

The Wicked Problems of Researching within the Educational Margins: Some Possibilities and Problems

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Introduction

The first chapter in this section of this book elaborated selected elements of setting the scene for researching effectively within the educational margins, in the process proposing particular strategies for communicating and articulating voices seeking to be heard along those margins. The intention was to contextualise the chapters to follow in the remainder of the book.

This chapter is designed to contribute to the complex process of conceptualising diverse approaches to researching within the educational margins. As we elaborate below, the notion of wicked problems (Australian Public Service Commission, 2007; Rittel & Webber, 1973) emerges as a powerful and productive approach to such research, including with those whose learning experiences and opportunities are portrayed in the subsequent chapters. This is because, like manifestations of educational marginalisation, wicked problems are multicausal and multifaceted, and they elude straightforward prescription or easy resolution. At the same time, engaging comprehensively with the analysis of wicked problems generates important insights and provides the foundation for situated strategies that might facilitate carefully targeted efforts to address particular elements of the wicked problems – and by extension of the examples of educational marginalisation canvassed in the succeeding chapters.

The chapter is divided into the following two sections:

- A necessarily selective account of the concept of wicked problems.
- Examples of the applicability of wicked problems to researching within the educational margins.

The Concept of Wicked Problems

The concept of wicked problems was first theorised by Rittel in the mid 1960s, and the notion was later conceptualised more fully by Rittel and Webber (1973) in their seminal paper entitled “Dilemmas in a general theory of planning”. Rather than any evil intent therein, “wickedness” refers to the ethical concerns and complexity of a problem. The antonym in this context is a “tame” problem – that is, one that can be solved in a linear fashion with predictable and structured research approaches. By contrast, wicked problems evolve as the research deepens and intensifies and new solutions are presented, considered and implemented or discarded.

More specifically, the defining features of wicked problems have been listed as follows:

- Wicked problems are difficult to clearly define.
- Wicked problems have many interdependencies and are often multi-causal.
- Attempts to address wicked problems often lead to unforeseen circumstances.
- Wicked problems are often not stable.
- Wicked problems usually have no clear solution.
- Wicked problems are socially complex.
- Wicked problems hardly ever sit conveniently within the responsibility of any one organisation.
- Wicked problems involve changing behaviour. (Australian Public Service Commission, 2007, pp. 3-4)

The contrast between tame and wicked problems is represented visually in Figures 2.1 and 2.2.

[Insert Figure 2.1 about here.]

[Insert Figure 2.2 about here.]

As is noted above, wicked problems are difficult to define as there are often multiple stakeholders across different disciplines involved in the situation, generally voicing opinions derived from divergent and sometimes competing interests. The interconnectedness of the problem often leads to a re-evaluation of the societal norms involved. This results in social rather than technical complexity, and the difficulty of coordination among stakeholders is thought to be an overwhelming factor in problem-solving approaches (Australian Public Service Commission, 2007). Owing to the uniqueness of each wicked problem, precedents are difficult to find and to follow. The unstable character of these problems ensures that the foci change frequently as the processes evolve.

Simple, clear solutions to wicked problems are elusive because of this instability of the problem. No one answer is right or wrong; rather the emphasis is on the degree of pertinence – that is, whether one solution is better or worse than another. Each identified solution is a one-shot attempt and has validity if only to exclude that particular approach. The no stopping rule ensures that different solutions are continually sought, and diverse theories are tested. Morrison (2013) posited that acceptance of the “inherent wickedness” of a problem and the consequences that lie therein may provide an initial step towards resolving the problem. Similarly:

Our diverse interests and perspectives become a curse when each stakeholder believes it holds “the truth” and expects everyone to share it, or worse, when a stakeholder wants to impose his [or her] view of truth on others and considers anyone who refuses to accept it as dumb, ignorant, or morally deficient. (Roberts, 2000, p. 13)

The solutions to many wicked problems include shifting the behaviour of individuals or groups, some of whom are historically intractable in their opinions.

This is a complicated process, and researchers may find themselves frustrated at the lack of simple answers. Conklin (2011) presented a series of five common tactics that a researcher may consider either voluntarily or involuntarily in order to alter the trajectory of a study that is delving too far into a wicked dimension. The researcher may “Redefine the problem as tame”; “Refocus on a smaller, related problem”; “Narrow the allowed solution options”; “Exclude difficult stakeholders”; and/or “Outsource the problem-solving process”. These elements are simplified as follows:

- Redefine the problem
- Refocus on a smaller problem
- Reframe the solution options
- Reject difficult stakeholders
- Redirect the problem-solving process.

