THE CENTRE FOR LEADERSHIP AND LEARNING IN RISK

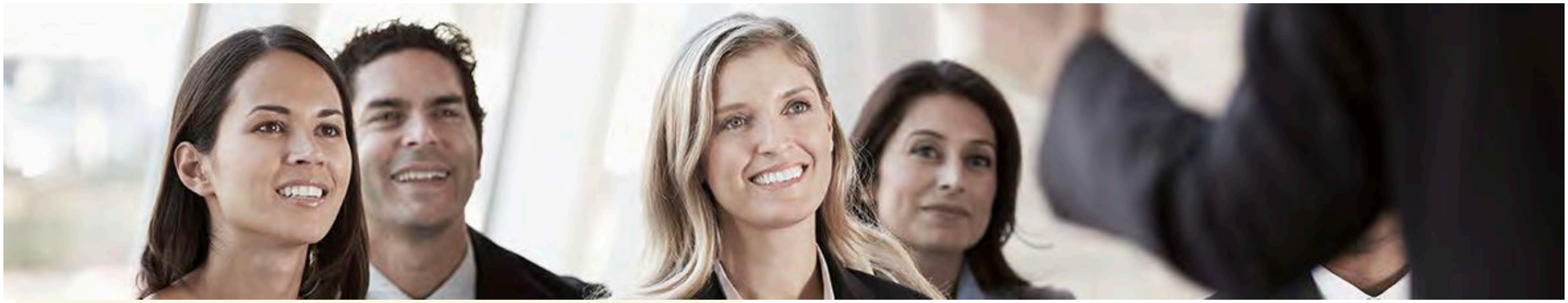
Niche Thinking Pty Ltd

Risk DiVersity

Tackling Wicked Problems

A Collaborative, Zoom Based Workshop

01 Why Wicked Problems?



Problems have been identified as ‘wicked’ rather than ‘tame’ because they are difficult to define and near impossible to solve. Wickedness isn’t just a degree of difficulty, wicked issues are different because traditional processes can’t resolve them. A wicked problem has innumerable causes, is tough to describe, and doesn’t have a right answer. They’re the opposite of hard but ordinary problems, which people can solve in a finite time period by applying standard techniques. Not only do conventional processes fail to tackle wicked problems, but they may exacerbate situations by generating undesirable consequences.

Learning Objectives

At the end of the program, participants can expect to;

• gain a better perspective of the different levels of problems they face

• learn to map the dimensions of their 'wicked' problem

• begin to identify underlying assumptions and worldviews

• enable stakeholders to articulate their position

• build a shared understanding of the problem

• lead an exploration of multiple options and choose priorities

02 Dr. Craig Ashhurst

Presenter/Facilitator

Dr Craig Ashhurst (PhD, Mphil, BA, Grad Dip Ed., Cert IV TAA)

Director of Niche Thinking Pty Ltd

Director of Studies at The Centre For Leadership and Learning in Risk.

Author of ‘Following-Leading in Risk’ with Dr Rob

PhD, (2020) Australian National University, “One Team: Where Worlds Collide: The Development of Transcoherence for Tackling Wicked Problems”

- A transdisciplinary study exploring conflicts of group worldviews in developing policy related to wicked problems.
- MPhil, (2012) Australian Catholic University, “Taming to Tackling: Addressing Numeracy Achievement in Low SES Schools as a Wicked Problem”
- Personality & Ability Assessment SHL Training Academy (2009)
- MBTI Accreditation – Institute for Type Development ITD (2008)
- Certificate IV in Training & Assessment (2008)
- Graduate Diploma in Education, Canberra University (1993)

03 Matt Thorne

Presenter/Facilitator

Author of *SPoR and Semiotics, Methods to Tackle Risk*

International Presenter

Director of Studies Asia/Pacific; Centre of Leadership and Learning in Risk (Canberra)

Masters Social Psychology of Risk

Fellow Centre Leadership and Learning in Risk (CLLR)

