



### Pondering Purposes, Propelling Forward

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**Pondering Purposes, Propelling Forwards**

The 2017 third international meeting of ProPEL researchers (professional practice, education and learning), from which the articles in this special issue were drawn, offered a useful opportunity to reflect upon both the particular preoccupations of this maturing network over the past seven years and its possibilities for future directions. This article purports to do just that, in the form of summarising my closing plenary remarks to the 2017 meeting. To provide some context for these reflections, I begin by setting out what I consider to be some key challenges facing contemporary professions and their education. Against these, I consider themes and questions that have characterised ProPEL papers presented to its three meetings. Then, I compare these to the sorts of issues that appear to be most urgently debated in other scholarly communities concerned with contemporary professional practice and knowledge.

Based on this selective examination of recent publications and paper presentations, as well as my own past research, there appears to be strong agreement that professional work is being fundamentally transformed through new technologies, transnational demands and new organisational forms. With this in mind, I pose questions for educators researching professional practice: where we need more focus, where perhaps we need less, and what may be productive ways forward. As a summary of my own observations and reflections offered at the conference plenary, this piece aspires not to develop a formal scholarly argument but to provoke our collective pondering about our research purposes in this field of professional learning and education.

## Contemporary professional work and its challenges

With today's exhaustive definitions and categorisations of 'profession', sociologist Evetts (2011) steps away altogether from attempts to define a professional, emphasising that it is more fruitful to ask why so many occupations want to be designated a profession. In the past however, a key distinction of professional work from other knowledge-based occupations was the social contract. That is, licensed professionals have a formal legal and ethical obligation to guarantee a reliable quality response to particular societal needs, and to safeguard their clients' best interests. In return, they have enjoyed 'closure', the ability to restrict provision of their service to their own members, along with self-governance and other privileges associated with this exceptional status.

Some analysts are now arguing that this social contract no longer endures, as I explain later in this paper. The reasons, summarised by Leicht (2016), are broad societal shifts that are transforming the relations of professions to government and citizens: (1) the rise of new public management with emphasis on external measures of output and performance; (2) market fundamentalism - putting consumers' choices at the centre of what counts as reliable knowledge and good service; (3) loss of trust in traditional institutions and professional knowledge; and (4) rising social anxiety and even despair over what seem impossible global problems, from climate change to the migrant crisis.

In my own examinations of contemporary professional work, I have been concerned with two key challenges arising from these shifts. The first is conflicting demands, requiring modern professionals to hold tensions among different, sometimes opposing, perspectives in their

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decision making. These are not just different interests, such as the familiar problem of balancing the needs of one against many, or of responding to sometimes contradictory dictates of organisations and professional bodies. Modern professionals regularly must reconcile multiple logics – managerial, cultural, ethical, research evidence, market - each rooted in different systems of relations and knowing.

The second are a series of what I consider to be governing regimes, exercised through organisational mandates, state policy, professional bodies, and public expectations, which are changing professional responsibility (Fenwick 2016). One is the expanding regime of assessment which requires additional labour and often focuses professional activity on measures of efficiency and visible output. Another is the demand for professionals to demonstrate innovation and entrepreneurship, regardless of the relevance of such activities to their core work as defined within their professional community and training. A third is emphasis on collaborative work, such as through policies requiring ‘co-production’ (planning and delivering services in full collaboration with citizens) and interprofessional practice. Related is a growing fourth regime of ‘social responsibility’, evident in exhortations for professionals of all kinds to address their work beyond their immediate clients to global problems and social justice. A fifth contrasting regime, so far particularly evident among practitioners in social and health care, involves the public blame and scapegoating of individual professionals when larger system failures occur. This phenomenon has generated professional responses ranging from increased focus on risk management and risk-avoidance to fear of revealing errors. Finally, the rapid uptake of big data, digital analytics and social media is threatening automation of many professional tasks while presenting strange new challenges for professional ethics and responsibility. My call is for more

focus on understanding just how professionals' practices are changing in response to these governing regimes, and how and what they are learning in these practices.

Of course, all of these challenges do not affect all professions and professional practitioners equally - we need to avoid over-universalising the notion of 'professional'. But taken together, these challenges pose enormous, if diverse, implications for educators across professional disciplines, global regions, and work settings. Given this spread, it is worthwhile to examine the sorts of questions that ProPEL researchers are raising in light of these broader challenges.

