UNDERTAKING RESEARCH & EVALUATION IN ABORIGINAL PUBLIC SECTOR CONTEXTS: A 'HOW TO' GUIDE

A practical guide in community-responsive, culturally-appropriate, and evidence-based research and evaluation for public sector employees

Developed by Tony Dreise for

**NSW** GOVERNMENT | **Education** Aboriginal Affairs

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Table of Contents

Warning to Aboriginal readers: this guide contains an image of an Elder who has passed.

Purpose & Background

Aboriginal affairs[1] policy is one of the most complex areas of public policy and administration. Those working in the field are likely to encounter constant and multifaceted challenges that are cross-cultural, geographical, political, social and historical in nature. In spite of many good intentions and a myriad of public policies and programs over many years, Aboriginal people in New South Wales (NSW) and throughout Australia continue to encounter considerable social and economic disadvantage, as evidenced by measures such as income, criminal and juvenile justice, education, child protection, health, housing, employment, and economic participation.

The complex nature of Aboriginal affairs policy demands smart and sustained investment in evaluation and research. Evaluation is not something that should only be done at the end of a program (*bolted-on*), rather it needs to be an ongoing activity (*built-in*) that helps drive the efficacy and effectiveness of policies and programs at all stages including planning, implementation, review and continuous improvement. In other words, evaluation practice needs to become a 'culture' not simply an isolated 'event' within public administration.
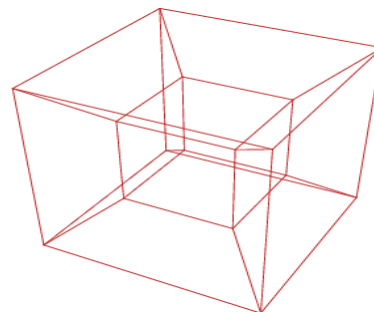
Evaluation needs to be built-in, not bolted-on

This *How to Guide* has been developed to support public servants working in Aboriginal affairs in NSW, by providing professional development in foundational research and evaluation skills. It builds upon, customises, and complements existing frameworks in public sector evaluation in NSW - namely the *NSW Government Evaluation Framework* which seeks to make evaluation a core component of improving the quality of evidence to inform decision-making – by making research and evaluation more meaningful and omnipresent in Aboriginal contexts. As a result of these reforms in NSW (including placing a premium on evidence-based decision making), community organisations, government and non-government agencies are now increasingly required to commission, oversee or undertake research and evaluation. To assist the NSW public sector in this additional role the government established the *Centre for Program Evaluation* and the *NSW Evaluation Toolkit* to build evaluation capability across the sector. While much of the content of the *NSW Evaluation Toolkit* has varying degrees of relevance to Aboriginal contexts, it is not sufficiently nuanced to address research or evaluation practice (that embraces the myriad of cultural, historical, social, post-colonial and political dimensions) within Aboriginal communities. Nor is the *Toolkit* geared toward the unique challenges faced by Aboriginal public servants in undertaking their work, including those working on 'Country'. As such, this *How to Guide* includes professional development material for both Aboriginal and non-Aboriginal staff working in the sector. Certain passages have been developed specifically for Aboriginal personnel, including those working on 'Country', given the dual demands placed on them as both public servants and members of Aboriginal communities (Dreise, 2017.) The Guide also provides practical information on applying research basics and evaluation essentials in Aboriginal public sector contexts.

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[1] NB: Within this Guide, the term 'Aboriginal affairs' (using a lower case 'a' in 'affairs') denotes all public agencies working in the Aboriginal community development space; while 'Aboriginal Affairs' (using an upper case 'A' in 'Affairs') denotes the NSW Aboriginal Affairs agency within the NSW Department of Education.

What's Inside?

If you're a public sector employee working in Aboriginal affairs, then this Guide is for you. It aims to be clear, engaging, and user-friendly; by translating complex research and evaluation concepts into everyday language and accessible thinking. Metaphors and visuals are therefore used throughout. In some parts, the paper draws upon relevant literature and is, therefore, academic in nature. In other places, it is written in a conversational style, by speaking directly to you.

It is important to note that the Guide will be complemented by professional development workshops for public sector employees of Aboriginal Affairs NSW.

The Guide outlines a number of foundational skills in research and evaluation techniques for Aboriginal public policy and program contexts. It presents research and evaluation concepts to be used in your everyday work. While many public sector managers will be highly experienced in research and evaluation practice, it is nonetheless important to revisit some of the 'first principles' of research and evaluation. There is always a risk that people will stop seeing the woods for the trees. The Guide also provides insights into Aboriginal research methodologies and research methods for Aboriginal contexts. The Guide also offers practical tips and techniques to build research and evaluation alliances with academic and community partners. Further, the Guide articulates '10 Golden Rules' for Aboriginal research and evaluation.

But first, it is important to outline what the Guide involves **and** doesn't involve.

✔ What's inside	✗ What's not inside
Foundational skills in research and evaluation techniques *for* Indigenous public policy and program contexts	A qualified course in research and evaluation
Research skills for everyday work	Academic training for academic environments
Rapid insights into Indigenous methodologies and methods for Indigenous contexts	High level analysis of a myriad of research and evaluation methodologies
How to…practical tips and techniques to build research and evaluation alliances with academic and community partners	Deep-diving into academic theory and practice
Research skills for the everyday workplace	Complex research theory for university environments
Fundamentals of program evaluation	Immersion in program evaluation

Rationale

When people think about evaluation, they might automatically think about an academic, consultant, or independent auditor/reviewer who comes from outside of the organisation/program/context to bring fresh eyes to an evaluation. Such independent (or 'outsider') reviews are important in public sector contexts, particularly in areas of political contestability. However, research and evaluation are increasingly important functions of everyday work in the public sector, especially for those with responsibility for policy and program implementation. As part of their day-to-day roles, public sector managers and program managers are generally required to:

(i)   Keep public programs, for which they are
        responsible, on track;

(ii)   Determine if they're off track; and

(iii)   Find new tracks if programs are not
        producing intended or desired outcomes.
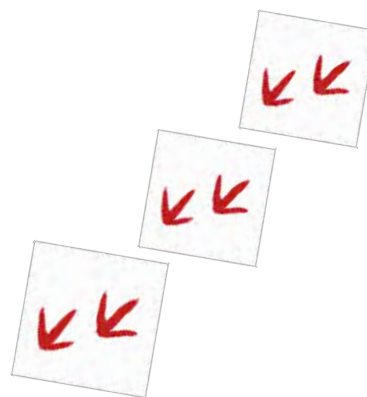
In other words, public sector employees and managers are ideally in a position to proactively and continuously contribute to evidence and data. Having the right skills in research and evaluation is therefore critically important.

