

Pedagogical relations in the age of Big Data



Erica McWilliam

Biography

Professor Erica McWilliam is an adjunct professor in the Creative Workforce Program in the Australian Research Council Centre of Excellence for Creative Industries and Innovation, based at the Queensland University of Technology, Brisbane. She is also a Fellow of the Australian Council of Education, an Honorary Fellow of the Australian Council of Educational Leadership and an Associate Fellow of the Learning and Teaching Council of Australia. Her research and scholarship focuses on 'low threat, high challenge' teaching in and for the 21st century. Her most recent book, Educating Girls, was published in 2013 with the University of Queensland Press.

Introduction

A pedagogical relationship—the relationship produced through teaching and learning—is, according to phenomenologist Max van Maanen, 'the most profound relationship an adult can have with a child' (van Maanen 1982). But what does it mean for a teacher to have a 'profound' relationship with a student in digital times? What, indeed, is an optimal pedagogical relationship at a time when the exponential proliferation and transformation of information across the globe is making for unprecedented social and cultural change? Does it involve both parties in a Facebook friendship? Being snappy with Snapchat? Tumbling around on Tumblr?

There is now ample evidence of a growing trend to displace face-to-face interaction

by virtual connections. One effect of these technologically mediated relationships is that a growing number of young people experience relationships as 'mile-wide, inch-deep' phenomena. It is timely, in this context, to explore how pedagogical relationships are being transmuted by Big Data, and to ask about the implications this has for current and future generations of professional educators.

The client as data

I'm not sure how many of you have noticed, as I have, that doctors spend less and less time looking at you during consultations these days, and more and more time looking at their computer screens. It is so oddly disconcerting at times that I feel compelled to crane my neck around the screen in order to insist on being acknowledged as physically present in the room, to be 'related to'.

I have developed and discarded any number of theories about this change in GP behaviour — that being over 60, I am decidedly less worth noticing, or the much less likely possibility that my doctor is embarrassed about the amount of time I spend sitting in the waiting room, and is trying to move things along. But there is a more compelling possibility — that by shifting attention from *me*, to *data flow about me*, my doctor can provide me with a more targeted professional service. Simply put, 'Good morning' has been transmuted into 'good data'.

*What digitisation **has** done is to increase exponentially the volume of potentially relevant data, so that, 'knowing' a client — a patient, a student, a customer — requires ever closer forensic engagement **with faster and larger flows of data** — cross-checking them, revising them, managing them, updating them.*

Professionals as risk managers

The practice of paying attention to the flow of data about a client *at the expense of* personal interaction has been on the rise since well before the advent of the internet nearly 20 years ago. It was the rise of 'risk society' in the late twentieth century (Beck 1992), rather than the advent of the virtual world, that initiated this change in our attentional economy.

In risk-conscious organisations like schools and hospitals, practitioners of all stripes are now more amenable to audit and more accountable for minimising any possibility of 'unprofessional' conduct in the workplace. Amenability to audit has seen expert knowledge — that of a credentialled teacher, librarian, social worker, medical practitioner — become more regulated, standardised and routinised. This brings a new visibility and accountability to professional conduct. In other words, we now have more explicit frameworks for working with client groups, that is, for diagnosing, classifying and treating clients in ways that protect us against potential claims of 'unprofessionalism' — of poor quality service or resource wastage — that might be levelled at individual practitioners or organisations (Ericson & Haggerty 1997).

It follows that the 'know-how' of the amateur that was once welcomed as an extra pair of hands in the school library, hospital or welfare agency — is now a potential risk

to the maintenance of professional (that is, risk-minimising) standards. So 'helping out', where it still exists, has also been remade as the visible and auditable phenomenon 'volunteerism'. Blue cards win out over benevolence.

In a *risk society*, what distinguishes 'experts' from 'amateurs' is their capacity to self-regulate according to generic modes of approved behaviour. This involves paying less attention to students/clients/patients as idiosyncratic individuals, and more attention to the factors that allow professionals to 'know' clients as cases for 'intervention', involving more or less risk. An effect of this, according to sociologist Robert Castel (1991), is the mutation of the *practitioner-client* relationship into a relationship of *practitioner-to-information*. As Castel puts it:

The essential component of intervention no longer takes the form of the direct face-to-face relationship between the ... professional and the client. It comes instead to reside in the establishing of flows of population based on the collation of a range of abstract factors deemed liable to produce risk in general ... These items of information are then stockpiled, processed and distributed along channels completely disconnected from those of professional practice, using in particular the medium of computerized data handling (Castel 1991, pp. 281, 293).

