

RETHINKING REFLECTIVE EDUCATION: WHAT WOULD DEWEY HAVE DONE?



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Introduction

I wrote a paper in 2002 entitled *Reflective practice: where now?* in which I argued that reflective practice had lost its way and needed to rediscover its radical origins. I said:

Reflective practice was originally conceived as a radical critique of technical rationality, and was based on the premise that knowledge generated by practitioners reflecting on their own experiences is of at least equal value to knowledge derived by academics from empirical research. However, experiential knowledge from reflection-on-action now finds itself at the bottom of the hierarchy of evidence on which to base practice, and reflection has become just another technical tool. (Rolfe 2002, p.21)

I have seen very little indication that the situation has improved over the past 11 years, and in some ways it has become worse.

My prescription for the problem was a return to the roots from which the modern idea of reflective practice originated, in particular the work of John Dewey, Carl Rogers, Paulo Freire and Donald Schön. Now, of course, you might argue that Schön's work in particular was the catalyst for the reflective nursing practice movement and continues to be a huge influence, but I would suggest that it has largely been misunderstood and misapplied. In fact, I would go further and suggest that many of the writers who cite Schön's work have never properly read him. In particular, when Schön writes about what he calls the reflective practitioner, he is not referring to either the idea or the process that has come to be known as reflective practice in nursing and other health care disciplines.

Schön is not referring to the retrospective contemplation of practice, he is not suggesting that we write about our practice, and he is not advocating models or frameworks to structure our reflection. For Schön, reflective practice is something that we *do*, not something that we sit down afterwards and think about. Reflective practice means reflection *in* practice, or what Schön more usually refers to as reflection-in-action. What he calls reflection-*on*-action, which appears to have seized the imagination of nurses and other health care practitioners, hardly warrants a mention in either of his two seminal books. On one of the few occasions that he does mention it, he acknowledges that:

Practitioners do reflect *on* their knowing-in-practice. Sometimes, in the relative tranquillity of a postmortem, they think back on a project they have undertaken, a situation they have lived through, and they explore the understandings they have brought to their handling of the case. They may do this in a mood of idle speculation, or in a deliberate effort to prepare themselves for future cases. (Schön 1983, p.61)

And of course this is what most nurses understand by reflective practice and what many nurse educators teach students to do. But it is not what Schön meant or understood by reflective practice. At best, reflection-on-action is reflecting about reflection.

The problem for nursing, which I attempted to highlight back in 2002, is that there is nothing in the idea of reflection-*on*-action that offers a credible challenge to the dominant technical rational paradigm of evidence-based practice. That is to say, if we regard reflection simply as a way of generating knowledge about our practice by thinking about it retrospectively, then that knowledge will always find itself at the very bottom of the hierarchy of evidence alongside personal experience and unsubstantiated belief. So long as the dominant model of health care demands that practice should be determined by research-based evidence, preferably derived from quantitative data, then experiential knowledge will never really count for much. That's not to say that retrospection isn't useful, but if reflective practice and reflective practitioners are to be taken seriously, then we need to be offering something more than simply thinking afterwards about what we have done in an attempt to do it better next time. And simply claiming that reflection is rigorous and scientific because we used a model or framework just isn't good enough.

What I would like to do today is to offer a radical reappraisal of reflection and reflective practice in an attempt to establish it on a firmer footing. As I'm sure many of you will know, the word radical derives from the Latin *radix*, meaning roots. Taking a radical view of reflection therefore means exploring its origins, and its modern-day use originates in the work of John Dewey back in the early nineteen hundreds. I will therefore briefly look at Dewey's notion of reflection and suggest why, a hundred years on, it is particularly relevant to nursing and health care practice and education in the 21st century.

If few nurses have read Schön, then probably even fewer have read Dewey. On the face of it, Dewey's ideas appear far from radical. Dewey uses the words 'reflection' and 'thinking' more or less interchangeably, which is perhaps why reflection is often regarded as being no more than thinking about our experiences. Certainly, this is the way that many practitioners have interpreted it. But Dewey was a pragmatist philosopher and a practical educator, and his notion of *thinking* is intricately connected to *doing*. For Dewey, reflection is not a case of having an experience and then going home to think about it. On the contrary, thinking is an active process that involves forming hypotheses and trying them out here and now in the real world. Thinking or reflection is therefore a form of experimentation. We can't reflect in an armchair; reflection can only take place in practice; reflection, in Dewey's words, involves:

Doing something overtly to bring about the anticipated result, and thereby testing the hypothesis. (Dewey 1916, p.115)

It might seem odd to think of reflection as a way of *doing* rather than as a way of thinking. However, Dewey's description of reflection is more or less identical to what Schön would later refer to as reflection-in-action or simply as reflective practice, which he described as 'a reflective conversation with the situation' (Schön 1983, p.163). And like all conversations, reflective conversations are best conducted face-to-face within the situation itself rather than by sitting in an armchair writing a letter to the situation. In other words, reflective practitioners reflect on-the-spot, in the here-and-now, and the products of their reflections are immediately put into practice in a continuous and spontaneous interplay between thinking and doing, in which ideas are formulated, tested and revised.

