practices be recognised as learning practices and that there be opportunities to highlight and create potential learning spaces among such practices (Johnsson & Boud 2010).

RESEARCH SETTING AND METHODS

Childhood diabetes is an important case for this research for several reasons. Supporting the self-management of long-term conditions presents especially formidable challenges in children's services (Modi et al. 2012), not least because health-care professionals must find ways of balancing their obligations to parents and parental authority with their obligations to children, who are developing their own autonomy (Hawthorne et al. 2011; Silverman 1987). Care regimens are complex (Coffen & Dahlquist 2009) and place enormous demands on children (Hawthorne et al. 2011) and their parents (Rankin et al. 2015; Sullivan-Bolyai et al. 2003). Additionally, the stakes in childhood diabetes are particularly high, as children without access to a regular supply of insulin die quickly (International Diabetes Federation 2015).

Professionals supporting self-management must consider all of these issues in the course of their work.

This research was undertaken at a children's diabetes outpatient clinic in a large urban teaching hospital in the UK. Ethical approval was granted by the relevant institutional research ethics committee. The study participants comprised the regular core members of the clinic team: seven nurses, four doctors and two dietitians. All of the members of the team agreed to participate in the study and gave their written consent. Based on ethnographic traditions, the data were generated via fieldwork that comprised participant observation and semi-structured interviews. The study did not adopt a conventional ethnographic approach directed at understanding human culture and experiences; rather, it employed what Mol (2002 2008) has termed a praxiographic approach. Praxiography and ethnography share many similarities, including methods of observing and interviewing; however, praxiography has a clear focus on practices and the accomplishment and effects of such practices. As Mol stated (2002, p. 157), praxiography examines phenomena by introducing an axis of practice that 'encompasses molecules and money, cells and worries, bodies, knives and smiles, and talks about all of these in a single breath'. Praxiography does not privilege people's perspectives and experiences, as a praxiographer is interested in the practices that perform phenomena into existence. In this case, the phenomena in question are professional knowledge and learning.

The outpatient clinics, which are held twice each week and last approximately four hours, are the key locus of routine care and self-management support. At the clinic, children commonly see two or even three members of staff together in small group consultations. Children normally attend the clinic, with their parents, once every three or four months; however, more frequent appointments are possible (as required). Over a period of five months, a total of 56 consultations were observed between different children, young people, their families and the health-care professionals supporting them. Two Journal Clubs (dedicated time set aside for staff teaching and discussion), a team meeting, a 'pump live day' (i.e., a day at which a small group of four children and their parents were given and shown how to use their first insulin pumps) and a staff teaching session for staff members new to working with diabetes were also observed. In between these specific events, time was spent in the communal areas of the clinic, observing and talking with team members as they worked. Handwritten field notes were recorded in a journal during these observations and transcribed the same day or the following day.

Eleven interviews were conducted with staff team members. Two different types of interviews were conducted. A preliminary set of six interviews was conducted with two nurses, three doctors and a dietician. These interviews occurred early in the research project and lasted between 45–120 minutes. The second set of five interviews took

place following conversations in which staff members began to explain and describe aspects of their work in great detail. On these occasions, it was impossible to write notes at a pace sufficiently fast to do justice to the commentary provided; thus, the conversation was paused and a request was made to audio-record the conversation as a research interview. These interviews lasted between 25–65 minutes and arose more naturally in the course of fieldwork. They are differentiated as 'work discussions'; however, the differences between the so-called naturally occurring data and the interviews instigated by the researcher should not be exaggerated (Perakyla & Ruusuvuori 2011). The researcher's hand is, inevitably, in all the research data generated. All 11 interviews were audio-recorded and transcribed.