Big data, more to 'know'

So, the conditions for transmuting the teacher–student relationship, like the doctor–patient relationship, are not merely a product of the Internet. What digitisation *has* done is to increase exponentially the volume of potentially relevant data, so that, 'knowing' a client — a patient, a student, a customer — requires ever closer forensic engagement *with faster and larger flows of data* — cross-checking them, revising them, managing them, updating them.

The time-consuming nature of this work means that the amount of time available to look a client in the eye keeps diminishing. This problem is compounded when the 'client' is a class of 30 or more students rather than one patient at a time. By transmuting student data into generic types (learning disabled, special needs, ESL, off-campus, mature-age, low SES and so on), it has been possible to manage large numbers in ways that turn them from undifferentiated mobs into cases, with each case demanding new modalities of intervention commensurate with the risks deemed to be associated with that population category. The proliferation of special education 'cases' at the end of the last century meant that shrinking numbers of students are now deemed 'average' or 'mainstream'.

Digitisation means that it is now possible for teachers to spend even more time gathering data in order to 'know' their students. Advocates of the digital classroom highlight the advantages of tablet PCs for gathering and analysing data about the learning preferences and deficits of individual students (Rotella 2013). They point to the usefulness of 'gaze tracking' and the measurement of pupil dilation to

revolutionise a teacher's capacity, through the use of appropriate software, to gauge students' cognitive response by making it possible to determine exactly what individual students are reacting to on their screens. This growing stream of information, which can be analysed down to individual keystrokes, can, they argue, yield a picture that will eventually progress in complexity from a list of words a student looks up to a full-blown portrait of a developing mind. In theory, at least, each 'tableted' student will generate 'the intellectual equivalent of a fantastically detailed medical chart' (Rotella 2013, p. 5).

What this suggests, among other things, is that digitisation may bring with it massive disruption to the nature of teachers' current work. Teachers will have greater opportunities to engage forensically with the burgeoning data trail individual students leave as they engage in learning through digital technology. It follows that teachers who look to make digital data collection and analysis central to their repertoires will have far too much data about their students rather than too little, and they will need much better tools than they currently have for processing/interpreting all the additional information in the interests of better learning outcomes.

Re-thinking relational priorities

So, what are we to make of the claims of tableted learning advocates like Robin Britt, a 'personalized learning environment facilitator' (Rotella 2013, p. 2) currently training American teachers in the transformative possibilities of tableted learning? Is a 'profound' pedagogical relationship between teacher and student more likely to be forthcoming from

transforming schools into digitised learning environments?

I want to advance the idea that while there is much that students can gain in the 'digitally enhanced' classroom, there may be more to gain from pursuing a deeper appreciation of the notion of what the term 'enhancement' means in terms of student learning experiences and outcomes. Recent research on effective schooling indicates, perhaps counter-intuitively, that when teachers pay more professional attention to colleagues, there is likely to be *more learning pay-off for their students*. Put another way, fixation on the 'digitally enhanced' teacher–student relationship, if it were to be *at the expense of the collegial and collaborative teacher relationships*, could be counter-productive, though well-intentioned. It may serve to

asserts, 'focus on how teachers and administrators interrelate with each other, emphasizing a much higher degree of ongoing collaboration, communication, coordinated responses to testing data, and structured problem-solving' (Anrig 2013, p. 3) than less successful schools. In other words, technology makes a positive difference only if and when there is a vibrant and collaborative organisational culture within a school.

The hallmarks of a vibrant organisational culture within any school are evidenced in systematic school-wide approaches to improvement in professional practices in the interests of better learning outcomes. Anrig found that devices like tablet PCs can enhance student learning where their deployment actually enhances possibilities

Put another way, fixation on the 'digitally enhanced' teacher–student relationship, if it were to be at the expense of the collegial and collaborative teacher relationships, could be counter-productive, though well-intentioned.

justify more individual teacher time spent in the cloistered space of the classroom 'getting to know my students', and less time deprivatising classrooms in the interests of improving pedagogical practice across the entire school setting.