The right skills-sets are particularly important in the Aboriginal affairs portfolio, given its highly complex and contested nature. The portfolio is often referred to as an example of so-called 'wicked problems in public policy'. As the Australian Public Service Commissioner[2] explains, wicked problems…

> *…are difficult to clearly define.* The nature and extent of the problem depends on who has been asked, that is, different stakeholders have different versions of what the problem is. Often, each version of the policy problem has an element of truth - no one version is complete or verifiably right or wrong. The debate concerning the causes, the extent and the solutions to climate change is a good example.
>
> *…have many interdependencies and are often multi-causal.* There are also often internally conflicting goals or objectives within the broader wicked problem. In dealing with the use and effects of illicit drugs, for example, there is tension between the goal of minimising harm to existing drug users via measures such as the provision of safe injecting rooms and clean needles, and the goal of sending a clear message that illicit drug use is illegal. It is the interdependencies, multiple causes and internally conflicting goals of wicked problems that make them hard to clearly define. The disagreement among stakeholders often reflects the different emphasis they place on the various causal factors. Successfully addressing wicked policy problems usually involves a range of coordinated and interrelated responses, given their multi-causal nature; it also often involves trade-offs between conflicting goals.
>
> *…often lead to unforeseen consequences.* Because wicked policy problems are multi-causal with many interconnections to other issues, it is often the case that measures introduced to address the problem lead to unforeseen consequences elsewhere. Some of these consequences may well be deleterious. It

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[2] http://www.apsc.gov.au/publications-and-media/archive/publications-archive/tackling-wicked-problems

has been asserted, for example, that the success of policies designed to reduce atmospheric pollution in the USA and Western Europe may be partly responsible for an apparent increase in global warming due to the impact of a reduction in sulphur particles in the atmosphere on the formation of clouds that trap heat in the atmosphere.

…are often not stable. Frequently, a wicked problem and the constraints or evidence involved in understanding the problem (e.g. legislation, scientific evidence, resources, political alliances), are evolving at the same time that policy makers are trying to address the policy problem. Policy makers have to focus on a moving target.

…usually have no clear solution. Since there is no definitive, stable problem there is often no definitive solution to wicked problems. Problem-solving often ends when deadlines are met, or as dictated by other resource constraints rather than when the 'correct' solution is identified. Solutions to wicked problems are not verifiably right or wrong but rather better or worse or good enough. In some cases, such as the challenge of illicit drug use, the problem may never be completely solved. To pursue approaches based on 'solving' or 'fixing' may cause policy makers to act on unwarranted and unsafe assumptions and create unrealistic expectations. In such cases, it may be more useful to consider how such problems can be managed best.

…are socially complex. It is a key conclusion of the literature around wicked problems that the social complexity of wicked problems, rather than their technical complexity, overwhelms most current problem-solving and project management approaches. Solutions to wicked problems usually involve coordinated action by a range of stakeholders, including organisations (government agencies at the federal, state and local levels), non-profit organisations, private businesses and individuals.

…hardly ever sit conveniently within the responsibility of any one organisation. Even if the solution to achieving safer communities is opaque, it is clear that it involves many organisations beyond the police. It is also clear, for example, that environmental issues cannot be dealt with at any one level of government. They require action at every level— from the international to the local—as well as action by the private and community sectors and individuals.

…involve changing behaviour. The solutions to many wicked problems involve changing the behaviour and/or gaining the commitment of individual citizens. The range of traditional levers used to influence citizen behaviour—legislation, fines, taxes, other sanctions—is often part of the solution but these may not be sufficient. More innovative, personalised approaches are likely to be necessary to motivate individuals to actively cooperate in achieving sustained behavioural change.

…are characterised by chronic policy failure. Some longstanding wicked problems seem intractable. Indigenous disadvantage is a clear example - 'Its persistence has not been for want of policy action. Yet it has to be admitted that decades of policy action have failed.'[3]

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[3] http://www.apsc.gov.au/publications-and-media/archive/publications-archive/tackling-wicked-problems

The Guide...Starting with the Big Picture

Forces for change

Research and evaluation in Aboriginal contexts can be a two-edged sword. Firstly, Aboriginal people can be entitled to be skeptical and suspicious about research; due mainly to an unfortunate history in Australia whereby research was *done to* Aboriginal communities, and not *by* or *with* (Dreise 2017). Research in early postcolonial Australia was often used to disparage and disempower Aboriginal people, including through Darwinian thinking that questioned the capacities and faculties of Aboriginal people. On top of this, Aboriginal people are often heard to say that 'we are among the most over-researched people in the world'. This argument has merit given the voluminous history of research into Indigenous peoples, cultures and societies, both in Australia and overseas. However - and without ignoring Aboriginal people's legitimate misgivings - research is unquestionably important going forward given the myriad of social and economic obstacles that Aboriginal people continue to encounter. The challenge therefore is not to abandon research, but improve it.

Research and evaluation, if and when done right, can be powerful and empowering ways to improve communities and improve lives. Especially if research and evaluation is geared toward meeting a number of 'forces for change'. By most social and economic indicators, Aboriginal people in NSW continue to experience significantly greater disadvantage than non-Aboriginal people. The following forces for change need to drive policy and research activity in Aboriginal affairs into the future:

Turning around the tide of history

For too long Aboriginal people have been subjects of, and subjected to, research without consent and without input. As Fredericks (2008) explains:

"There has been a long history of research conducted on Aboriginal and Torres Strait Islander peoples. It is often said that Australia's Indigenous peoples are the most researched people in the world or referred to as the most researched group in the world.

Historically, the vast majority of this research has been carried out by, non-Indigenous people. Some of this research has been invasive into Aboriginal and Torres Strait Islander people's lives and communities, and has been undertaken without permission and without regard to Aboriginal and Torres Strait Islander peoples' rights to participate, or not to participate (p.2).

In order to turn this history around, research and evaluation in Aboriginal affairs into the future will ideally be co-designed and co-produced by Aboriginal communities.

Placing a premium on 'evidence-based' policy

Governments throughout the world are placing more importance on evidence-based policy and evidence-informed decision-making. This is particularly important given that the public sector is increasingly being called upon to do more with less. A number of

reports, including that of the Productivity Commission, lament a lack of an evaluation culture within the public sector's approach to Indigenous affairs.