### **Professional challenges presented to past ProPEL conferences**

ProPEL was launched in early 2010 as an international research network coordinated from the University of Stirling in the UK. Most members were educational researchers who shared two interests in particular. First was a strong commitment to comparative research across professional domains, spurred by a belief that the critical challenges facing professional practitioners – their work as well as their knowledge and everyday learning – were shared across sectors of health, social care, finance, law and so forth to a much greater extent than was currently evident in the available research. Second, researchers engaged in ProPEL initiatives tended to favour theories and approaches that some have broadly described as 'sociomaterial': interested in how the complex relations among materials (bodies, objects, settings, technologies etc) as well as social dynamics (interactions, symbols, intentions, desires, etc) affect everyday practices and learning in work.

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The first ProPEL conference of 2012 surprised its organisers when it drew a large international response for a first-time specialist regional meeting: 167 papers across Europe, the UK, Canada, Australia, and South Africa representing a wide range of occupational disciplines. These were dominated by research in health care (including physicians, physiotherapy, occupational therapy, nursing, paramedics, radiographers) and teaching (including school, college, higher education, early childhood), but there were also multiple papers examining engineering, policing, law, artists, and finance practitioners.

In terms of the pressures on professions presented above, a quick frequency count of these 2012 paper topics reveals a heavy interest in understanding the changing nature of everyday professional practice, as well as their ‘practice’ of learning. A number of papers were also concerned with issues of assessment and accountability, largely analysing critically the effects of these dynamics on practitioners, although a few were interested in how to implement better assessments to improve professional competence. Some papers focused on issues of identity arising from professionals struggling with changing work conditions. Only two papers addressed a problem that was at the time receiving a great deal of media attention: precarious professionals, such as those working unpaid internships, poorly paid part-time work, or uncertain contracting arrangements. Surprisingly few papers also addressed topics that the conference committee had understood to represent core pressing challenges facing professionals at that time: interprofessional work, co-production work policies (requiring some professionals to work collaboratively with public citizens to plan and deliver services); new forms of leadership invoked through such work changes as interprofessional teams, regionally distributed services, or reorganisations to increase efficiencies and reduce staff costs; and new digital technologies

pervading professional work of all kinds. Very little content addressed systemic contexts affecting professional practice/learning such as organisational issues, policies governing professional education curricula, or practice regulations. However theoretically, a majority of papers integrated a strong interest in understanding materiality and the ecology of micro-practices, drawing particularly on activity theory (CHAT), practice theories of Karin Knorr Cetina, Silvia Gherardi and Theodore Schatzki, and actor-network theory (ANT).

To generate debates among these theories as well as to push their development in conversation with issues of professional learning and practice, the next conference ProPEL 2014 was, therefore, themed to deliberately foreground ‘sociomateriality’. Entitled ‘*Professional Matters: materialities and virtualities of professional learning*’, this meeting also strove to encourage more analysis of how digital technologies were affecting professional practice and learning. At least 30% of the papers did address this topic in varying ways. Some were more prescriptive, examining ways to increase professionals’ technological literacy or competence with new digital instruments, or analysing online networks in professional learning. However others were more critical in orientation, seeking to overturn existing treatments of technologies (such as medical simulation tools) as discrete objects of work to be mastered and instead understand them as implicated with everyday knowing-in-practice, action and subjectivities. The second strongest theme was professional education in HE, with many critical analyses of the shortcomings or struggles of existing provisions, and several papers looking closely at ‘the practicum’ – the transitions and even contradictions involved - as a fraught part of professional learning. Third, interdisciplinary/inter-professional work and education was the focus of a smaller number of papers. Of the topics not strongly addressed at this meeting, it is worth mentioning that issues of

globalisation affecting professional practice and knowledge, including migration, were the focus of only three papers.