Practice

It might be argued that this is all very well, but that in the age of evidence-based practice, nurses don't need to engage in a reflective conversation with every situation they find themselves in; that they simply need to apply the best evidence from research. This might be so in some cases. Schön referred to the application of research-based theory to practice as technical rationality, where university-based technologists generate knowledge for practice-based technicians to apply. Technical rationality is a useful model for practice when situations are simple and straightforward and where the same solution can be expected to work in every instance. For example, if a patient presents with the signs and symptoms of a chest infection, then the treatment intervention and the care pathway will be the same in almost every case. In these situations, there is a standard procedure, usually based on best evidence from research, that is more or less guaranteed to work. But many, perhaps most, situations that we encounter as practitioners are simply not like that. They are not easy to diagnose and, once diagnosed, not simple to treat. Many include complex physical, psychological, social and personal interactions, and many do not have straightforward solutions, if indeed they have solutions at all. And even when they do, it is not always easy to specify if and when the problem has been resolved.

In the 1960s Rittel and Webber coined the term 'wicked problems' to refer to these complex, multifactorial situations. The term 'wicked' doesn't imply a moral judgment. These problems are wicked in the sense that they resist and defy our attempts to formulate, tackle and resolve them, and stand in contrast to 'tame problems' which can be solved simply by the application of a technical rational standard procedure based on best evidence. Rittel and Webber were writing about problems in the field of social planning, but Conklin has recently generalised the idea of a wicked problem to other disciplines. He has summarised the concept under six defining characteristics:

- 1 The problem is not understood until after the formulation of a solution - that is to say, we can only fully understand what the problem was after we have attempted to resolve it.
- 2 Wicked problems have no stopping rule - that is, there is no way of defining in advance how we will know when we have solved the problem; and often there are no solutions, only partial resolutions.
- 3 Solutions to wicked problems are not right or wrong - most wicked problems impact on a wide variety of stakeholders whose criteria and judgments of success will differ according to their personal interests, their value-sets and their ideological positions. As Rittel and Webber point out, their assessments of any proposed solutions are likely to be expressed as good or bad, better or worse, satisfying or good enough rather than as definitively right or wrong.
- 4 Every wicked problem is essentially novel or unique - there is no guarantee that solutions which were successful in dealing with similar problems in the past will continue to be successful.
- 5 Every solution to a wicked problem is a series of 'one shot operations' - there is only a limited opportunity to learn by trial and error. What's more, every trial counts, every attempt at a solution has consequences. We can't afford to take a cavalier attitude and must be very mindful that our experimenting doesn't do more harm than good.
- 6 Wicked problems have no given alternative solutions - there is no finite set of possible solutions; tried-and-tested conventional, evidence-based approaches are no more likely to succeed than one-off, intuitive or on-the-spot attempts at resolution.

In summary, wicked problems are, by definition, unique and we only get one attempt at resolving them. They are not amenable to off-the-shelf evidence-based solutions, and whereas reflection-on-action after the event might help us to pinpoint where we went wrong, it will by that time be too late.

Reflective practice, in Dewey and Schön's sense of experimenting-in-action, is our best hope for dealing with the kinds of wicked problems which nurses and other health care practitioners are increasingly faced with in an ever more complex and demanding health service in which our relationships to technology, treatments and service users are being constantly challenged and redefined. Therefore, in order to respond effectively to wicked problems, practitioners need to redefine their relationships with academics, researchers and service users. The traditional technical rational model is based on a hierarchical relationship in which technologists hand down their prescriptions for best practice to technicians, who then apply them to objects in the material world. If the technologists are civil engineers and the technicians are constructing a bridge, then the technical rational model ensures that the bridge will be properly designed and built. If the technologists are bio scientists and the technicians are pharmacists, the technical rational model

will ensure that the medications are safe and effective. And for some of the more technical procedures that health care practitioners are called on to perform, the evidence-based technical rational model ensures the delivery of good and consistent care. That is to say, the technical rational model works well for tame problems which have a clearly defined outcome and a standard procedure which can be mapped out in a care pathway.