Diploma Occupational Health and Safety

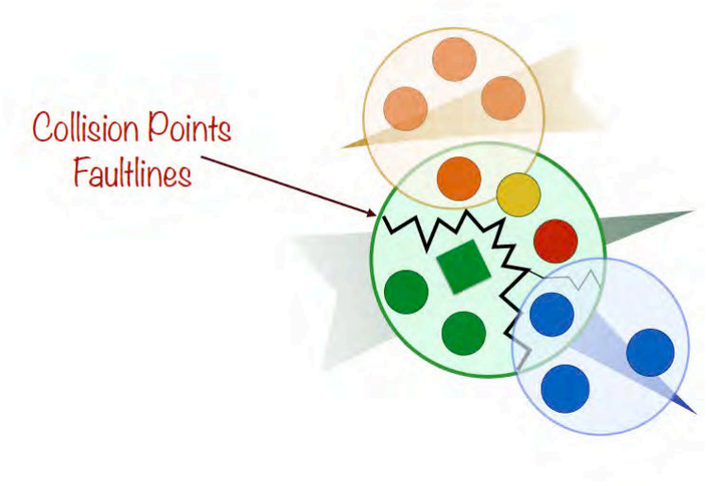
Cert IV Business Management and Training and Evaluation

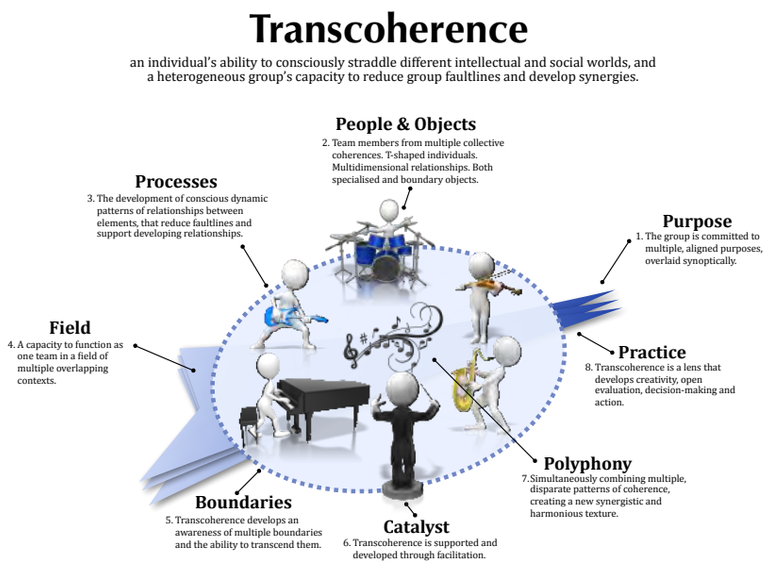
Exemplar Global AU, TL, Quality Management, Environmental Management, Occupational Health, Information Security, National Disability Insurance Scheme (auditing)

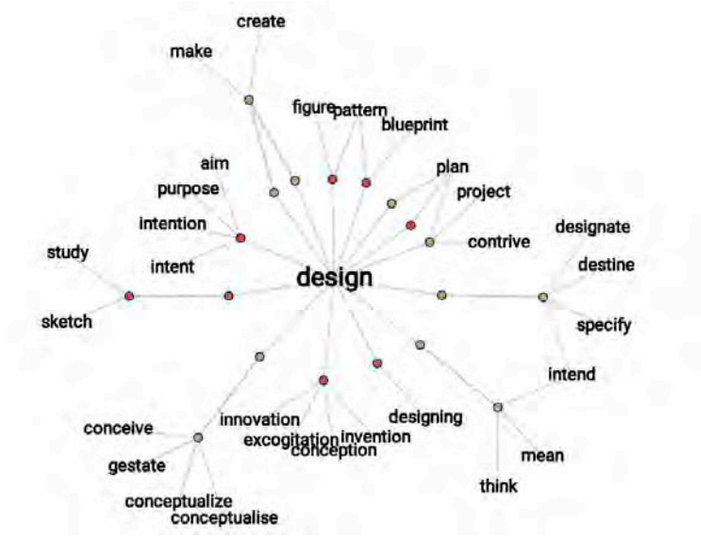
MBTI Certification (Coaching)