Theoretically, ‘sociomaterial’ approaches marked the papers in ProPEL 2014 as strongly as they seemed to in 2012. In addition to continuing strong representations of CHAT, ANT and practice theories, papers claimed to be working with material feminism, posthumanism, complexity theory and analyses inspired by the philosophy of Giles Deleuze. Indeed, a sociomaterial affiliation seems more generally to be evident in recent journal publications addressing educational questions of professional practice and learning. What is meant by ‘sociomaterial’, of course, needs to be spelled out carefully. The different areas of thought that might be broadly referred to as ‘sociomaterial’ do tend to circle around shared concerns with structural and categorical ways of understanding people, action and knowledge. They also share strong commitments to recognising ongoing relations of process, power and materials, and how these are ‘entangled’ – and, importantly, performed - in ways that defy cause-effect thinking. However they are each unique and distinct, with their own preoccupations, sources, and assumptions that need to be accounted for.

There are some further traps, as with any new enthusiasms. The notion of ‘sociomaterial’ or even ‘sociomaterial theory’ is sometimes invoked or defended in ways that can obfuscate rather than illuminate a study. One is a tendency to ‘add objects and stir’, or to count-the-objects in a particular phenomenon observed in professional practice. This does little to highlight key material dynamics that are influencing work and learning in some critical way, or to illuminate the relations among materials, knowledge and action. Another problematic tendency is to claim



the inherent superiority and progressivity of a novel 'sociomaterial' tack. This both ignores existing critiques of such methods as ANT and CHAT and their own acknowledged limitations, and dis-acknowledges the many fields that have been analyzing materiality for some decades: material culture studies, vast literatures on human and feminist geographies, new anthropologies, transgender studies, and classical ANT studies. A third problem results when particular approaches within the sociomaterial families become formulaic, either turning complex theoretical ideas that are intended to resist methodisation into models that can be easily applied, or adopting 'purist' and ham-handed methodological stances such as deriding interview studies as 'lacking objects'. A contrasting problem could be termed a 'mush-and-slush' approach, where an analysis calling itself 'sociomaterial theory' adopts bits of many approaches without reconciling certain resulting conflicts.

These and other problems are not uncommon across social science methods. The point here is that, while those researching professional learning seem particularly interested in developing sociomaterial and practice-based approaches, we also might remain alert to these problematic tendencies. We neither want to fetishise the new, evangelise its proponents, or distort its use by ignoring its predilections. Any novel method can easily become a lasso that captures and then braids a phenomenon into a particular knot before the researcher has begun to identify the exclusions and assumptions being thus reproduced. Yet sociomaterial sensitivities can be extremely helpful for illuminating material issues and insights into professional practice and learning, and we saw some strong examples at this 2017 conference.

**Professional challenges presented to ProPEL 2017**

Papers presented to the 2017 conference examined challenges experienced in a typically wide range (for the ProPEL community) of professional work in both public and private domains. While contexts of schools (teachers) and health care (physicians and nurses) tended to dominate the studies presented, there were also papers focused on social care, paramedics, physiotherapists, human resource professionals, veterinarians, and the legal profession. Theoretically about one-third of the papers explicitly incorporated sociomaterial approaches, a large number working with ANT but also some declaring use of complexity theory, posthuman and ‘material-discursive’ theories, ideas of Giles Deleuze, the ‘agentic realist’ thought of Karen Barad, and the epistemic machineries of Karin Knorr Cetina. Many of these analyses attempted to genuinely push forward these theoretical approaches, putting sociomaterial and practice-based perspectives to work on specific problems rather than simply enumerating the objects constituting professional scenarios.

The result has been some innovative critical insights to move forward our debates about continuing challenges in both professional practice and education. The use of high fidelity simulations in health professionals’ education, for example, is being scrutinised in terms of what is really going on in highly technologised simulated experiences, and what sorts of knowledge and even practices are being produced (e.g. Escher and Tsai 2017, Ireland 2017, Rooney et al 2017). These practice-based and sociomaterial analyses provide an important counter-narrative to the powerful triumphalist accounts that are so prevalent in discussions of medical simulation.