Data analysis was informed by Barad's (2007) diffractive approach, which emphasises patterns of difference and describes diffractive reading as a way of reading data through rather than against selected theories or perspectives (Jackson & Mazzei 2012). Reading and rereading in this way provided an explicit means of immersion in the data and facilitated attention to the different ways in which professional knowledge emerged in the everyday work at the clinic. The empirical focus was refined to instances in which the professionals were grappling with some feature of self-management support and the ways in which these instances were resolved to allow care and self-management support to be provided. With this focus, the analysis proceeded via the generation of detailed logs in which data from the transcripts and field notes were gathered in simple Microsoft Word documents according to provisional themes.

The analysis of the data continued into and through the writing up of these findings, as each area was examined and developed in relation to selected theoretical resources. Three broad areas of interest were identified. First, the ways in which technologies make a difference, particularly to the unfolding of learning in and through professional work practices. Second, broader care regimens (e.g., the professional work practices of reviewing blood-glucose results and adjusting insulin doses), particularly in relation to knowledge work entailed in such practices (see Knorr-Cetina 2001, 2006, 2007). Third, drawing on Gherardi's (2001, 2010, 2012) concept of knowing-in-practice, the relations among health-care professionals, children and parents as support for self-management is produced. This article focuses on some of the learning struggles professionals face in their work as they seek to support children and their parents to self-manage type 1 diabetes and considers the implications for workplace learning.

INTRODUCING SELECTED WORK PROBLEMS AS KEY LEARNING STRUGGLES

In the following sections, a series of data extracts are considered that were selected because they exemplify key findings of the study and show how professional learning unfolds in the actions and conversations of work. As this inquiry focused on professional learning in and for health care, engagement with technical biomedical details was required even though this engagement is not necessarily the natural habitat of educational research. However, theoretical and methodological commitments to situated, embedded knowledge and to professional learning as a sociomaterial phenomenon accomplished through context-specific relations of people and things emphasise the significance of such technical biomedical details. Such details are often complex but the important points relate to the ways in which professionals grapple with complexity and the participation of human and non-human forces in knowledgeable care provision. The extracts are grouped together in three sections that focus on: 1) sets of disciplines for different care regimens; 2) establishing the nature of children's progress; and 3) adapting for disruptions. Each section illuminates particular learning struggles.

SETS OF DISCIPLINES FOR DIFFERENT CARE REGIMENS

> It's quite difficult to teach people self-management in the first place, it's even harder if you have to say, 'Well, now you're on a different way of giving insulin we have to teach you some different rules'. So, mixed insulin demands a different set of disciplines from, if you like, the potential anarchy of basal bolus. And that gives us another problem, because you may have been dealing with someone whose life is totally chaotic and you're then trying to impose rigidity, because if you give them a mixed insulin at breakfast they've got to have a snack in the middle of the morning, they've got to have their lunch at the right time and if you're not sure of that, then that's another risk.

> (P9, Interview, October 2012)

This quotation by a key informant describes several of the challenges faced by professionals who work to support self-management. Different ways of administering insulin entail particular sets of 'rules' and associated activities. These 'sets of disciplines' or care regimens,

are significant for children and their families in terms of planning food intake at particular times and in particular quantities. Implicit in this quotation are a number of corresponding implications for health-care professionals: knowledgeable care provision unfolds with careful attention to the mode of insulin administration, to the activities that are required to support particular modes of insulin administration, and to the presence, absence and management of risk factors.

> When I started [working in this diabetes clinic] most people were on two doses of insulin a day, morning and teatime and when I started, most people weren't testing their blood glucose four times a day. And then basal bolus came along and we were saying, not only do you have to do your blood sugar at lunch time, you have to have an insulin injection … and then insulin pumps came along and by this time next year we'll be talking about a quarter of patients at our clinic on pumps.

> (P3, Interview, October 2012)

P3 was referring to the range of ways in which diabetes can be managed. Due to ongoing advances in medical care, different types of insulin are available (e.g., rapid- and slow-acting forms) and digital insulin pumps have evolved as prominent new technologies in the field. Consequently, professionals must adapt the self-management support they provide. Not only are there different nuances associated with each care regimen, but these care regimens co-exist together in the range of possibilities for care. The variety of care regimens requires corresponding professional learning or what Nerland and Jensen (2014) refers to as 'knowledge work', in order that knowledgeable care provision is appropriately tailored to the local and specific needs of children and their parents. Knowledge work is the mobilisation and circulation of knowledge in everyday work (Knorr-Cetina 2001, 2006; Nerland & Jensen 2014) and includes, as the extracts show, the work of exploring, questioning, adapting, developing and translating.