Sherman (2016) referred to this process of repudiation of accountability as “fortress leadership mentality” (p. 380). This applies when project managers or researchers reject a complex wicked problem in favour of a more simplified, expedient outcome or solution. Sherman further theorised that, in order to convert wicked problems into “wicked opportunities”, one must be prepared to “...dance with complexity” (p. 380), and to address the problem in a holistic manner that requires a multi-disciplinary approach. Unintended consequences should be embraced for the opportunities that they provide. When a researcher shifts the “burden” (Conklin, 2011, n. p.) of the problem, he or she reduces its nature, and so it becomes less significant and less related to the original. In this regard, Conklin (2011) cited Rittel’s (1973) opinion that taming a wicked problem is unethical.

It should be noted that not all complicated problems can be classified as wicked. To identify a wicked problem, the researcher must consider multiple theoretical possibilities, and the extent of the investigative field. Wicked problems challenge traditional skill sets and knowledge structures. They require ‘bigger picture’, multi-disciplinary thinking that involves innovations and tenacity. They may also require collaborative networks that draw on “collective intelligence” (Jha & Lexa, 2014, p. 437). Similarly, Roberts (2000) suggested that the establishment of a “community of interest” (p. 14) would ensure ongoing dialogue among all stakeholders.

A somewhat divergent characterisation of wicked problems that nevertheless confirms the broad tenor of the preceding discussion was presented by Adam (2016):

The type of wicked problems I hope to identify in this book could be known more specifically as *entangled problems*, which arise at the interface of interdependent polarities. They are “wicked” in the sense that this interface is contextually dynamic and problems must be (re)solved in context rather than solved once and for all. Such problems are perplexing; they involve paradox, dialectic and necessary tensions. (; *italics in original*)

Significantly, Levin, Cashore, Bernstein and Auld (2012) articulated the concept of super wicked problems that added four new dimensions: “...time is running out; those who cause the problem also seek to provide a solution; the central authority needed to address it is weak or non-existent; and, partly as a result responses discount the future irrationally” (p. 123). The authors contended that, in concert, these dimensions constitute “...a policy-making ‘tragedy’ where traditional analytical techniques are ill equipped to identify solutions...” (p. 123). In response, they advocated equally complex strategies to ameliorate this “‘tragedy’”: “...understanding how to trigger *sticky* interventions that, through progressive incremental trajectories, *entrench* support over time while *expanding* the populations they cover” (p. 123; *italics in original*).

A variation on this characterisation of super wicked problems, albeit from the field of architecture (thereby accentuating the status of wicked problems and super wicked problems as concepts with very wide disciplinary coverage), was Frimpong and Dansoh (2018). These researchers analysed such problems in terms of “...six key features” (p. 292):

First, the problem has a difficult definition. Second, the solution involves a large structural and economic burden. Third, time is of the essence. Fourth, multiple stakeholders attempting to solve the problem are part of the cause. Fifth, institutional interventions addressing the issue are weak or ill-equipped. Sixth, institutional interventions discount the future irrationally. (p. 292)

At this juncture, it is appropriate to acknowledge contemporary critiques of the notion and applications of wicked problems. For instance, Alford and Head (2017) contended that analyses of wicked problems “...tend to ‘totalise’, regarding them as intractable masses of complexity, so conflict-prone and/or intractable that they defy definition and solution” (p. 397). Furthermore, “A second shortcoming, linked to intractability, is that the favoured means of tackling wicked problems has tended towards ‘one best way’ approach, most commonly collaboration with key stakeholders” (p. 397). Moreover, “...we argue for a more realistic standard of success in dealing with wicked problems, especially the most difficult ones” (p. 397). More broadly:

To call for the “solving” of these [wicked] problems is to set up a standard which is not only impossible but also perhaps unnecessary. We argue that we do not so much “solve” wicked problems as make progress towards improvement or towards better managing them. We spell out a more realistic version of “progress”. (p. 397)

These timely caveats notwithstanding, we consider it worthwhile to propose the concept of wicked problems as one among several potentially viable approaches to designing, conducting and evaluating research within the educational margins. We turn now to examine

selected examples of such approaches, and in doing so to interrogate the applicability of wicked problems to this crucial research field.

The Applicability of Wicked Problems to Researching within the Educational Margins

The purpose of this section of this chapter is to present a number of examples of how the notion of wicked problems has been mobilised in research focused on diverse manifestations of educational margins. In exploring these examples, we assert that the conceptualisation of wicked problems has a productive part to play in framing and informing such research, in concert with the specific strategies demonstrated by the authors of the subsequent chapters in this book.