Experience in Construction, FMCG, Manufacturing, Energy Management, Security

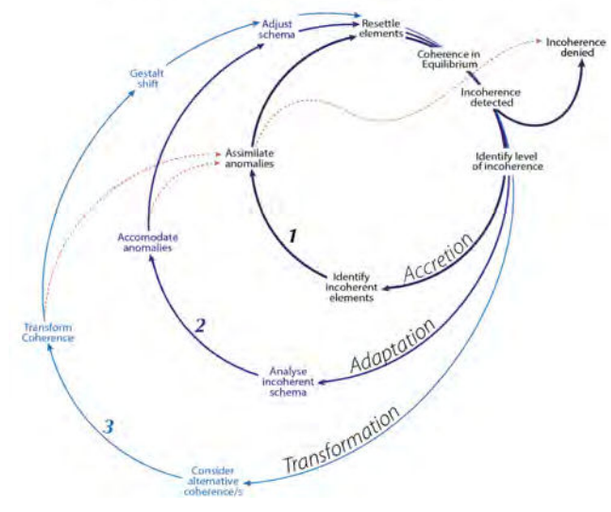
04 Wicked Problem Tools







Incoherence Triple Loop Learning



05 Sessions

Sessions

The program consists of 5 weekly sessions, held on Thursdays 17:00 Australian Eastern Standard Time.
Each session involves a 2 hour zoom, followed by work within participant's own organisation during the week.
Week 1: Introductions & Exploring Problems
Week 2: Analysing the dimensions of your problem
Week 3: Designing potential interventions
Week 4: Taking action
Week 5: Evaluating outcomes and consequences

Cost and Payment

We have tried to make the price equivalent in each currency.
Invoice/Receipt from Niche Thinking.

$100.00 AUD
$62.00 EUR
$53.00 GBP
$67.00 US

Banking Details for electronic funds transfer
Account name: Niche Thinking Pty Ltd
Account no: 483848355
BSB: 112-908

134. Wicked problems

Abstract

Wicked problems refer to ill-formulated, complex, social problems with multiple stakeholders. It originated as a term 50 years ago, in contrast with “tame” problems that are seen as technical and with clear solutions, whereas these problems cannot be solved but rather need to be “tackled”. The term has since competed with various other labels for such problems. Lists of characteristics have historically been employed to describe the multiple aspects of wicked problems, whereas more recent approaches have used visual models to identify the main dimensions that need to be considered. Transdisciplinary approaches have been associated with wicked problems in both research and in practical community engagement. The concept has been highly contested, with some seeing it as a meaningless buzzword and an excuse for policy or project failure. In contrast others see the wicked problems as having ongoing relevance in tackling the complexities of modern life.

Keywords

Wicked problem; Transdisciplinary; Collaboration; Action research; Public policy; Knowledge cultures

Introduction

Wicked problems can be considered as complex social problems that cannot be resolved through the usual approaches of the society in which they have arisen. They are not to be regarded as morally wicked, rather as devilishly difficult to address in practice. In contrast, “tame” problems have final solutions, can be clearly defined, and are considered solvable through existing methods. The concept has a long and controversial history, and it has become popular, even trendy, in both academic and general literature. Publishing data shows an exponential rise in the use of the term over the last two decades.

Origins

The term “wicked problem” was coined over 50 years ago by Horst Rittel and Melvin Webber, two academics involved in design and urban planning. It was first mentioned in a seminar in 1967, where it was described by its authors as “that class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing” (Churchman, 1967, p. 141). The concept was fully described in a seminal article in 1973 titled “Dilemmas in a General Theory of Planning” (Rittel & Webber, 1973). Rittel and Webber were writing in the context of an ongoing academic debate emerging after World War II. They were responding to the centuries of the Industrial Revolution, where analytic modes of scientific inquiry were developed to address technical problems. These became the academic disciplines that came to dominate educational institutions and research traditions. Each discipline developed acceptable forms of research and approaches to defining and solving the problems under their purview. These methods tended to be linear, focussed on efficiencies, and seeking technical solutions. From as early as 1910, social problems were seen as rising in complexity, with a consequent need to recognise a new category of problem and approach to effectively deal with them. Major social change spurred by technological innovations had led to unprecedented flows of people, information, and resources impacting upon the global ecological systems, creating problems that challenge the very existence of the society that produced them. Rittel and Webber’s response was to identify *a new class of problem with a list of ten characteristics summarised below (Rittel &* Webber, 1973, pp. 161–167):