ESTABLISHING THE NATURE OF CHILDREN'S PROGRESS

During clinic appointments, professionals gather and analyse the information they need to ascertain the nature of support each child and parent requires. On arrival, the children's blood is taken for a HbA1c blood test. As the blood is analysed on site at this clinic, each child's results become available during their appointment. The professional work involved in gathering, selecting, prioritising and understanding the information is

considerable. This work is a collaborative enterprise and relies on a range of actors, including the children, their parents and the professionals, who must consider different care regimens and codified biomedical knowledge (e.g., knowledge about the implications of poor blood-glucose control, medical risks and available treatments).

> HbA1c blood tests are done in the clinic. Blood is taken and it is analysed using a machine on the premises. There is a printout of the result, one for the clinic and one for the lab. Results are left out on the desk for the professionals to collect as they see the children. P12 comments [that] she can't imagine doing the clinic without the HbA1c result because it's the most reliable indicator of how well blood-glucose levels are being controlled.

> (Field Notes, October 2012)

P12's comments about the HbA1c test raise questions about how different information is privileged or held to be valid or invalid and to the ways in which professionals might select and attend to particular information. As it is considered the 'most reliable', the HbA1c test results are particularly influential. The test measures glycated haemoglobin, which in lay terms can be understood as the level of 'sugary-ness' of the blood cells. The test results give an indication of average blood-glucose levels in the previous three months and the test is repeated at each appointment.

P12's comments also allude to an important dimension of professional work; that is, trying to discern how well children and their parents are managing to control blood-glucose levels. To establish the nature of a child's progress, a variety of information must be gathered and considered. Additionally, a combination of electronic patient notes on hospital computers, paper case files and handwritten diaries (or the software printouts of digital insulin pumps) completed by the child and/or their parents must generally be reviewed. Conversations with children and their parents also yield information about current insulin doses and day-to-day management of diabetes care (see the extract below).

> P1 asks questions to get the child to talk through the daily routine—what do you do when you get up, how many carbohydrate units do you have for breakfast, how much insulin would you take for that? She works through the whole day. P11 comments afterwards that she learns a lot from the way P1 finds out what is happening but also

checks the family's understanding of what they do. The
blood-glucose diary is used to review the daily results
recorded in there and the HbA1c result guides
professional understanding of overall control. The
professionals comment that the diet sounds good and
advice is given about not varying carbohydrate amounts at
mealtimes because of the mixed insulin regimen.

(Field Notes, November 2012)

The work is not simply about checking compliance with a
fixed care regimen; rather, it requires a continual need
for carefully informed adjustment. Knowledgeable care
provision entails synthesising daily blood-glucose
recordings, the HbA1c blood test results and insulin
amounts. The measurements and numbers are then considered
in light of further information about, for example, food
intake and exercise levels. As others have commented (see,
for example, Moser & Law 2006; Mort & Smith 2009), the
information that contributes to the emergence of
professional knowledge is always an imperfect mash-up, both
complete and incomplete, and only fleetingly stable.

I can only imagine what it must be like to be 12, 13, 14.
It's hard enough being in puberty, let alone with a life-
threatening condition that everyone's, you know, telling
you that you need to do better all the time. My heart
really goes out to these kids. […] And there's a mum, her
child with diabetes, you know, metaphorically I just want
to hug a lot of the parents here. And the young people,
because I just think, you know, you, I know that coming
to clinic is like an interrogation. But we have 15 to
20 minutes, three times a year to try and find out what's
going on.