In one recent large-scale study of schooling cultures (2013), American researcher Greg Anrig concludes that it is a collaborative learning-oriented culture that makes a positive difference to student outcomes rather than the mandating of a particular digital device. 'Successful schools', he

for school-wide interactivity. However, they have less impact on learning outcomes if students focus on the device as isolated individuals — as 'alone together' (Turkle 2010).

Interestingly, especially for those who tend to pathologise the screen fixations of the young, the phenomenon of being 'alone together', of being in physical proximity to others while being virtually oblivious to them, could be argued to describe quite accurately the way teachers as a profession have traditionally experienced their daily work. As Robert

Evans puts it, 'the entrenched norms that prevail among teachers have always been those of autonomy and privacy, not those of open exchange, cooperation, and growth' (Evans 2012). In 'my' classroom, with 'my' kids, teaching 'my' subjects 'my' way, many teachers have remained cut off from what is happening in the classroom next door and across the corridor. Few drama teachers, for example, have seen a science teacher start or finish a lesson and vice versa; few middle school teachers have seen how a transdisciplinary curriculum is engaged in early years classrooms.

'Alone together' in a school, teachers feel under pressure to devote their time and energy to ensuring a relentless flow of activities for keeping their students busy. Time is inevitably cited as the key constraint when it comes to observing other practices and engaging in more collegial conversations. Moreover, some teachers have spoken to me of their guilty feelings when engagement in a learning opportunity (for example, discussing their practice with a colleague in a corridor) cuts across time attending to students. And, of course, the pressure to be exclusively student-focused is exacerbated by the custodial demands made of all teachers as professional care-givers (McWilliam & Taylor 2013).

Under these circumstances, teachers in isolation from each other and from the sort of learning that could improve their practice, are more likely to conflate *activity* intentions with *learning* intentions. 'Finishing chapter 8' becomes the rationale for student activity, for example, rather than an intention that is expressed in a language of learning. Alone, teachers are also more likely to make judgements about teaching and learning

practices that are self-serving, holistic and judgemental rather than informed, analytic and diagnostic.

With all the evidence we now have that 'team-oriented management practices, focused particularly on continuous improvement of student instruction, have a positive impact on outcomes' (Anrig 2013, p. 4), and with digital tools opening up virtual learning spaces and new modes of interaction, the time seems ripe for deprivatising classrooms in the interests of more fruitful collaborations. It is too easy, however, to prefer *comfortable congeniality over collaborative collegiality*. As Milbrey McLaughlin and Joan Talbert found (2006) when investigating school cultures in America, an enhanced teacher professionalism is not produced out of warmth and interpersonal friendship alone. Indeed, professionalism can be blocked if there is congenial consensus around the 'wrong' things — for example, agreement about 'student deficits' in the school, or consensus that there is no need for change. To flourish, says Robert Evans, real collegiality demands 'a foundation of *shared commitment to appropriate candor in the service of collective growth*' (Evans 2012). He acknowledges that it is very difficult for teachers to make a commitment that *really does* prioritise 'learning from one another and ongoing professional development through reflection on the work of the school' (Evans 2012). 'Gulliver among the little people' is more familiar as a professional performance.

We now know that teachers' own professional learning, made available through genuinely collegial engagements with their peers, has much more impact on student achievement than we have

understood to date. Researcher Adrienne Alton-Lee's empirical study of the effects of leadership on student outcomes (2008) is unequivocal in its finding that 'when school leaders promote and participate in effective teacher learning and development, this has more [positive] impact on student achievement than any other leadership activity' (Alton-Lee 2008). In other words, her large-scale study found that leaders who prioritise and participate in the professional learning of their teaching staff are more likely to improve students' achievement than they would by paying attention to such factors as goal-setting, resourcing, planning, coordinating or evaluating teaching and the teaching environment. No doubt this finding would come as a somewhat unwelcome surprise to those school principals who see staff development time as a time to retreat to their office to catch up on their emails!

But if authentic teacher collegiality is emerging as an undervalued but crucial factor in student learning outcomes, then where do we go from here?