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3 Interprofessional practice was also examined critically to challenge orthodox assumptions about  
4 the nature of interprofessional work and its inherent goodness, and to highlight the power  
5 dynamics of materiality. One study empirically traced the content and forms of different  
6 knowledges that circulate in interprofessional work, examining a range of sociomaterial relations  
7 and actors in the mix (Goldszmidt et al 2017). Others focused on the politics of interprofessional  
8 collaboration activity (I'Anson and Eady 2017, Paradis 2017), the ways interprofessional  
9 education becomes aligned with organisations (Rowland et al 2017), and the 'game playing' of  
10 such collaboration (Nählinder et al 2017).  
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24 Professional learning in practice, another topic of continuity with past ProPEL conferences,  
25 enjoyed some fresh developments. What 'boundary work' do educators perform to bridge  
26 workplace and academic learning settings (Köpsén and Andersson 2017)? How does pedagogy  
27 actually emerge in professional-client partnership practices (Hopwood, Clerke, and Nguyen  
28 2017)? If we understand professional activity as a 'trellis of practices' can we find more  
29 differentiated ways to support its learning (Francisco 2017)? What about professionals' well-  
30 being: can we promote more 'self-interested' professional learning in practice (Strevens and  
31 Field 2017)? How can we think more precisely about temporalities of professional learning, in  
32 terms of rhythm, tempos and durations of different forms of learning (Taylor 2017)?  
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48 Purposes of professional learning were interrogated critically with much more emphasis at this  
49 2017 ProPEL meeting. Shavard (2017) examined what happens to 'why' questions in teachers'  
50 collaborative learning. Yi Siang Low and Tseries (2017) dissected the problems of 'radical'  
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pedagogies in professional education. Severinsson (2017) took on the problem of ‘learning’ itself continuing to be promoted as inherently positive.

Papers of particular note set foot in territories that are not yet widely explored in professional learning, but that arguably deserve far more attention. One is the problem of conducting empirical research in situations where access to busy practitioners and heavily regulated settings is notoriously difficult, while trying to be as reflexive as possible about the constitutive influence of the research methodologies, language and observers being used. A noteworthy paper (Whitehead et al 2017) raised more fundamental process issues: built-in resistance of the research publication system to acknowledge ‘absence’ of particular topics and issues. A second area is the transnational expansion of professional work, discussed in more detail in the next section, which was addressed in only one paper (Boyland 2017). The third, digital technologies, is one of the most critical in terms of its accelerating impact on professional work. Here a small number of papers took up questions of social media and the emerging digital transformations of professional relations and knowledge (e.g. Thompson 2017). These are heartening directions, and perhaps could be strengthened by looking across other fields and discussion communities.

**Professional challenges discussed more broadly**

As we turn our gaze outwards from the ProPEL conference papers to consider these against themes appearing in other fields interested in professional practice, education and learning, we can see some convergence and a great deal of understandable divergence. I could title this section ‘trends in professional learning research’, except that the following observations claim

nothing more than to represent my own viewpoint and partial interests, examining a very limited set of materials. I simply skimmed articles published in 2016-17 in the following journals:

*Professions and Professionalism, Management Learning, Journal of Professions and Organisation (JPO), Studies in Continuing Education, International Journal of Lifelong Education*, and specialist professional education journals such as *Advances in Health Sciences Education*. In addition I perused conference calls and paper titles for the 2016-17 meetings of European Group of Organisation Studies (EGOS), Research in Work and Learning, and the 'Learning and professional development' conference for the European Association of Research in Learning and Instruction. Here are some of the more prominent themes I noticed across these forums.

### *Learning in practice*

Particularly in the education journals and conferences among these sources, papers addressing professional learning continue to be concerned with how to better teach professionals to do their job. A range of topics by now familiar to anyone in the field of professional learning appear frequently: problems of RPL (recognition of prior learning), apprenticeship, promoting desirable informal learning, learning practice through practice, assessing performance in practice, training practicum supervisors, dealing with students' emotion, and enhancing technical skill.

I have three observations here. First, one might well wonder why these issues persist despite volumes of analysis and prescription, but perhaps they are intractable problems that present new challenges as work and university contexts evolve over time. Second, most of these issues focus on students' learning in some form of professional practice, as opposed to classroom. For me this

represents a positive shift, and may suggest increasing interest in truly valuing practice-based learning while trying to understand it more deeply and support it more effectively. Third, however, one cannot help but note that, with a few exceptions, many of these studies are modest in scope. They are often interpretive, relatively small in participants and sites, confined to local cases and single issues, and firmly focused on learning adaptively. That is, existing settings, practices and forms of knowledge often seem to be accepted as givens, with the challenge understood as helping students to fit into ‘what is’.