(P8, Work discussion, January 2013)

This sensitive understanding of the daunting collection
of tasks delegated to children and their parents is another
important consideration in examining the accomplishment of
self-management support. P8 recognised that children and
parents might have mixed feelings about engaging in
multiple complicated self-care tasks (Coffen & Dahlquist
2009) and noted that the relentless nature of these self-
care tasks might affect their wellbeing (Sullivan-Bolyai
et al. 2003). What is also embedded in this narrative is a
sense of urgency and anxiety about the time available to
establish a professional understanding. The clinic

consultations are viewed as time limited and the use of the word 'interrogated' is a powerful expression of the relationship dynamics between professionals and families.

ADAPTING FOR DISRUPTIONS

The above data extracts show some of the key practices and arrangements for supporting self-management, including the current health status of individual children (e.g., blood test results etc.), insulin doses, accounts of daily lifestyle and codified biomedical knowledge. The following extract illustrates how disruptions to the usual arrangements can create difficulties.

> The next patient arrives with no monitor and no diary. There is no HbA1c result either because the machine is not working. The health-care professionals ask the patient about insulin doses and further discussion suggests blood-glucose control was not good at the last clinic appointment. There is a long chat about the lack of information making it impossible to make adjustments to insulin doses. The staff members convey their concerns about serious medical consequences and a plan is made for mum to phone each day for the next week with blood-glucose readings so that at least the patient is kept safe.
>
> (Field Notes, December 2012)

Without the HbA1c test results, the professionals lose the anchor of reliability that normally guides their practice. There is no possibility of reviewing the blood-glucose results and the absence of detailed information shifts attention away from adjusting the insulin dose or lifestyle choices. Codified biomedical knowledge about serious medical consequences actively participates in the care provided and redirects the focus to immediate safety. A partial resolution is reached when the parent is asked to provide the clinic with some missing information on a daily basis. A similar situation arose on another occasion (see extract below); however, the difficulty in the following instance was less related to an absence of information and more related to the need to establish the veracity of the information.

> A girl I saw in clinic last week. It took 50 minutes for her to tell me what she was eating the day before she came into hospital. I asked her what she'd had for lunch for example. 'Tuna sandwich'. 'Okay. Anything else?' 'No'. 'What did you drink?' 'Water'. 'You have any

fruit?' 'Yes, two tangerines or something'. So, [my
colleague] sees her the next day. And her sister, the
girl's sister happened to be there. So out comes the tuna
fish sandwich story, [and the sister said] 'No, you
don't, you go to the chip van every day. You always have
chips and curry sauce and maybe a fritter or two'. So,
she had 10 very high blood-glucose results in the last
seven days before admission. She was said to have been
taking 40—*four zero*—units of Novorapid at lunchtime. And
I gave her six the day she came in and it was too much.
So if I'd given her 40, I would have killed her.

(P8, Interview, January 2013)

Relying on the accounts of children and parents requires
the staff to not only attend to the details but to also
consider and understand those details in light of and
alongside other knowledges. P8 describes juggling between
different knowledges, recognising inconsistencies and
remaining open to different possibilities. In their
research examining the accomplishment of safe anaesthesia
practices, Mort et al. (2005) emphasised the importance of
not prematurely relying on particular knowledge or
information, but sustaining 'agnosticism' when balancing
priorities and trying to make sense of the information and
knowledge. P8's engagement with heterogeneous flows of
information and knowledge enabled adaptations to be made
that met the specificities of the situation. Such instances
represent Knorr-Cetina's (2001) moments of exploration and
closure that require local knowledge work of balancing
conflicting and competing interests, selecting and
prioritising, questioning and discounting. As the proposed
40 units was deemed to be an unusually large dose at this
particular juncture, a much smaller dose was given to the
patient. P8's final comment is sobering and highlights the
significance of this knowledge work in self-management
support.