However, I would argue that many of the problems we are faced with as nurses are of the wicked type for which no amount of theory or research evidence can ever prepare us. In order to address these challenging wicked problems, the nurse must become her own theorist and researcher by generating hypotheses and testing them out on-the-spot in the form of practice interventions. As Schön tells us:

When someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case ... Because his experimenting is a kind of action, implementation is built into his inquiry. Thus reflection-in-action can proceed, even in situations of uncertainty or uniqueness, because it is not bound by the dichotomies of Technical Rationality. (Schön 1983, pp.68-9)

This idea of the reflective practitioner as a researcher is very important and very powerful, and I'll return to it later.

Rittel and Webber argued that the crucial relationship for dealing with wicked problems is that between planner and clientele (or in our case, practitioner and service user) that will lead to a joint decision to try a particular course of action. However, we need to remember that wicked problems involve multiple stakeholders, each with their own values and criteria for what counts as a 'good enough' resolution, so rather than entering into a one-way hierarchical relationship between technologist and technician, the practitioner must form partnerships with service users and other stakeholders based on mutual respect and trust. Practitioner and service user must reflect-in-action together by generating and testing ideas and theories and arriving at a solution that is jointly agreed and accepted.

Clearly, this is easier to achieve in some settings and circumstances than others. In my own field of mental health nursing, such therapeutic partnerships are not uncommon. In other areas of practice such as intensive care nursing, options and opportunities will be more limited. In line with current thinking and recent recommendations in health care services, we must resist the technical rational tendency to regard patients and service users as objects to be acted on. We should see them rather as active and autonomous partners with whom we form therapeutic relationships in order to address and resolve the unique and complex wicked problems that they present with. I am not suggesting that there is no place for retrospective reflection-*on*-action. Of course, we can reflect on our performance and we can reflect on the process

of reflection-*in-action*, but the primary therapeutic nursing intervention for complex wicked problems usually has to be worked out on the spot.

Education

Although I am an educationalist and this is an education conference, I have spent a lot of time talking about practice. I have done so for two reasons. Firstly, of course, the academic discipline of nursing only exists in relation to the practice of nursing. Unfortunately, we sometimes forget this. Nurse education appears at times to be drifting further and further away from the concerns of practitioners towards the academic demands and agendas of the university. As nurse educators, our first priority must be to respond to the needs of practice and practitioners regardless of whether or not these align with academic demands driven increasingly (at least in the UK) by student satisfaction surveys and the Research Excellence Framework. And secondly, educators, like nurses, are themselves practitioners who have to deal with their fair share of wicked problems.

What I have said about reflective practice in nursing therefore applies equally to us as educators and I believe that it would be fruitful to think about our own practice in terms of Dewey and Schön's conception of reflecting-in-action. Just as I have described in the case of service users and providers, this would entail being more responsive to our students than we might otherwise be and entering into active partnerships with them in a joint commitment to resolve practice-oriented educational problems through a process of on-the-spot experimenting. And just as the problems faced by nurses are becoming increasingly wicked, so are those faced by educators. The primary task of reflective educators is therefore to form partnerships with their students in order to identify what they see as their learning needs and problems; to try out and appraise novel and individualised responses aimed at meeting those needs, and to arrive at mutual agreement about what might constitute a resolution. Rather than regarding education as a technological intervention based on the technical rational model, with learning outcomes, teaching methods and assessment schemes laid out in advance, learning becomes a joint enterprise which requires a personal and individual partnership between tutor and student.

This is not a new idea, but a return to the ideals of previous generations. It is now more than 200 years since Wilhelm von Humboldt described the university as a place where students and teachers work together 'in the common pursuit of knowledge'. Fifty years later, John Henry Newman supported the idea of a university as bringing young men together in order to talk and listen to one another and was critical of the new-fangled idea of having to study particular subjects in order to pass exams. Michael Oakeshott spoke in 1950 of the university as a place where the student 'has the opportunity of education in conversation with his teachers, his fellows and himself' (p.113). Similarly, F.R. Leavis disliked the word 'teaching' because of its suggestion of 'authoritative telling' and suggested that it be placed in inverted commas. For Leavis, the university lecturer:

tests and develops in 'teaching' his perceptions, his understanding and his thought, and with good men [students] may do so very fruitfully. For what we call teaching is, if genuine, a matter of enlisting and fostering collaboration... (Leavis 1969, pp. 65-6)

That is to say, the university has traditionally been a place not of research, not of teaching, but of *learning*; not a place where the solutions to tame problems are passed from teacher to student, but where wicked problems are tackled together in a spirit of mutual learning and understanding.