*Transformations of ‘professional’ roles, tasks and regulation*

Yet other publications about professional knowledge and learning are showing massive changes, often analysed alongside broader forces of shifting organising dynamics and political economies, artificial intelligence, and public concerns for issues like ‘fake news’. Authors such as Pfadenhauer and Kirschner (2017) show how professionals’ scope of work, autonomy, and knowledge authority is dramatically declining in a range of disciplines. To take just one example, Susskind has been arguing since (2008) the ‘end of lawyers’ in a field rapidly proliferating into paralegal advisors, online courts, information analysts and digital analytics. Sommerlad et al. (2015) show the enormous resulting challenges to legal education. Many other professions such as dentistry, ophthalmology and finance are finding their practices and demands being dramatically restructured as new layers of technicians and para-professionals arise to work alongside digital technologies that can now manage activities like diagnosis and planning (Edwards and Fenwick 2016). This raises all sorts of issues of learning issues: not just about what particular expertise the professional expert can contribute, but also figuring out ways to avoid fragmentation of service and manage legal liabilities. Researchers such as Blomgren and

Waks (2017) are analysing the effects of what is increasingly referred to as ‘hybridisation’ of the professional role. This is partly due to the multiple logics and contradictory demands that professionals must manage simultaneously, as well as the changing relations and conflicts with management, organisations and society that sociologists including Evetts (2013) have been analysing. Overall concerns about declining professional legitimacy and credibility are debated in forums such as a special issue of *JPO* targeted for 2018 publication entitled ‘Management, professional occupations and knowledge as a contested terrain’. A call for papers at EGOS 2017, a large European meeting of organisational analysts, argues that changing definitions of ‘good’ organisations are reshaping professional work in wide-reaching terms: ‘the production and circulation of knowledge and ideas, the introduction of innovative processes, artefacts and arrangements, the re-negotiation of professional relationships and boundaries, and the emergence of new regimes of knowing and learning’ (Gomez, Nicolini and Reah, 2017).

### *Changing work arrangements*

New work arrangements are transforming professional practices and demanding new expertise. First, within organisations professionals increasingly must integrate managerialism with professional principles across what seem to be contradictory principles of profit and trusteeship, or service efficiency and quality of care. Noordegraf (2015) argues that the resulting ‘organising professionalism’ is emerging as a new model of work. Second, while interdisciplinary work organised around short-term teams and projects rather than full-time institutional employment has been tracked for some time in professions such as engineering, health care and design, teams and networks are increasingly being coordinated transnationally in new complex models.

Seabrooke and Tsingou (2015) call these ‘linked ecologies’ and show their importance in tackling global problems such as epidemics or food security.

Third, networks of human providers delivering professional knowledge and expertise are shown to be rapidly shifting to incorporate or even rely upon nonhuman agents such as smart devices, digital analytics and big data as well as human non-professionals such as knowledge engineers, process analysts, and technicians (Susskind and Susskind 2015). Fourth, beyond organisational employment in a trend reflecting what is informally called the gig economy, professionals increasingly are working as independent contractors. One study examining western Europe showed these ‘i-pros’ to have increased an average of 45% from 2004-2011 (Leighton 2013). Overall, professional work arrangements of the future are argued to be transforming through the impact of four key forces: internationalisation, changing career and work-life preferences, de/re/regulation, and technology (Smets et al. 2017).

Looking across such wide-ranging changes emerging in professional work and knowledge, we might encourage educators to embrace concerns beyond how to help professionals adapt to what is, towards supporting what is likely to become the futures of professional practice in global domains.

**What still seems to be missing**

For those of us researching professional education and learning, these studies tracking fundamental transformations in professional work and responsibilities provoke us to consider