The Blair Government in the United Kingdom was very much at the forefront of deeper thinking about evidence in policy making:

"Good quality policy making depends on high quality information derived from a variety of sources: expert knowledge; existing domestic and international research; existing statistics; stakeholder consultation; evaluation of previous policies; new research, if appropriate; or secondary sources, including the internet." (UK Cabinet Office, 1999 in Carrin et al., 2009, p.31.)

Researching to better understand complexity

As previously noted, Aboriginal affairs policy is a portfolio which clearly fits the definition of 'wicked public policy problems' in so far as it is socially complex, has many interdependencies and is multi-causal, and does not fit neatly within the responsibilities of one government department. In other words, Aboriginal affairs is complex. When working with complexity, leading international thinkers - such as Professor Thomas Homer-Dixon from Canada – are calling upon governments and societies to think anew:

"We need to start thinking about the world in a new way, because in some fundamental and essential respects our world has changed its character. We need to shift from seeing the world as composed largely of simple machines to seeing it as composed mainly of complex systems. Seeing the world as composed mainly of simple machines might have been appropriate several decades ago. We commonly thought of our economy, the natural resource systems we were exploiting, and our societies as machines that were analogous, essentially, to a windup clock. Each could be analyzed into parts, with the relations between those parts precisely understood, and each was believed to be nothing more than the sum total of its parts. As a result, we believed we could predict and often precisely manage the behaviour of these systems." (Homer-Dixon, 2011.)

Empowering communities to co-produce research and own their data

The OCHRE initiative in NSW represents an intent on the part of government to recalibrate its relationship with Aboriginal communities. The Government has said that it wants to shift the relationship from one of paternalism to one of partnership. This notion of coproduction needs to extend to evaluation and research. The principle of coproduction is highly relevant in the OCHRE context. Katz, *et al.* (2016) observe that evaluation projects can involve socially marginalised groups in 'the design of the project and are involved in collecting and analysing data, interpreting findings and disseminating the research (p.10).' In citing Robinson, Fisher, and Strike (2014), Katz *et al.* (2016) make the following point about inclusive and coproduced evaluation:

"Inclusive approaches to evaluation aim to engage the people who are intended to benefit from social support programs as active agents in evaluation processes with the transformative goals of improving the programs in their interests. The approaches can offer opportunities for increased breadth and quality of data, an ethical schema, a clear conceptual and methodological framework for practice, and the potential for addressing the human rights and social justice of marginalised groups (2014, p.1)." (in Katz et al., 2016, p.10).

Embracing complexity

One way to consider complexity in public policy is by working from David Snowden's *Cynefin Framework* (below). The Aboriginal affairs sector is arguably an area of what Snowden calls 'emergent practice'; as such, actors operating within it will often come up against obstacles that have not been 'solved'. They will therefore need to be prepared to innovate, probe, and test new approaches in an attempt to overcome seemingly intractable problems. Furthermore, actors in such spaces will need to invest in research and evaluation, especially in circumstances of uncertainty and complexity.

The Cynefin Framework

Go to www.cognitive-edge.com

According to the Cynefin framework, in areas of complexity, practice has emergent properties. Put simply and metaphorically, it means that 'the nut hasn't been cracked yet', so organisations will need to 'probe and sense' in the absence of a proven solution to a known problem. In other words, because organisations or communities haven't yet solved a problem, they will need to invest in research and development (such as action research) in order to advance toward a resolution.

Unlike the realms of 'best practice' and 'good practice', in areas of complexity, organisations cannot simply rely upon 'replication' of best practice from somewhere else, nor can they simply commission an expert to come in and show the way. In other words, they may need to experiment, sense, monitor, measure, and adapt in order to develop new ways to prise the nut open.

In these so-called 'wicked' public policy spaces, research skills are critically important. In fact, basic research skills are increasingly becoming a core capability for all skilled professionals in the 21st Century, regardless of their background discipline, professional vocation or whether they work in public, private or non-government sectors. Research in the workplace embraces skills such as how to:

- Think critically and creatively;
- Ensure that programs are on track by using data;
- Search for evidence or test theory;
- Use technology to find valuable information;
- Analyse, discern and make informed judgements; and
- Connect with other professionals working in similar fields (both nationally and, increasingly, internationally).

While high-level research is, in the main, carried out by qualified professionals (principally those from the academy or people with appropriate qualifications based in specialist institutions), basic research and evaluation skills in the workplace are nevertheless essential for public policy and program managers now and into the future, especially for those working in fields of complexity. In Aboriginal affairs administration more specifically, it is imperative that policy and program managers have the capacity to help facilitate research-community partnerships and proactively build the capacity of communities to co-design and co-produce research and evaluation at local, regional, and state levels. This way, communities and governments can jointly get a firmer handle on what works (and what doesn't), what's worth trying, what needs to improve, what needs to be discarded, and what needs to be sustained. Aboriginal public sector employees working on Country have a significant opportunity to both influence and facilitate such co-production and collaboration between research, public sector, and Aboriginal communities.

What is research and why do it?

So, with the above 'forces for change' in mind, why undertake research?

At its most fundamental level, research is about finding out new things or proving something. In academic terms, it means engaging in a process of collecting, sorting, interpreting, analysing, and presenting data to draw conclusions and offer new theory. We undertake research because there is much we don't know about the world. Research is essentially about building understanding and acquiring knowledge. The world is a complex place with many unresolved problems and gaps in knowledge. We undertake research in order to resolve problems; understand phenomena; create new solutions, products and services; improve human life; protect the natural world; discover new worlds; and better understand and appreciate ancient worlds.

The University of Western Australia defines research as…

> *…the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings. This could include synthesis and analysis of previous research to the extent that it leads to new and creative outcomes. This definition of research is consistent with a broad notion of research and experimental development (R&D) as comprising of creative work undertaken on a systematic basis in order to increase*

the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications.

This definition of research encompasses pure and strategic basic research, applied research and experimental development. Applied research is original investigation undertaken to acquire new knowledge but directed towards a specific, practical aim or objective (including a client-driven purpose).[4]

The University of California San Diego (UCSD) captures the essence of 'research':
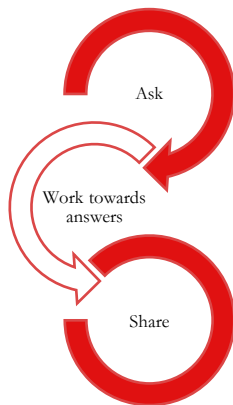
Research is a systematic inquiry that investigates hypotheses, suggests new interpretations of data or texts, and poses new questions for future research to explore. Research consists of:

- *Asking a question that nobody has asked before;*

- *Doing the necessary work to find the answer; and*

- *Communicating the knowledge you have acquired to a larger audience.*[5]

UCSD further defines research as 'systematic gathering of data and information and its analysis for advancement of knowledge in any subject.' Through the application of systematic research methods, 'research attempts to answer intellectual and practical questions'.