One example of applying the concept of wicked problems to researching within the educational margins relates to the complex interplay between Indigenous population mobilities and school achievement. The second-named author (Danaher, 2012) noted that the: ...list of characteristics of wicked problems resonates strongly with many of the propositions pursued...[in several accounts of this interplay], and at least partly helps to explain why the underlying situations depicted...[in those accounts] are often longstanding and seemingly intractable. (p. 7)

At the same time, those same accounts were effective in identifying "...specific strategies for enhancing Indigenous pupils' school achievement outcomes..." (p. 7). Similarly, Kelly, Clarke and Wildy (2019) argued in the Australian context that "Remote, Indigenous students will not receive the education they deserve unless the 'wicked problems' ...that have been described are resolved".

Researching also in the Australian context, Reid (2017) investigated recurrent educational marginalisation against the backdrop of rural communities. Positing "...locational disadvantage as a wicked problem for a social equity agenda..." (p. 88), the author proposed the concept of "...Rural Social Space..." (p. 88) elaborated by her colleagues and her as "...a useful and coherent theoretical resource for understanding and addressing this [wicked] problem, and [for] rethinking the idea of community in ways that are necessary for change to occur" (p. 88).

From a different perspective, Bastien and Holmarsdottir (2015) deployed wicked problems as a lens through which to explore possibilities of engaging young people's voices critically in engaging with contemporary global issues. Against this backdrop, they conceptualised wicked problems in terms of "...the need to move towards transdisciplinarity and systems thinking in order to adequately engage with and tackle the global challenges currently facing youth and impacting [on] youth transitions" (p. 2).

Mertens (2015) took up the enduringly significant wicked problem of inequitable access to formal education. She highlighted the necessity:

...to develop approaches to addressing the wicked problems of access to education for people in these contexts of adversity in a way that allows members of the communities to contribute to the understanding of the problems themselves; involves stakeholders from the policy, program, and community levels; and works towards solutions rather than only problem identification. (p. 3)

At the same time, Mertens acknowledged that these kinds of collaborations are not always feasible, such as when some community members are distrustful of and hostile towards particular government interventions.

Building on the distinction between wicked and tame problems outlined above, Walton (2017) analysed inclusive education in African contexts by posing the telling question whether such education is "a tame solution to a wicked problem" (p. 85). In particular:

I argue that given the complexity of the [wicked] problem of educational exclusion we cannot afford a "tame" or watered down idea of inclusive education that is merely concerned with ways of "accommodating" learners with additional support needs in

ordinary classrooms. Instead, it needs to be a social and political project that is bold enough to identify and challenge the impediments to meaningful inclusion and [to] make the radical changes necessary to ensure quality education for all. (p. 85)

Drawing on the practice and scholarly field of evaluation, which as some of the subsequent chapters in this book demonstrate can be a powerful ally in facilitating strategies to engage with educational marginalisation, Billman (2019) adumbrated four logically distinct yet interrelated "...wicked problems facing the field of evaluation – What do we mean by theory? Whose ontology? Whose epistemology? Whose methodology" (p. iv). These profoundly philosophical questions accentuate the difficulties of reducing such problems to simplified responses or naïve panaceas.

Describing research that resonates powerfully with the first-named author's scholarship pertaining to the contributive needs of older men, Manchester, Barke and the Productive Margins Collective (2020) supported calls for "[c]ollaborative, co-produced research [that] is positioned as increasingly essential...in delivering public good and in finding answers to the increasingly 'wicked' problems that we face as social researchers..." (p. 67). Their account of the discursive tensions attending these seemingly unproblematic calls focused on "...the story of a research project that aimed to develop more equitable and inclusive 'regulatory systems' around the production of knowledge concerning the isolation and loneliness of older people" (p. 67) in the United Kingdom. A crucial corollary of the authors' concern with ameliorating the wicked problem of such isolation and loneliness was to "...challeng[e] regulatory systems in the social care and welfare systems that tend to portray social isolation and loneliness as an individual problems that individuals must solve themselves" (p. 83). Instead, the authors' research highlighted the necessity of "...the mutuality inherent in any solutions to isolation and loneliness" (p. 83), and also of "...[meeting] the needs of everyone involved, including the community organisation, the individual older people and the university researchers" (p. 83).

In a study that links with Jennifer Clutterbuck's chapter in the next section of this book, Andrews (2019) analysed the algorithms underpinning "big data" as simultaneously being posited as solutions to particular wicked problems and constituting wicked problems themselves. Andrews demonstrated how an admixture of public value theory from a conceptual perspective, contextually specific strategies for ensuring appropriate governance and a body to oversee issues related to data ethics can be effective in addressing identified elements of this dual positioning with regard to wicked problems. From a different perspective, Pedler and Hsu (2014) advocated the complex processes associated with unlearning in critical action learning as helping to ameliorate "...the wicked problems of organisations and societies" (p. 296).