1. There is no definitive formulation of a wicked problem.
2. Wicked problems have no “stopping rule”, i.e., there is no point in time at which the process of addressing a problem is completed.
3. Solutions to wicked problems are not true-or-false, but good-or-bad in the eyes of stakeholders.
4. There is no immediate, or ultimate test of, a solution to a wicked problem.
5. Every (attempted) solution to a wicked problem is a “one-shot operation”.
6. Wicked problems do not have a clear set of potential solutions, nor is there a well described set of permissible operations to be incorporated into the plan.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a symptom of another problem.
9. The analyst’s world view is the strongest determining factor for explaining differences in descriptions of wicked problems and preferences for how they should be addressed.
10. The planner has no “right to be wrong”, i.e., there is no public tolerance of initiatives or experiments that fail.

Synonymous terms

This list provided a starting point for other authors, although identifying “wicked” problems has been problematic, with little agreement in the literature on what constitutes a satisfactory description. Definitions of a wicked problem reflect the disciplinary and geographical contexts of writers from different disciplines. Multiple descriptions of this category of problem were offered as alternatives, as in the following:

- Scientific revolutions vs normal science (Kuhn, 1962).
- Wicked vs tame (Rittel & Webber, 1973).
- Messy vs neat (Ackoff, 1974).
- Unstructured vs structured (Mitroff & Mason, 1980).
- Post-normal vs normal science (Funtowicz, & Ravetz, 1993).
- Policy controversary vs policy disagreement (Schön & Rein, 1994).
- Tangled vs logical (Dawes et al., 2009).
- Collective vs competitive (Brown, 2010).
- Transcoherence vs mono-coherence (Ashhurst, 2019).

Lönngren and van Poeck (2020) identified as many as 116 terms used concurrently or synonymously as definitions for wicked problems. Adding to definitional confusion, the number of characteristics listed in each description varies from as few as 8 to over 40. This has made it difficult to consistently define these problems, or to use a list in a functional way. Termeer et al. (2019) have noted that a number of authors have attempted to deal with this issue by synthesising multiple characteristics into a more limited set of dimensions. Head and Alford (2015, p. 170) boiled down wicked problems to a combination of complexity, diversity and uncertainty, emphasising that “wickedness is a matter of degree”. Building on this approach, Ashhurst developed a gordian knot model with three interconnected loops of people, systems, and context (Ashhurst & Gaffney, 2014, p. 159). This framework could then be used as a dialogic tool, incorporating the significant characteristics of wicked problems grouped in a way that could be readily visualised and understood by all stakeholders (Figure 134.1). “People” marks the inherently human element of a wicked problem; “Systems” accepts that everything is connected; “Context” is the expansive social and physical environment in which the problem is situated

Adoption and linkages

In practice, the concept of wicked problems has been adopted to varying degrees within different disciplines and sectors. It is popular in the fields of environmental sciences, management, public administration, policy, and planning. More recently other fields have also shown an interest, including education, economics, engineering, development studies, computer science, and health (Termeer et al., 2019). Classic examples of wicked problems include climate change, environmental degradation, terrorism, and poverty.

The term has been used in research as a tool for exploration, description, analysis, and for critical emancipatory approaches. A wicked problem also has a rhetorical function in both the academic and popular literature, where it has been used as a challenge to existing dominant approaches, support for alternative approaches, and as a call for action for a specific community (Lönngren & van Poeck, 2020).