Research has a number of purposes and functions. As Walliman (2011) explains, research can be undertaken in order to:

(i)   **Categorise.** *This involves forming a typology of objects, events or concepts, i.e. a set of names or 'boxes' into which these can be sorted. This can be useful in explaining which 'things' belong together and how.*

(ii)   **Describe.** *Descriptive research relies on observation as a means of collecting data. It attempts to examine situations in order to establish what is the norm, i.e. what can be predicted to happen again under the same circumstances.*

(iii)   **Explain.** *This is a descriptive type of research specifically designed to deal with complex issues. It aims to move beyond 'just getting the facts' in order to make sense of the myriad other elements involved, such as human, political, social, cultural and contextual.*

(iv)   **Evaluate.** *This involves making judgements about the quality of objects or events. Quality can be measured either in an absolute sense or on a comparative basis. To be useful, the methods of evaluation must be relevant to the context and intentions of the research.*

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[4] http://www.research.uwa.edu.au/staff/research-policy#definition
[5] https://real.ucsd.edu/students/what-is-research.html

(v) **Compare.** *Two or more contrasting cases can be examined to highlight differences and similarities between them, leading to a better understanding of phenomena.*

(vi) **Correlate.** *The relationships between two phenomena are investigated to see whether and how they influence each other. The relationship might be just a loose link at one extreme or a direct link when one phenomenon causes another. These are measured as levels of association.*

(vii) **Predict.** *This can sometimes be done in research areas where correlations are already known. Predictions of possible future behaviour or events are made on the basis that if there has been a strong relationship between two or more characteristics or events in the past, then these should exist in similar circumstances in the future, leading to predictable outcomes.*

(viii) **Control.** *Once you understand an event or situation, you may be able to find ways to control it. For this you need to know what the cause and effect relationships are and that you are capable of exerting control over the vital ingredients. All of technology relies on this ability to control.*

Research involves a number of **methods**, whereby research activity can take many forms. The UCSD helps distill research methodologies into the following five broad categories:

1. **Qualitative**: *Involves describing in details specific situations using research tools like interviews, surveys, and observation. Qualitative researchers are more concerned with understanding what is happening as viewed by the participants.*

2. **Quantitative**: *Requires quantifiable data involving numerical and statistical explanations. Quantitative researchers seek to explain the causes of change primarily through objective measurement and quantitative analysis (statistics).*

3. **Correlation/Regression Analysis**: *Involves determining the strength of the relationship between two or more variables. Correlation / regression researchers determine whether correlations exist between two quantitative variables.*

4. **Experimental**: *Relies on controlled experiments that compare the outcome for an experimental and a control group that differ in a defined way. Experiments have a control group, subjects are randomly assigned between the groups, and researchers test the effects of one or more variables on the outcome.*

5. **Meta-Analysis**: *Designed to analyze multiple studies to determine if there is a consensus regarding the correctness of a hypothesis. Meta-analysis researchers combine the findings from independent studies.[6]*

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[6] https://real.ucsd.edu/students/what-is-research.html

Why do we undertake research? In summary, research is concerned with acquiring knowledge and testing theory. It is often undertaken to better understand the interconnectedness and holistic nature of things under study. Research should be impartial and it requires the researcher to be able to step back and objectively observe and analyse things. In many ways, research is about seeing the woods for the trees.

RESEARCH IS ABOUT SEEING THE WOODS FOR THE TREES.

What are the stages of research?

Research should not be conducted on the run. It has to be carefully planned, staged and managed; which is not to say it should be dogged or inflexible. In Aboriginal contexts, flexibility and adaptability are critically important especially when undertaking fieldwork due to unforeseen events in community, shifting community priorities, and because communities ideally should be in the driver's or co-pilot's seat of research.

How the stages of research projects are designed, planned and organised is a case of 'horses for courses'; that is, they need to be tailored to context. Generally speaking, the design of research projects ultimately depends on how to best answer the research question or advance the research problem. Nonetheless, there are a number of generic or universal steps involved in social research in academic contexts. An online research training resource (https://research-methodology.net) suggests that a typical research process comprises the following stages:

> **1. Selecting the research area**. You are expected to state that you have selected the research area due to professional and personal interests in the area and this statement must be true.
>
> **2. Formulating research aim, objectives and research questions or developing hypotheses[7]**. The choice between the formulation of research questions and the development of hypotheses depends on your research approach. Appropriate research aims and objectives or hypotheses usually result from several attempts and revisions and these need to be mentioned in Methodology chapter.
>
> **3. Conducting the literature review**. Literature review is usually the longest stage in the research process. Actually, the literature review starts even before the formulation of research aims and objective; because you have to check if exactly the same research problem has been addressed before. Nevertheless, the main part of the literature review is conducted after the formulation of research aim and objectives. You have to use a wide range of secondary data sources such as books, newspapers, magazines, journals, online articles etc.
>
> **4. Selecting methods of data collection**. Data collection method(s) need to be selected on the basis of critically analyzing advantages and disadvantages associated with several alternative data collection methods. In studies involving primary data collection, in-depth discussions of advantages and disadvantages of selected primary data collection method(s) need to be included in methodology.
>
> **5. Collecting the primary data**. Primary data collection needs to be preceded by a great level of preparation and pilot data collection may be required in case of questionnaires.
>
> **6. Data analysis**. Analysis of data plays an important role in the achievement of research aim and objectives. Data analysis methods vary between secondary and primary studies, as well as, between qualitative and quantitative studies.
>
> **7. Reaching conclusions**. Conclusions relate to the level of achievement of research aims and objectives. In this final part of your [research] you will have to justify why you think that research aims and objectives have been achieved. Conclusions also need to cover research limitations and suggestions for future research. (Source: https://research-methodology.net)
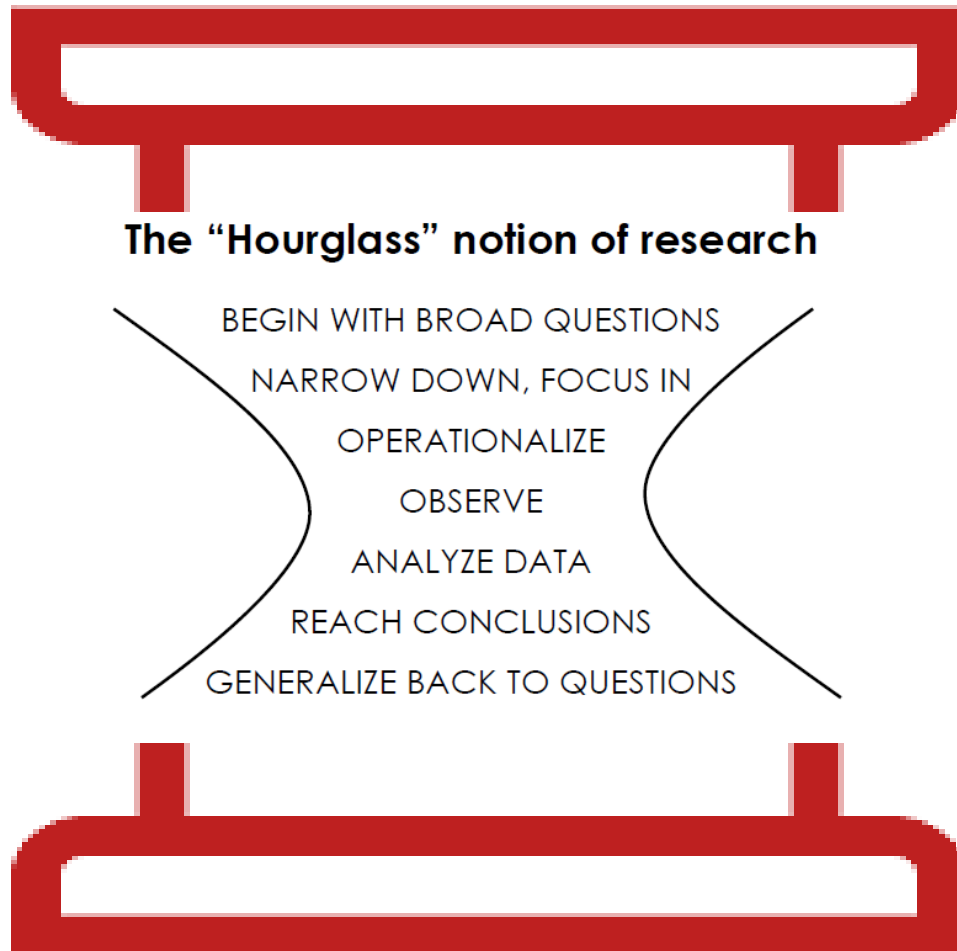
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[7] Hypotheses are single tentative guesses, good hunches – assumed for use in devising theory or planning experiments intended to be given a direct experimental test when possible. (Eric Rogers, 1966)

These seven steps above are not the only stages involved in research. There are many other highly important stages including ethics, consent, logistics, presentation and dissemination which are discussed elsewhere in this paper.

Another way of thinking about the research process is through Prasad et al.'s (2001) hourglass analogy:

The "Hourglass" notion of research

BEGIN WITH BROAD QUESTIONS

NARROW DOWN, FOCUS IN

OPERATIONALIZE

OBSERVE

ANALYZE DATA

REACH CONCLUSIONS

GENERALIZE BACK TO QUESTIONS

Source: **Prasad et al. 2001**

Difference between methods and methodology

Another critical consideration in research design is methodology. It's important to distinguish research methods from research methodology. While they're closely tied to one another, they are different. Methods are as above, that is the qualitative and/or quantitative tools, strategies or techniques that a researcher uses to answer a research question (such as qualitative research methods like interviewing). Methodology on the other hand is a justification for using a particular research method. Singh (2016) provides the following examples of methods:

Different scientific disciplines utilize different kinds of methods. For instance, a social science researcher might gather data by way of an interview, observation, auditory feedback or survey. An ecologist might want to track animals for population studies; a taxonomist

might count fish scales to differentiate among species; a geologist might adopt methods to quantify components within soil particles.

Singh adds that **methods** is the answer to the following question – 'What did the researcher use in the study?' On the other hand, **methodology** is the answer to the following question – 'HOW did the researchers complete their study?' Singh adds:

> Methodology refers to the study of how research is done. It entails how we find out about procedures, and the manner in which knowledge is gained. Methodology outlines the principles that guide research practices. For instance, a textbook on multivariate statistics is likely to explain the science behind how and why we use the methods enlisted within and also guide the researcher on how to capitalize on said quantitative techniques; where those methods may be applicable and also circumstances where they would not be appropriate. Methodology therefore explains why we use x, y or z methods relevant to particular research.

Another way to think about the difference, Singh suggests, is by unpacking the word 'method-ology':

> 'method' + 'ology': 'Ology' typically means a discipline of study or a branch of knowledge. Thus technically speaking, 'methodology' is considered to be (a combination of ology and method) a study of methods.

What is theory?

Research is often undertaken to build and test 'theories'. In Aboriginal affairs, a number of prominent theories include those of 'assimilation' and 'self-determination'. Theories are used to make sense of particular phenomena, events, and issues, by describing, explaining, predicting, or controlling. Frey *et al.* (1991) suggest that 'theories represent tentative solutions to problems'. They further explain that a theory 'is a generalization about a phenomenon, an explanation of how or why something occurs. Indeed, any statements that explain what is measured or described--any general statements about cause or effect--are theory based, at least implicitly.' In more simple terms, Hawes (1975) suggests:

> *The power of a theory is its ability to connect events into a unified web.*

Hawes (1975) further suggests that:

> *What gives a theory its power is not the declarative statements it consists of but rather the relationship among those statements. It is the form of the relationship among statements rather than the individual statements themselves that distinguish between theory and description.*

Theory is therefore concerned with the systems (or webs) of generalisable statements and the logical connection between them.

Ethical research and Indigenous research principles

Researchers (Indigenous and non-Indigenous) who are looking to undertake Aboriginal research are generally expected to adhere to a number of ethical principles identified by peak research bodies in Australia, including the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS). In the health sector, both the National Health and Medical Research Council (NHMRC) and the NSW Aboriginal Health and Medical Research Council (AH&MRC) have articulated a number of protocols and guidelines to underpin research in Aboriginal health across Australia and in NSW respectively. The NHMRC states that the following two themes must always be considered in human research:

> the risks and benefits of research, and participants' consent.