So, whereas the practice of nursing is becoming more and more confronted by wicked problems, the practice of education appears to be shifting towards tamer and less complex issues and interventions. The process of discovery has been separated from that of learning. Students and teachers no longer learn and discover together; lecturers conduct research which is often commissioned and financed by outside agencies and pass on their findings to their students in a process of so-called 'research-based teaching' which is actually nothing of the kind. Similarly, lecturing students about our research does *not*, to my mind, make our teaching 'research based'. Student expectation is increasingly centred around the requirement to assimilate facts and to pass exams, and many lecturers now regard students as a hindrance to their pursuit of new knowledge through research rather than as partners. It is not uncommon for senior academic staff to be excused from teaching duties in order to focus on their research. Even 50 years ago, this would have been quite literally inconceivable; teaching was research, and a doctorate, which is now widely regarded as a research degree, was then seen as a qualification for teaching.

Donald Schön recognised in the nineteen eighties that higher education was no longer meeting the needs of the practice disciplines such as nursing, pointing out that 'what aspiring practitioners need most to learn, professional schools seem least able to teach' (Schön 1987, p.8). Schön's great insight was to recognise that professional schools were unable to teach what practitioners most needed to learn because what they needed to learn was fundamentally unteachable. He argued that practice knowledge was mostly tacit and mostly learned on-the-job through experimenting in action. Like Rogers and Dewey before him, Schön believed that the role of the educator was not to teach but to facilitate learning.

John Dewey outlined this approach in his book *Democracy and Education*, first published almost a century ago in 1916. Dewey is usually credited with popularising the idea of learning through experience, but it is more accurate to think of his approach as learning through experimenting. For Dewey, an experience is not merely something that happens to us, nor is it simply a term for anything and everything that we do. As he says: 'Mere activity does not constitute experience' (Dewey 1916, p.107). Rather:

To 'learn from experience' is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequence. Under such conditions, doing

becomes a trying; an experiment with the world to find out what it is like; the undergoing becomes instruction - discovery of the connection of things. (Dewey 1916, p.107)

So, reflective learning is more or less the same process as reflective practice; we learn by trying things out and seeing what happens.

In fact, Dewey saw no real difference between reflective thinking, education and research. He argued that we shouldn't think of research as the particular prerogative of scientists, academics and doctoral students and claimed that reflective thinking is research, 'even if what [the thinker] is looking for everybody in the world is already sure of' (Dewey 1916, p.113). In other words, research is defined in terms of process rather than outcome. It is a way of thinking and acting on the world and should not be thought of simply as the generation of new knowledge. In any case, Dewey argues that knowledge is not a thing but an action or a relationship. It is a verb rather than a noun. Knowledge is not found in books; it is not something that we can possess or something that one person can pass on to another. It makes little sense, then, to think of education in terms of teaching.

Paulo Freire used a banking metaphor to describe the traditional approaches to teaching, in which the lecturer makes a deposit of knowledge in the memory bank of the student, rendering students as nothing more than 'listening objects' and 'receptacles to be filled by the teacher' (Freire 1972, pp. 45-6). Carl Rogers wrote similarly about the 'mug and jug' method of teaching, where the students are all mugs to be filled by the teacher from his 'jug of knowledge'. Unsurprisingly, Rogers suggested that:

Teaching is, for me, a relatively unimportant and vastly over-rated activity (Rogers 1983, p.103)

and:

It seems to me that anything that can be taught to another is relatively inconsequential and has little or no significant influence on behaviour. (Rogers 1969, p.277)

Rogers shared Leavis's suspicion of the term 'teacher', and preferred to think of himself as a facilitator of learning and like Dewey, he believed that all learning originates from experience. We have seen, however, that for Dewey, experience is not something that happens to us; it is an active engagement with the world.

Dewey gives the example of a child who sticks his finger in a candle flame. The learning by the unreflective child from this experience is very limited - he learns only to stay away from flames in the future. However, the reflective child will enter into an active dialogue with the situation. She will quite possibly stick her finger into the flame again, just to confirm her earlier experience. She might then experiment with the situation in order to learn more about flames. She might, for example, hold her finger at different distances from the flame in

order to explore the relationship between heat and proximity. She might attempt to protect her hand in different ways and with different materials to explore the notion of the conduction of heat. She might place different objects in the flame to explore the property of flammability. The unreflective child has learnt only to stay away from flames, whereas the reflective child has entered into a relationship with the flame and has educated herself through a process of systematic experimentation and research.