ALIGNING WORKPLACE LEARNING INITIATIVES WITH LEARNING STRUGGLES

Of particular interest to this study were the practices and
challenges that emerged in the work of supporting self-
management and the related issues and learning processes
that unfolded. Workplace learning must begin with an
accurate understanding of the specific practice that is the
intended focus of the learning. This is particularly
important because if the nature of the work is misunderstood
or misconstrued, then the focus of any workplace learning
intervention is likely to be misaligned. This article

showed that: 1) current workplace learning initiatives are unhelpfully misaligned when examined alongside the learning struggles made visible here; and 2) identifying key learning struggles could help to better inform workplace learning initiatives for health-care professionals.

SUPPORTING SELF-MANAGEMENT: THE MISALIGNMENT OF WORKPLACE LEARNING RESOURCES

Current strategic frameworks, toolkits and practical guides (that are intended to be used as workplace learning resources) suggest a broad range of areas on which to focus. Health-care professionals are encouraged to develop skills in goal setting, teamwork, health risk factor assessments, cultural awareness and collaborative problem definition (Battersby et al. 2008). They are also encouraged to develop their communication skills, health promotion skills, behaviour change capabilities (e.g., problem-solving skills) and organisational/systems capabilities (e.g., interprofessional practices) (Flinders Human Behaviour & Health Research Unit 2009). Additionally, others have noted the need for skills related to care and support planning, collaborative agenda setting, recognising and exploring ambivalence and goal setting, action planning and follow up (de Longh et al. 2015; Health Service Executive 2017). In yet another example, five key elements of self-management support were identified explained: the assessment of self-management, the collaborative definition of problems, targeting, goal setting and planning, self-management training and support services and active and sustained follow up (Health Navigator New Zealand 2014). As these broad focus areas share a number of similarities, there appears to be some consensus about a number of important professional skills; however, key difficulties persist.

One significant limitation of the focus areas of these resources is that they are highly generic and thus tend to exaggerate similarities and underestimate differences across diverse contexts (Hager 2013). For example, while a capacity for collaborative problem definition might indeed be useful, there is little nuanced guidance about how professionals might accomplish collaborative problem definition with older adults with diabetes or young adults with heart disease or children with asthma. Further, there is no recognition of the influence of specific biomedical knowledge, the material effects of particular medicines (e.g., insulin) or variations within and between care regimens, each of which shape learning in and for knowledgeable care provision and the self-management support required. In short, when considered with the data generated by this study, the strategic frameworks, toolkits and practical guides do not correspond well with the work of these professionals or the associated learning struggles they encounter.

A second key limitation of the focus areas of these resources is that much of the literature on how

professionals can be assisted to support self-management has emerged from studies on the experiences of people receiving self-management support. Consequently, the advice tends to recommend that professionals acquire a better understanding of what life is like for people living with long-term conditions. For example, Pickard and Rogers (2012) explored the nature of lay expertise in self-care. In doing so, they considered the role played by health-care professionals and biomedical care regimens; however, both these considerations were examined through individual patients' embodied experiences of professional support. Thus, the conclusions drawn about health-care practice were formulated solely in terms of individual patients' practice and experience of self-care and recommended that detached biomedical intellectualism should not be preferred to lay expertise. Similarly, Lawton et al. (2015) examined the challenges parents encounter in managing their children's diabetes and explored parents' experiences of professional support. The authors' recommendations included that professionals should be trained to better understand the realities associated with parenting a child with diabetes.

However, the challenges facing professionals cannot always be explained in terms of needing to know more about or pay more attention to lived experience. A key difficulty in supporting self-management is that professionals struggle to reconcile the biomedically structured context in which they work with the contemporary policy emphasis on shared decision making (Anderson & Funnell 2010; Scambler et al. 2014). Efforts to improve clinical outcomes may sometimes conflict with attempts to ensure that individual patients' preferences guide the care provided. Consequently, professionals may find it difficult to strike a balance. Negotiating this balance is especially challenging when particular choices are associated with particular risks (Morden et al. 2012).

Without undermining the importance of lived experiences or calls to better understand or respect such experiences, it should be acknowledged that this focus might not be the best or only way to respond to the challenges faced by professionals. Further, as has been argued, there is a need for clearer understandings of what those specific challenges are, how professionals can learn to address these challenges and what kinds of workplace learning might be most helpful. The observation and examination of work practices could lead to educational interventions in the form of workplace learning resources that are better aligned to the work being undertaken.