In other words, for research to be ethical it should do 'no harm' and it should be voluntary and agreed to by research participants. The following passages outline the ethical principles that researchers in Aboriginal contexts are expected to adhere to:

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[8] http://www.dartmouth.edu/~bio125/Examples_Theories.pdf

AIATSIS

AIATSIS's *Guidelines for ethical research in Australian Indigenous studies* identifies eleven principles of practice:

1. consultation, negotiation and free and informed consent are the foundations for research with or about Aboriginal and Torres Strait Islander people
2. responsibility for consultation and negotiation is ongoing
3. consultation and negotiation should achieve mutual understanding about the proposed research
4. Indigenous knowledge systems and processes must be respected
5. there must be recognition of the diversity and uniqueness of peoples as well as individuals
6. the intellectual and cultural property rights of Indigenous peoples must be respected and preserved
7. Aboriginal and Torres Strait Islander researchers, individuals and communities should be involved in research as collaborators
8. use of, and access to, research results should be agreed
9. a research community should benefit from, and not be disadvantaged by, the research project
10. negotiation of outcomes should include results specific to the needs of the research community
11. negotiation should result in a formal agreement for the conduct of a research project, based on good faith and free and informed consent.

NHMRC

The National Health and Medical Research Council (NHMRC) has identified a number of core values at the heart of Aboriginal health research. The NHMRC's *Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research* have been developed to assist researchers when developing proposals and undertaking research in Indigenous health. The guidelines identify six core values (with *spirit* and *integrity* at the centre) as shown in the diagram on the right:

(Source: Keeping research on track: A guide for Aboriginal and Torres Strait Islander Peoples about health research ethics, NHMRC 2005)

AH&MRC (NSW)

In New South Wales, the Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee has recently revised a set of key principles to guide research in Aboriginal health (September 2016). The purpose of the key principles document is to:

- guide researchers undertaking research into the health of Aboriginal people and assist them in the preparation of applications to the AH&MRC Ethics Committee; and

- guide AH&MRC Ethics Committee members in making decisions about applications for ethical approval of individual research projects.

The AH&MRC Ethics Committee assesses applications against the following criteria:

a) Consistency with the National Statement on Ethical Conduct in Human Research (NHMRC, 2007) and Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research (NHMRC, 2003); and

b) The Ethics Committee will only approve a project where:

   i. *Net Benefits for Aboriginal people and communities: The research will advance scientific knowledge and result in a demonstrated net benefit for the health of Aboriginal people and communities.*
   ii. *Aboriginal Community Control of Research: There is Aboriginal community control over all aspects of the proposed research including research design, ownership of data, data interpretation and publication of research findings.*
   iii. *Cultural Sensitivity: The research will be conducted in a manner sensitive to the cultural principles of Aboriginal society and will recognise the historical aspects and impact of colonisation on Aboriginal people.*
   iv. *Reimbursement of costs: Aboriginal communities and organisations will be reimbursed for all costs arising from their participation in the research process.*
   v. *Enhancing Aboriginal skills and knowledge: The project will utilise available opportunities to enhance the skills and knowledge of Aboriginal people, communities and organisations that are participating in the project.*

The AH&MRC Ethics Committee requires researchers to provide a written statement addressing the five criteria listed above.

What is evaluation and how does it differ from research?

Evaluation is a sub-branch of research or, at the very least, closely aligned to research; nonetheless it differs in a number of ways. Unlike pure research which is often concerned with *generalisable theory*, evaluation is a far more targeted activity. It is essentially about testing whether something (a program, or a policy, or an intervention, or investment) is working or not. It is therefore much more limited and concentrated in its scope. That said, both research and evaluation require disciplined thinking in terms of scope, design, implementation, budget and timeframes. Quality evaluation is rigorous, disciplined, and highly focused. As such, it does not seek to 'boil the ocean'.

Chen (2013) helps capture some of the key differences between research and evaluation as outlined in the following table:

Research	Evaluation
Produces generalizable knowledge	Judges merit or worth
Scientific inquiry based on intellectual curiosity	Policy & program interests of stakeholders is paramount
Advances broad knowledge and theory	Provides information for decision-making on specific program
Controlled setting	Conducted within setting of changing actors, priorities, resources, & timelines

Chen (2013) cites the following model from the American Evaluation Association which further illustrates some of the differences between research and evaluation. The model suggests that research is concerned with generating new knowledge while evaluation is about informing decision-making.

Source: American Evaluation Association - http://aea365.org/blog/?p=222
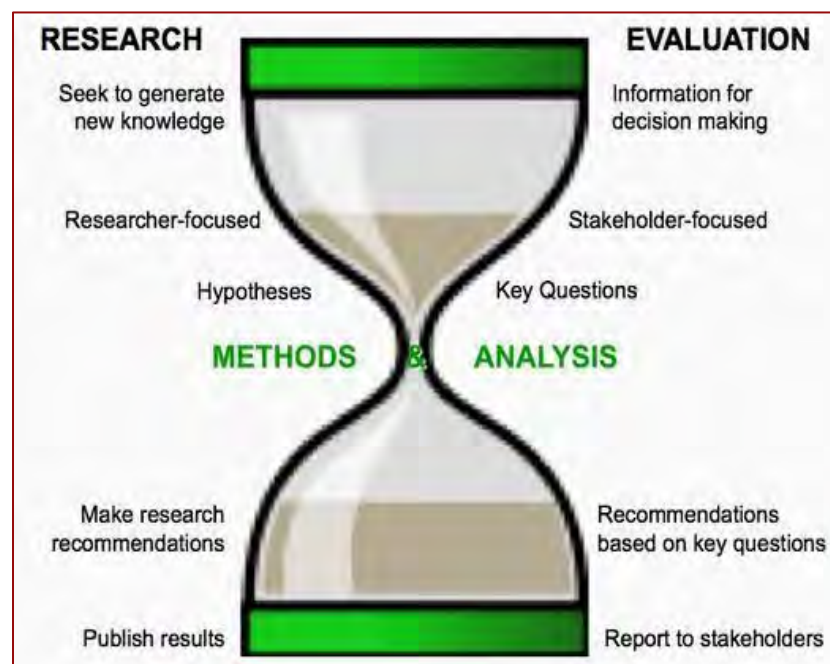
Chen (2013) also neatly captures and summarises a number of other key differences between the two in the form of the following easy to follow 'bumper sticker' messages as illustrated here:

Bumper Sticker Messages
about Evaluation and Research

Research generalizes

Evaluation particularizes

Research is about 'what's so'?

Evaluation is about 'so what'?

Research is about what is

Evaluation is about what is valuable

EVALUATION IS ABOUT HOW WELL IT WORKS

RESEARCH IS ABOUT HOW IT WORKS

Research is designed to *prove* something

Evaluation is designed to *improve* something

Research provides the basis for drawing conclusions

Evaluation provides the basis for decision-making

Based on Chen, 2013

Evidence-based policy and its relationship with politics, research, and practice

Evidence-based policy making is perhaps the 'holy grail' of public administration. That is, evidence should ideally underpin public administration, but too often, political ideology trumps it. As Head (2008) suggests, ideally the goal of public policy-making in Australia is:

> *…to produce the knowledge required for fine-tuning programs and constructing guidelines and 'tool-kits' for dealing with known problems. Hence, the currently famous phrase that defines much of the movement – 'what works?'* (p.2).