The practical application of wicked problems has led to the development of synergistic linkages with other areas of research and practice. The recognition of multiple stakeholders, with diverse experience and expertise, leads to the inclusion of concepts such as “worldview”; “frame” as used by Schon & Rein (1994); thought styles and collectives (Pohl, 2011); knowledge cultures (Brown, 2010); collective learning (Brown & Lambert, 2013); and transcoherence (Ashhurst, 2019). Whilst not meaning precisely the same thing, each of these terms describes a way of looking at and interacting with the world. Each stake-holder group and interest in a wicked problem perceives and defines the elements of the problem from the perspective of their own frame without necessarily being aware of the divergent views of the social and environmental contexts held by others. Supporting multiple perspectives to establish a knowledge base for a wicked problem, Brown (2010) recommends drawing on multiple knowledge cultures of individuals, community, specialists, organisations, and coordinators. Each of these has their own ways of thinking and sense-making.

Transdisciplinary methodologies

Methodologically, multiple interests and the focus on real world problems have driven a close association between wicked problems and various integrative research methods, as, for example, action research and transdisciplinarity. Action research involves clarifying the parameters of a potential wicked problem, observing its influence in practice, and evaluating the outcome. Transdisciplinary thinking is frequently invoked as required for tackling a wicked problem. Transdisciplinarity comes in many shapes and sizes. For this discussion, transdisciplinary thinking refers to a collaboration among interested parties who transcend knowledge boundaries as they seek to resolve a shared issue.

This formulation holds a wide range of possibilities. A transdisciplinary collaboration may be first based among specialist disciplines, community interests, individuals affected by the issues, future considerations, and the interactions between them. Faced with major issues in times of acute social change, embracing transdisciplinarity can lead to co-learning among each and all of these. One example in the current era has been to explore the value of contributions of transdisciplinarity to communities facing the wicked problem of threats to a just and sustainable future.

The perceived future of the concept of wicked problems is also contested. Although the type of problem remains, some consider that the term has served its purpose and will follow the life cycle of any innovative concept, fading as other terms and ideas become more salient. In line with this view, a shift from a focus on problems to forms of action and collaboration will see concepts related to “collective approaches”, such as those mentioned above, gaining more utility in future research. Likewise, the recognised action and collaboration will see concepts related to “collective approaches”, such as those mentioned above, gaining more utility in future research. Likewise, the recognised inherent imprecision makes it less useful than other more clearly defined terms for use across disciplines. Supporting this view are those who are concerned that the term has become a meaningless buzzword, an excuse for policy or project failure, and that the very use of the label may lead to a paralysis of action by some stakeholders. In contrast, others embrace the ideas incorporated in the phrase “wicked problems”, seeing it as having ongoing value in addressing supposedly unsolvable problems. The idea can be crucial in reconsidering long avoided issues, instigating further reflection on the nature of a problem, and functioning as a rescue device when standard approaches seem to fail (Termeer et al., 2019). Examples include the eradication of poliomyelitis, the success of the first space station, and the shrinking of the polar ozone holes.

Its very imprecision is seen as a benefit in transdisciplinary work, as the term provides a large container that can include multiple perspectives. In support of this is the view that there needs to be a shift in emphasis to the collaborative and creative skills and attributes of those engaged in the process of tackling wicked problems. This will result in “T-shaped experts”, a descriptive label where the vertical line of the T demonstrates deep content expertise in a single field, while the horizontal bar relates to a range of boundary-crossing competencies and skills. These include a functional awareness of multiple fields and the ability to communicate between them.

Conclusion

As a term, “wicked problems” has a long and controversial history, but has become the dominant term in the literature to describe complex social problems with multiple stakeholders. The application of the ideas represented by “wicked problems” includes an openness to multiple interpretations and ways of tackling problems. The rise in the labelling of social problems as wicked has coincided with transdisciplinary research methodologies as a means of addressing the multiplicity of perspectives and forms of knowledge. In the 21st century, the concept allows access to diverse populations, rapidly changing social and environmental systems, and the realities of competing power systems. It can be called a product of its time.

Craig A Ashhurst and Valerie A Brown