This is not research in the traditional sense of discovering something that no one else previously knew, but it *is* education insofar as the child has discovered something new to her. Our role as facilitators of learning is therefore to encourage our students to experiment and to play around with new ideas. As I said earlier, this is proving ever more difficult in an educational environment which places more and more emphasis on outcomes and less and less on process, and where our first priority is to coach our students through their exams rather than to engage with them on a joint voyage of discovery.

Carl Rogers suggests that all we need do is to establish a permissive learning environment where students feel free to experiment. Other educationalists have tried to add some structure to this approach through methods such as clinical simulations and enquiry-based learning. Schön refers to these simulations as practicums, which he defines as 'settings designed for the task of learning a practice' (Schön 1987, p.37). He identified three types of practicum: the classroom, where students learn practice-related theory; the skills lab or simulation suite where they learn to apply this theory in standard and unproblematic ways; and the practice setting, where they encounter the messy realities of real-life problems.

As Schön pointed out, the first two types of practicums don't address the real issues of practice because they don't adequately reproduce the real problems faced by practitioners. Simulations might help the student to learn the facts, rules and procedures of a particular practice, they might even help her to think like a practitioner, but they will not help her, in Schön's words, to 'make new sense of uncertain, unique or conflicted situations of practice' (Schön 1987, p.39). He claims that practicums which *do* address the messy issues found in the swampy lowlands of practice are rare, but are sometimes found in association with apprenticeships or very occasionally in the clinics, workshops and internships of professional schools. He adds:

These practicums are reflective in that they aim at helping students learn to become proficient at a kind of reflection-in-action. They are reflective ... in the further sense that they depend for their effectiveness on a reciprocally reflective dialogue of coach and student. (Schön 1987, p.40)

In other words, students can only learn to be reflective practitioners when they are *in practice*. This suggests that we might have been wrong to have abandoned the apprenticeship model of nurse education back in the nineteen nineties, and I think that there is something to be said for that view. Certainly,

I think that the technical rational model of education that we replaced it with was seriously misguided. The original Project 2000 nursing curriculum replaced an apprenticeship model in which most learning took place *in* and *from* clinical areas, with a curriculum that was front-loaded with theory which the students were then expected to apply directly and more or less indiscriminately to practice. In cases where the theory didn't work, it was assumed that the fault lay in the application. The theory itself was rarely called into question.

The problem with the apprenticeship model, and the reason why it was replaced, was that the clinically-based nurses who were expected to educate the students were ill-prepared and had no clear idea of their role. Most crucially, they had little or no concept of reflective learning. At the time, none of us did. On the whole, most nurses in practice either expected that their students would pick up the skills and theories of practice simply by observation and emulation, or else they subjected their students to ward-based 'teaching sessions' which from my experiences as a student usually entailed memorising drug names or reeling off lists of signs and symptoms of medical conditions.

But there is more to learning a practice than just being there. As Dewey pointed out, it is necessary to actively interact with our environment, and that requires a strong and mutual partnership between student and coach in which the student feels safe to speculate, theorise and hypothesise about care and to test out her hypotheses in practice under closely supervised conditions. These first attempts at reflection-in-action should be followed by facilitated periods of reflection-on-action where students are encouraged to pick apart their on-the-spot experimenting. In nursing and midwifery, we often refer to this as clinical supervision.

Such a move to a reflective apprenticeship would require a radical overhaul of the curriculum with more training and support for clinically-based supervisors and, I would suggest, more time spent in real-life practice settings. But more significantly, it demands a re-evaluation of the academic status of clinical learning and practice-based experiential knowledge that would place it on an equal footing in the university with theoretical and research-based knowledge. That is to say, colleagues who choose to pursue their research agendas through education and scholarship, who regard students and service users as partners rather than as research objects from which to extract data, and who write and publish for practitioners rather than other researchers should not be disadvantaged in terms of promotion or regarded as second-class academics.

Scholarship

We now come to the crux of the matter. Reflective practice, *true* reflective practice, is being squeezed out of our nursing and health care departments as a result of a very narrow and misguided concept of what academic research and scholarship should look like. Reflection is being taught more and more as a technology, as the mechanical application of a model or framework, and reflective writing is being judged and assessed according to rigid guidelines

and inappropriate criteria. This is making it more and more difficult for nurse academics to get their work published in the so-called 'top' high impact factor journals, and as a result, reflective scholarship is becoming ghettoised in specialist journals which are read only by the cognoscenti.