Edwards and Evans (2011) note a number of barriers to evidence-based policy-making:

- *Institutional constraints on the use of evidence in policy-making arising from the three-year electoral cycle.*
- *Inability to utilise existing capacity, learn from the front-line and share evidence of better practice.*
- *The absence of strong productive working relationships between government and knowledge institutions.*
- *Failure to attract the best and the brightest* (p.3).

Edwards and Evans (2011) provide a number of strategies to overcome these barriers, principally by 'building strong productive working relationships between government and knowledge institutions (p.5)'. However, as the authors concede, there are a number of obstacles to the formation of stronger relationships between research and public policy sectors, including:

1. *separation, mistrust and poor understanding between the worlds of ideas/research and action/practice;*
2. *a static view of academic research as a product and system decision-making as an event vs a dynamic view of both as social processes that need to be linked in ongoing exchange;*
3. *few skills or incentives in universities to do applied research; and*
4. *few skills or incentives in the system to use research* (p.5).

Edwards and Evans (2011) also highlight the importance of an 'interactive and ongoing relationship between policy-makers and researchers covering both the production and take-up of knowledge', by arguing that…

> *…research stands to be more effective when it is part of the decision-making process rather than a stand-alone activity* (p.6).

Edwards and Evans (2011) also promote a number of practical ways in which research-public sector relationships can strengthen, including through:

- secondments out of the public service into research institutions;
- knowledge brokerage to link academic and government sectors; and
- the use of action-based research programs.

Head (2008) identifies three major challenges to the goal of evidence-based policy. The first arises out of the 'inherently political and value-based nature of policy debate and decision-making (p.9).' That is, policy decisions are not made from facts alone, but from politics, judgement and debate. Secondly, Head (2008) finds that 'information is perceived and used in different ways, by actors looking through different 'lenses' (p.9).' That is 'evidence' can be seen through three lenses: political know-how, systematic research, and professional practice.
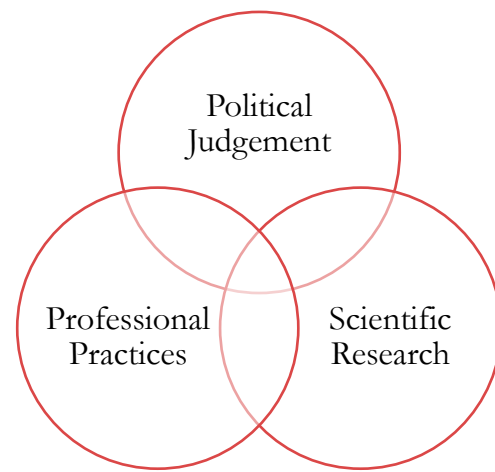
Source: Head 2008

Head (2008) further suggests that these differing 'perspectives all provide important contributions to policy development, but defensiveness and negativity are as common as cooperation. Although the context of decision-making is dynamic and negotiated, these key actors are anchored in institutional settings that make shared perspectives difficult to attain (p.9).'

The third and final challenge to evidence-based policy that Head (2008) identifies is the difficulty in harnessing the complexity of extensive networks, partnerships, and collaborative governance. Head (2008) contends that:

> *Networks bring to the table a diversity of lived experience and therefore a diversity of 'evidence' (relevant information, interpretations, priorities, and perspectives), not only about what works but also about what is worthwhile and meaningful* (p.9).

Head's final point about 'what is worthwhile and meaningful' leads to a discussion about the role of 'values' in public policy-making. Bromell (2012) contends, public policy is not only about 'evidence' but also about 'values', by arguing that…

> *…policy making needs to go beyond 'evidence-based policy' – at least the kind of policy making where officials provide ostensibly 'values-free' empirical analysis of 'the evidence' and 'what works, while politicians concern themselves with desired outcomes and priorities between these. Rather, elected and appointed officials alike need to engage in co-production with citizens, co-production that factors into policy making explicit critical reflection and publication deliberation on purpose, values and emotions* (p.2).

This is a particularly important point in Aboriginal affairs, which can be a highly emotive area in public affairs. Values-based policy-making in Aboriginal affairs demands that people (public servants, researchers, and others) are not only 'doing things right' (what works) but also 'doing the right thing' (what's just). As Bromell (2012) argues:

Sound public policy is informed by relevant evidence, including monitoring and evaluation of 'what works'. 'The evidence' is not, however, the only factor to consider. For the most part, we make policy in contexts of conflict over purpose, values and 'the right thing to do'. (p.6)

Perhaps this point can be further understood through the following model[9] which suggests that leaders and high performing people give equal weight to head (reason and proof), gut (intuition), and heart (emotions and stories).

This widening of thinking beyond cognitive reasoning only, to embrace emotions and stories, is likely to find appeal and resonance in Aboriginal community contexts.

[9] http://www.scienceofpeople.com/2016/12/persuasion-tactics-of-the-worlds-greatest-leaders/
[10] ibid

Evaluation – the Essentials

Evaluation is best understood as a sub-branch of research.

The Community Sustainability Engagement Evaluation Toolbox (an online non-government, community resource) defines evaluation as…

> *…a structured process of assessing the success of a project in meeting its goals and to reflect on the lessons learned.* [11]

The NSW Government, through the Department of Premier and Cabinet, has developed a Toolkit[12] for evaluation of NSW public policies and programs. The Toolkit offers Seven Steps that could be followed when managing evaluations of NSW programs:

1. Develop program logic and review needs	5. Manage development of the evaluation workplan
⬇	⬇
2. Develop the evaluation brief	6. Manage implementation of the evaluation workplan, including production of report/s
⬇	⬇
3. Commission the evaluation project	7. Disseminate report and support use of the evaluation
⬇	
4. Manage development of the evaluation design	