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3 implications for pre-service and continuing education. If it is true, for instance, that certain  
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5 professional activities are increasingly being delegated to technicians and technologies, perhaps  
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7 ‘the professional’ in these arrangements of knowledge and skill provides specialist expertise that  
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9 cannot be routinised: including wise judgment, ethical decisions, action in unpredictable or  
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11 ambiguous situations, creativity, and empathy. Presumably professionals also need to learn how  
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13 to collaborate effectively with these networks of people and materials. It follows that  
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15 preparational education must shift away from developing expertise and knowledge that has  
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17 traditionally defined a professional’s role. Just what this shift might entail for curricula,  
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19 pedagogy and the role of higher education is a question for educational researchers. The same  
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21 general implication follows from all of the shifts in professional practice discussed to this point.  
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23 Internationalisation and increased interdisciplinary networks of professional work require  
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25 particular capacities where education can make a difference. So do demands for innovation,  
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27 hybridised and ‘organising’ professionalism, social responsibility, reconciling stakeholders’  
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29 multiple competing logics, and working with big data and digital analytics. In examining and  
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31 recommending new corresponding directions for professionals’ education, researchers also need  
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33 to continue the critical work they have always undertaken to question these changes and their  
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35 assumptions within broader issues about societal needs, forms of expert knowledge, and the  
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37 nature of practice.  
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48 However apart from the emerging studies of change affecting professional learning, some  
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50 authors argue persuasively that further urgent but under-researched issues pose pressing  
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52 questions for educational researchers. One is the area of migrating professionals, particularly  
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54 critical given the increasing prominence of professional mobility and trans-national work. An  
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immediate issue is the impact of migration on professional knowledge, including its losses to many developing regions. Another is how to integrate increasing numbers of migrant professionals with different knowledges and approaches into receiving communities. This often entails the misrecognition of foreign qualifications and experiences of migrant professionals. A September 2015 issue of *Studies in Continuing Education* highlighted the narrow skill regimes defining international professionals’ right to practice (Shan and Fejes 2015) and migrants’ experiences fighting these racialised regimes (Guo 2015).

A second related area of crucial questions are those concerned with inequality and the changing ‘good’, both in society and organisations. It is painfully apparent that relatively little publication in the mainstream English language journals interested in professional practice and learning address these issues in regions outside of wealthy developed nations, such as in the global South. Leicht (2016) asks, given the dynamics of widening economic inequality as well as professionals’ (past) privilege of elitism and protection, what is their role in addressing these global dynamics? We might ask more questions like this in the context of professional education. Other issues of race, gender, and sexuality equality, commonly discussed in educational literature, are rare in studies of professional learning and education.

A third area attracting surprisingly little educational attention is the direct involvement of families and citizens in performing what have been traditionally professional services. Studies of this ‘co-production’ (Fenwick 2012), including citizen journalism/policing/health provision etc., citizen science (Edwards 2014), online public expertise networks, and public reliance on the internet for knowledge traditionally safeguarded by professionals, show its growth as a

phenomenon and object for public policy. The implications for professional practice range from reconciling different knowledge authorities to understanding new boundaries defining who can be permitted to do what in delivering services.

Finally, for me a particularly compelling issue is the consequences of new digital technologies for professional practice and therefore for education (Edwards and Fenwick 2016). Digital analytics combine massive volumes of big data with software algorithms that collect, compare and calculate that data – not only to make predictions based on pattern recognition but even to make new patterns, decisions and prescriptions. New smart instruments are also changing how professionals must work and think. While few would argue that digital analytics, robots and smart kit will put professionals out of jobs, these technologies raise new legal liabilities, make activities redundant, open exploitive potential and limitations, and suggest that existing practice must be rethought to evolve into some new hybrid effectively collaborating with digital technologies. Some analysts such as Thompson (2016) and Williamson (2016) are highlighting how datafication and digital worlds are transforming the challenges for education and professional practice. As with the other issues discussed here, an overriding question for education is: What can human specialist practitioners bring to these rapidly transforming work contexts, and how best can educators support these transformations? There are many topics entreating research attention in professional education but we may need to be think very carefully and selectively about which questions deserve more priority in our studies, and what questions we ought to ask more in considering how and with whom we conduct our research.

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**‘ProPEL’ing forward**

In considering our future directions as researchers interested in professional practice, education and learning, a reasonable starting point are those issues in professional work identified as critical by social scientists and outlined here, beginning with learning in practice; multi-faceted transformations of ‘professional’ roles, tasks and regulation; and changing work arrangements. Some of these have yet to be fully developed and debated in terms of repercussions for professional education and learning, but questions identified through studies in other fields could be useful for educational researchers. Other issues, particularly those listed in the previous section, surely deserve more prominent investigation in all fields: the impact of migration and internationalisation more generally on professional practice and knowledge; inequality and changing demands of professional ethics and responsibility; increasing citizen participation in activities traditionally enclosed by professionals; and the wide-ranging impact of smart technologies and digital analytics on professional work and knowledge. Given the importance of these issues to professionals’ pre-service and continuing education, they deserve more sustained and comprehensive examination. Researchers of professional education and learning could well lead the way in both highlighting and unfolding what the issues actually are, as well as exploring their corresponding requirements for new educational supports, curricula and pedagogical delivery approaches.