A growing theme in the scholarly literature pertaining to wicked problems and educational marginalisation relates to methodological issues and resultant strategies. For instance, McDonough and Brandenburg (2019) identified "...ethics in self-study as a 'wicked problem'..." (p. 165), and we concur that self-study and autoethnography can constitute powerful methods for researching one's own experiences of such marginalisation. Moreover, McDonough and Brandenburg asserted that it is important to "...identify the concepts and discourses associated with ethics and self-study that are dominant, present those that are silent or marginalised and offer suggestions for future research" (p. 165).

Also from a methodological perspective, Cook (2015) proposed Photovoice as an effective and decolonising method for exploring science and environmental education, including with students, teachers and community members in Kenya. This was based on the proposition that, "By contextualizing the study of sustainability in this way, science education research can assume the form of community engagement that is ultimately meaningful and maximally impactful to teachers, [to] students, and to the local community" (p. 581). Moreover, by handing control of and responsibility for collecting and portraying research

data to the participants, Photovoice affords opportunities for the empowerment of individuals and groups who inhabit the educational margins.

This discussion of particular approaches to addressing wicked problems was placed in a broader, and more critical, context by Lewis and Hogan (2019), who observed an increasing trend of "...the uptake of so-called fast policy solutions to [wicked] problems in different education policy contexts" (p. 1). They analysed these solutions in terms of "...fast policy and evidence-informed policymaking, which suggests that, in an increasingly connected, globalised and temporally compressed social world, policymaking has been 'speeded up'" (p. 1), often borrowing "...'ideas that work'..." (p. 1) from other countries. They presented three examples of such international borrowing, including the Programme for International Student Assessment (PISA) under the auspices of the Organisation for Economic Co-operation and Development (OECD). The authors expressed heightened concern that this kind of drawing on ideas "...across vastly different policy contexts..." led to a situation "...in which similarly fast policies, and methods of promoting such policies, appear to dominate over potentially more considered and contextually aware policymaking approaches" (p. 1).

A different rendition of this broader and more critical context for interrogating the capacity of the notion of wicked problems to engage meaningfully and sustainably with particular manifestations of educational marginalisation was provided by Hayden and Jenkins's (2014) evaluation and critique of the Troubled Families Programme in England. Launched in 2011, this programme was intended to transform the lives of the 120,000 most "troubled" families in England by 2015. Hayden and Jenkins analysed the programme in terms of being a wicked problem, "...in the sense that the issues surrounding these families tend to be reconceptualised regularly and re-solved differently, depending on changes in government" (p. 631). The authors acknowledged that behavioural changes were likely in some families, such as increased school attendance and reduced anti-social conduct and crime). Nevertheless, Hayden and Jenkins highlighted starkly the material constraints on the longer-term success of such programmes: "...addressing worklessness (a key focus of the programme) presents the biggest challenge" (p. 631); and "An even bigger challenge is helping families to find work that will move them out of poverty" (p. 631).

This section of the chapter has elaborated several instances of the application of the concept of wicked problems to research about and with variously marginalised learners and teachers. These applications have demonstrated the relevance and utility of this concept in generating new understandings of the causes, character and effects of educational marginalisation. At the same time, there are empirical and material considerations that sometimes constrain the possibilities of ameliorating particular manifestations of such marginalisation, in turn signifying the enduring complexity of wicked problems in this policy, practice and research space.

Conclusion

Despite – or perhaps because of – the heterogeneity and multiplicity of manifestations of educational marginalisation, researchers investigating this marginalisation have ready access to a large number, and a wide range, of conceptual frameworks that can frame and inform their respective studies. In this chapter, we have presented the notion of wicked problems as one such framework. In doing so, we have elaborated the defining features of wicked problems, and we have examined several contemporary illustrations of how this concept has been deployed effectively and productively to create additional insights into the multifaceted intersection between wicked problems and educational marginalisation. We have noted also some crucial caveats attending that deployment that have reinforced the complexity of both these phenomena.

Furthermore, the chapter has analysed some of these examples of the application of wicked problems to researching within educational margins in terms of particular strategies

for helping to communicate and articulate the diverse voices and sometimes competing perspectives of learners, educators and researchers living and working within those margins. Given the characteristics that delineate wicked problems, including their interdependencies and their multi-causality, it is vital that the multiple and divergent worldviews of participants and stakeholders are sought and valued. The subsequent chapters traverse several different approaches to recording and analysing these worldviews.

In concert, the preceding chapter and this chapter have constituted the first section of this book, concerned with contextualising and conceptualising researching within the educational margins. We turn now to present the first chapter in the second section of the book, focused on researching with children and marginalised youth.

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