Firstly, it needs to be acknowledged, as Robert Evans points out, that changing teachers' professional relationships in ways that enhance collaboration and communication is 'enormously difficult and demanding' (Evans 2012, pp. 4–5). Evans argues that in education, as in medicine, ideological resistance can be particularly stubborn, coming as it does from people who have opted into the caring professions and are likely to have strong beliefs about what counts as improvement. For some teachers, their 'true professionalism' is put at risk by what they see as intrusions into their classrooms, including any implication

that they might need to improve, experiment with or update their practice.

Important work is now being done to make it possible for teachers to engage more authentically and respectfully with each other in their own school environments with the objective of improving their teaching practice. Peter Taylor's recent '*Smart Building*' projects (Taylor 2013), for example, are predicated on teachers learning from each other in ways that make their practice visible and share-able without any presumption of 'best practice' or 'expert teacher'. Short (2–3 minute) teacher video clips that are tightly focused on a very specific pedagogical intention, are used as an individual teacher's record of their attempts to improve classroom practice, and as a catalyst for collaborative conversation about possible ways to improve the practice. The point of the sharing exercise is not to showcase or to evaluate, but to make improving practice *observable* and to thereby plan further attempts at improvement. In this way, teachers have a time-efficient opportunity to *unlearn* both the timidity that is so often born of pedagogical isolation and the tendency to congeniality that simply affirms a colleague's practice rather than gathering around the challenge of improving it.

In this paper I have come some distance from Max van Maanen's framing of the pedagogical relationship as fundamentally one of adult-to-child. But much has changed in cultural terms in the 30 years since van Maanen expressed this idea. Big Data has made a big difference both to the nature of pedagogical work and to the types of relationships that may be forged within and through that work, for better and

worse. Big Data may yet be a catalyst for big relational change across entire school communities. If we accept the evidence that 'alone together' is a sub-optimal mode of pedagogical engagement for both students and teachers most of the time, then perhaps it might be possible for all our pedagogical relationships to be re-shaped in more positive ways. Learning would then be the winner.

References

- Alton-Lee, A 2008, 'Designing and Supporting Teacher Professional Development to Improve Valued Student Outcomes', invited paper presented at the *Education of Teachers Symposium* at the General Assembly of the International Academy of Education, Limassol, Cyprus, 26 September 2008.
- Anrig, G 2013, *Beyond the Education Wars: Evidence that collaboration builds effective schools*, viewed 29 October 2013 <<http://tcf.org/assets/downloads/20130404-beyond-the-education-wars-intro.pdf>>
- Beck, U 1992, *Risk Society: Towards a New Modernity*, Sage, London.
- Castel, R 1991, 'From Dangerousness to Risk', in G Burchell, C Gordon & P Miller (eds), *The Foucault Effect: Studies in Governmentality*. Harvester Wheatsheaf, London, pp. 281–298.
- Ericson, RV & Haggerty, KD 1997, *Policing the Risk Society*, University of Toronto Press, Toronto.
- Evans, R 2012, 'Getting To No: Building True Collegiality in Schools', *Independent School Magazine*, Winter, viewed 29 October 2013 <<http://www.nais.org/Magazines-Newsletters/ISMMagazine/Pages/Getting-To-No.aspx>>
- McLaughlin, M & Talbert, J 2006, *Building School-based Teacher Learning Communities: Professional Strategies to Improve Student Achievement*, Teachers College Press, New York.
- McWilliam, E & Taylor, P 2013, *Schooling for Personally Significant Learning*, www.ericamcwilliam.com.au for more on custody as an 'organisational fact of life'.
- Rotella, C Sept 2013, 'No Child Left Untabled', viewed 13 October 2013 <http://www.nytimes.com/2013/09/15/magazine/no-child-left-untabled.html?_r=0>
- Taylor, P 2013, elaboration of Smart Building in our joint paper *Schooling for Personally Significant Learning*, <http://www.ericamcwilliam.com.au/schooling-for-personally-significant-learning-is-it-possible/>
- Turkle, S 2010, 'Alone Together' is the name of her 15-year study of the impact of technology on society, viewed <<http://www.alonetogetherbook.com/>>
- van Maanen, M 1982, 'Phenomenological Pedagogy', *Curriculum Inquiry*, Vol. 12, No. 3, p. 290.