There are at least three possible responses to this situation. We could heed the growing call for nurse education to get out of the universities and back into the hospitals. However, I think this would be a huge mistake, not least because scientism and academic snobbery is just as rife amongst clinicians as it is in our universities. Or, we could accept and embrace the values of the academy, apply for the big research grants, follow the publishers' rules and guidelines and keep our Vice Chancellors and their growing number of accountants happy. And it is important for the profession and for the academic discipline of nursing that some colleagues continue down this route. Or, we could take a brave step, academics and practitioners together, and try to assert a scholarship of practice alongside theoretical and research-based scholarship. This is no easy task, but perhaps the hardest part is finding an initial foothold - a position of strength and authority from which we do not have to conform to so-called scientific rigour and apologise when our reflective essays and journal papers break with academic conventions.

Once again, John Dewey offers us a useful perspective in making the distinction between the scholarly practices of what he refers to as science and philosophy. For Dewey, scientific scholarship is concerned with what is already known, that is to say, with established facts. To construct a scientific argument is to pile facts one on top of the other, for example in the form of a systematic review or concept analysis. Similarly, scientific research studies build on existing work in a gradual and incremental way. As Isaac Newton famously wrote in a letter to Robert Hooke: 'If I have seen further it is by standing on the shoulders of giants'. In contrast, philosophical scholarship is grounded in reflective thinking and does not begin with the facts, but with the curiosity and speculation that arises from being confronted with a practical problem or puzzle.

When a reflective scholar encounters a problem, she doesn't synthesize a solution from existing knowledge, but conducts an experiment-in-practice by constructing one or more hypotheses and testing them out through her writing. The result of her reflections is not solid evidence or factual knowledge, but a partially tested hypothesis, that is to say, a hypothesis that has not yet been disproved, which is then offered to other writers and thinkers through publication for further testing. For the scientist, writing is a means of communicating research and scholarly activity; for the philosopher, writing *is* research. Scientists only publish their work once the research is complete whereas the philosopher's publications are always works in progress. Scientists do their thinking and data collection first and then write up their conclusions as a *fait accompli*. Philosophers think aloud through their writing. The scientist offers a rounded, well-considered, objective account. The philosopher presents a point of view that is often subjective, biased and provocative. The scientist tells, the philosopher incites and invites a response. The scientist instructs, the philosopher engages. The scientist prescribes

solutions to tame problems, the philosopher invites collaboration to address wicked problems.

The academic discipline of nursing has chosen the model of science over the model of philosophy. That is to say, it has taken the positivist laboratory values of rigour, objectivity and detachment - values that are important to the technologist and the laboratory worker - and applied them to writing and scholarship. Our journals like to present themselves as 'evidence-based' and often impose strict and rigorous (or should that be rigid?) guidelines for authors which leave little scope for modes of writing such as the reflective review, the speculative essay and the impassioned polemic. In doing so, they misunderstand the nature of polemic and its relationship to evidence. We have seen that philosophical modes of writing such as the polemical essay are not intended to tell but to incite a response - whether thought, spoken or written.

Contrary to popular belief, we don't write partisan, one-sided accounts (such as this conference presentation) as statements of fact but in order to encourage debate and discussion. Polemic is not evidence; it is the first step in the generation of evidence through ongoing discourse. It is not intended as an answer to a question; it *is* a question. In a technical-rational discipline such as nursing, our academic journals are our main channels of communication; they provide the primary means for technologists to pass on research findings and other types of evidence to technicians. By excluding speculative writing of this sort as unscientific or lacking in rigour and objectivity; by privileging objective, rational, scientific accounts of the world of practice, we also exclude wicked problems that are not amenable to scientific investigation in favour of tame problems that have clearly defined objectives and solutions.

What is to be done? It is not for me to say. This presentation has taken the form of a polemic. I have presented a one-sided and partisan account of the situation as I see it. And the point of polemics is not to prescribe solutions, not to answer questions, but simply to raise them and to provoke responses through dialogue. In any case, the problem I have tried to outline is a wicked problem which we will only begin to understand after we begin to tackle it, for which we have no tried and tested solutions and no right answer which will be acceptable to all of the many stakeholders. We have to make up the solution as we go along through a collaborative reflective process of experimenting-in-action. But as with all wicked problems, the first and most important step is simply to make a start.

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