Beyond specific topics and questions for research, our futures also might deserve some reflection on how we conduct research. How might small local interpretive or ethnographic studies focused on a single question of educational relevance be better balanced with studies of broader scope and mixed methods? How might professional learning studies be better integrated with other

relevant fields, including sociology of work, organisational and management studies, economics, and software/digital studies? What is the most appropriate role for sociomaterial approaches in balance with other theoretical approaches to understanding professional practice? How can we avoid allowing excitement for new theories to overly determine the actual problems we examine or the priorities in our writing? Are we exploiting the new repertoires of research methodologies, from big data scraping to digital arts, to increase the scope and explanatory potential of our professional educational studies?

Underpinning all of these issues remain central problems hampering developments in professional education, as we saw in the ProPEL conference papers, that persist despite some efforts to address them. One is the continuing gulf, at least in some regions and disciplines, between the different worlds of higher education and work settings that are both involved in training professionals. While we often hear about successful experiments with work-based learning, cycles of internships, or curricula developed through community partnerships, we also hear complaints that higher education remains blinkered in its own world of particular academic values and structures. A symptom is the relatively large number of research papers still addressing problems with the ‘practicum’ as a separate space of learning, or even with the ‘theory-practice’ gap in professional training. Meanwhile higher education is wrestling with increased demands to reduce the cost and duration of professional training, to incorporate new skill training, and to expand its scope through mass internationalised training (e.g. through MOOCS, massive open online courses) - all while maintaining graduates’ quality. Another problem are the continuing siloes of educational practice and research in different professional domains of health, law, social care, finance, teaching, journalism and so forth. This may be due

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partly to the general lack in higher education of strong structures and rewards that genuinely support interdisciplinarity. But we still ought to ask what is preventing educational researchers in these domains to work more collaboratively across them to tackle the many shared problems.

In taking up these as well as the other pressing research issues raised throughout this discussion, there are some immediate practical actions that we could do more of as educational researchers. The first is to work harder to make connections across disciplines. More meetings like ProPEL might encourage educators focused on diverse particular professional occupations to speak together. We could publish more that pulls together researchers from a range of domains, collaborate on more multi-professional bids, and create special issues of journals featuring voices from different professional sectors highlighting a broad shared concern like those identified here. A second related activity is to generate much more dialogue *across* diverse perspectives that actively challenge one another while seeking imaginative solutions to intractable shared problems. These might be contrasting theoretical or methodological perspectives analysing an issue or phenomenon in professional education. Or workshops of practitioners, professional associations and university professional educators to improve interfaces of formal education with work settings and ways to assess practice learning. Or educators of different professional faculties working closely with specialists in digital media and analytics to re-design parts of their curricula.

Third, I suggest that we spend more time examining the range of potential research issues to figure out the most significant future trajectories that we feel are worthy of the tremendous investment that research of any kind requires. We might engage our colleagues as well as our

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3 students in elemental questions about our purpose: What we are truly attempting to accomplish  
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5 within each research activity that we undertake? What are we actually contributing to  
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7 understanding the most troublesome issues of professional learning and education? What work  
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9 are we undertaking that could have real significance for other scientists? How is our work  
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11 eventually going to help educators and students in professional work to better confront the huge  
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13 challenges they face? And finally, are the deeper questions eluding us? Perhaps convenient  
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15 opportunities and funding shapes more of our research activity than we might like, or perhaps we  
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17 tend to avoid directions that might force us to learn unfamiliar methods and theories or develop  
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19 new networks. But if as a research community we are to break away from well-trod tracks of  
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21 topics and approaches in professional education we might make more opportunities to challenge  
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23 the purpose of any inquiry and publication. I urge educational researchers to push at the  
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25 boundaries of our ignorance – to take more part in, and ideally lead, debates on the most urgent  
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27 questions of our times now and into the future.  
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