IMPLICATIONS: REFOCUSING EDUCATIONAL INTERVENTIONS FOR WORKPLACE LEARNING

By drawing attention to learning struggles, it may be possible to shift the focus of educational interventions from the development of generic skills to a recognition that professional knowledge is situated, embedded, embodied

and collective. Rather than pursuing decontextualised and disembodied approaches that may fail to account for the challenges associated with work practices (Fenwick & Nerland 2014), pedagogy should be understood as being uncertain and contingent (Fenwick & Landri 2012) and the emergent nature of informal learning should be respected. Although conceptualising knowledge and learning as emergent could create difficulties in structuring educational interventions (Johnsson & Boud 2010), the important point is to find ways of holding in tension the opportunities that arise from informal learning as it unfolds in moments of everyday activities with the scope for intentional resourcing of such learning (Aberton 2012).

At the diabetes clinic, observations and examinations of work practices showed that professionals grapple with particular challenges relating to care regimens (e.g., selecting one of multiple options, understanding newly added options and specifying detailed requirements of different options), gathering information (e.g., selecting and prioritising different sources), establishing a view of current progress (e.g., interpreting, appraising and sometimes discounting information) and juggling different forms of knowledge (e.g., recognising inconsistencies and remaining open to different possibilities). Notably, these learning struggles are most accurately understood as being situated and embedded in the context and specificities of support related to diabetes self-management. Accordingly, the insulin, blood tests, injections, digital technologies, diaries, carbohydrate units and diabetes-specific biomedical risks actively participate to influence self-management support, as do the capacities of each child and family member and the interpersonal relationships that ebb and flow in the course of care provision. These learning struggles need to be recognised, understood and addressed.

The particular interventions employed need not be especially novel in and of themselves. Collective energies have already produced a myriad of frameworks, toolkits and practical guides intended for workforce development. This study simply suggests an approach that complements (rather than replaces) these resources. As this article suggests, explicit attention must be paid to the specific learning struggles in play. Merely articulating the profound challenges at stake in these practices of supporting self-management is likely to help. Learning spaces and resources that enable a detailed exploration of all the interacting features (social, material, biomedical, lay or otherwise) could help professionals to develop a language for the particular challenges they encounter, create a space to discuss these challenges and encourage the open sharing of the strategies they negotiate together. Otherwise, health-care services, teams and individual professionals will, as Fenwick (2008) argued, be compelled to struggle and reinvent strategies for learning and may even duplicate past efforts or repeat the mistakes of others.

The study focused on professional work at a children's diabetes clinic; however, the practice-oriented

observations, with their sociomaterially-framed attention to learning struggles, have a wider resonance. A pedagogically informed exploration of what professionals do as they accomplish knowledgeable care provision among the particular conditions, constraints and affordances of everyday work could be a valuable method for understanding and informing workplace learning in other settings in which health-care professionals are similarly poorly served by generic lists of skills. This approach could also be used to support the development of workplace learning in settings in which knowledge in and for work is changing (e.g., where new models of care are introduced or services are reorganised) to ensure that pedagogical efforts are sufficiently well aligned with and can be used to address the specific challenges faced by professionals.

CONCLUSION

Supporting people to self-manage long-term conditions is a concern for health-care services globally; however, many unanswered questions remain as to how health-care professionals can best be helped to learn to undertake this work. This article drew on sociomaterial workplace learning perspectives to problematise the persistent emphasis on generic skills development and showed that many current toolkits, practical guides and frameworks for workplace learning give insufficient consideration to the specific practices that are the intended focus of learning. Consequently, many workplace learning resources are poorly aligned with the specific challenges professionals face. By examining what professionals actually do in their work to support self-management, this study provided novel insights into alternative ways of understanding, investigating and enabling professional knowledge in this area.

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