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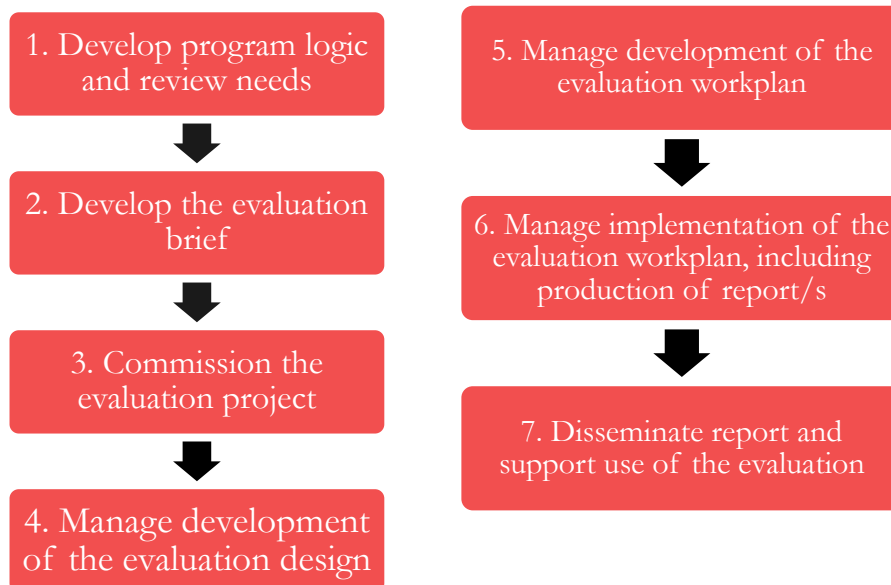
[11] http://evaluationtoolbox.net.au/index.php?option=com_content&view=article&id=11&Itemid=17

[12] http://www.dpc.nsw.gov.au/programs_and_services/policy_makers_toolkit/evaluation_toolkit

While this 'How to…Guide' does not repeat in detail the Seven Steps of the NSW Evaluation Toolkit, the first step (designing 'program logic') is explored in more detail given its critical role in establishing quality evaluation at the outset of a project. 'Program Logic' includes things such as:

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────────┐
│  Program        │      │                 │      │  Inputs             │
│  Goal           │ ───► │  Planning       │ ───► │  (e.g. resources,   │
│                 │      │                 │      │  people, activities)│
└─────────────────┘      └─────────────────┘      └─────────────────────┘
         │                                                    │
         ▼                                                    │
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────────┐
│  Outputs        │      │  Outcomes       │      │  Impact             │
│  (Immediate)    │ ───► │  (Intermediate) │ ───► │  (Longer Term)      │
└─────────────────┘      └─────────────────┘      └─────────────────────┘
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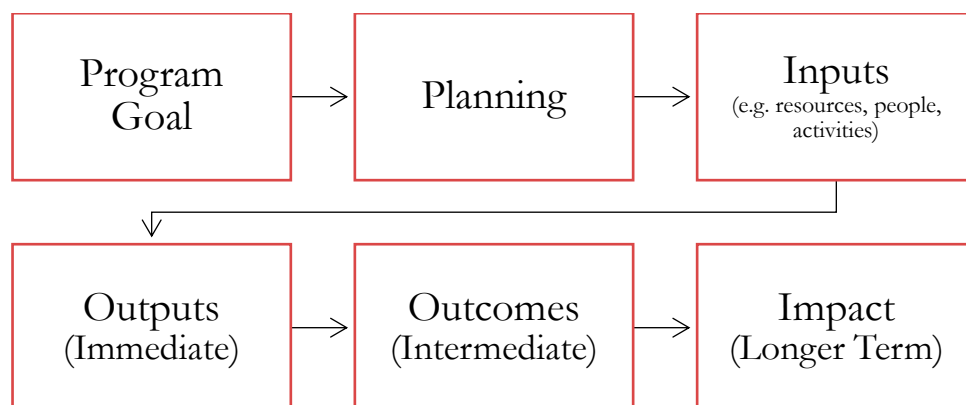
Qualitative Techniques – the Essentials

Mack *et al.* (2005) provide a very practical and easy-to-follow overview of qualitative research methods to help researchers working in the field. While there are many qualitative techniques that a researcher can use (in fact, they're only limited by their imagination), Mack *et al.* (2005) identify the following as the three most common methods and where and when they're appropriate to use:

Method	Description
participant observation	• appropriate for collecting data on naturally occurring behaviours in their usual contexts
in-depth interviews	• optimal for collecting data on individuals' personal histories, perspectives, and experiences, particularly when sensitive topics are being explored
focus groups	• effective in eliciting data on the cultural norms of a group and in generating broad overviews of issues of concern to cultural groups or subgroups represented.

(p.2)

Another potential technique within a researcher's kitbag of qualitative methods is 'case study' method. The University of New South Wales describes a case study as…

> …*an account of an activity, event or problem that contains a real or hypothetical situation and includes the complexities you would encounter…Case studies are used to help you see how the complexities of real life influence decisions.*[13]

UNSW further explains that analysing a case study requires the application of knowledge and skills to real situations. To learn from a case study analysis, researchers will be 'analysing, applying knowledge, reasoning and drawing conclusions' (Kardos & Smith 1979). According to Kardos and Smith (1979) a good case has the following features:

- *It is taken from real life (true identities may be concealed).*
- *It consists of many parts and each part usually ends with problems and points for discussion. There may not be a clear cut off point to the situation.*
- *It includes sufficient information for the reader to treat problems and issues.*
- *It is believable for the reader (the case contains the setting, personalities, sequence of events, problems and conflicts).*[14]

Stake (1995) explains case study method in the following terms:

> *Case studies, in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals. The case(s) are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time.*

Yin (2014), meanwhile, describes a case study as an empirical[15] inquiry that:

- *investigates a contemporary phenomenon (the case) in depth and within its real-life context, especially when*

- *the boundaries between phenomenon and context are not clearly evident* (p.16).

Case study method arguably works best when it is coupled or grouped with other research methods, such as fieldwork, surveys and questionnaires, quantitative techniques, and literature reviews.

Qualitative research methods can be particularly powerful and appropriate in Aboriginal contexts, because of their oral, story, and narrative-based nature. Qualitative methods are generally far more flexible than quantitative techniques. Mack *et al.* (2005) highlight a couple of advantages of qualitative methods:

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[13] https://student.unsw.edu.au/what-case-study

[14] https://student.unsw.edu.au/what-case-study

[15] meaning real observation or experience, not theoretical

One advantage of qualitative methods in exploratory research is that the use of open-ended questions and probing gives participants the opportunity to respond in their own words, rather than forcing them to choose from fixed responses, as quantitative methods do. Open-ended questions have the ability to evoke responses that are:

- *meaningful and culturally salient to the participant*
- *unanticipated by the researcher*
- *rich and explanatory in nature* (p.4).

Mack *et al.* (2005) also suggest that:

Another advantage of qualitative methods is that they allow the researcher the flexibility to probe initial participant responses – that is, to ask why or how. The researcher must listen carefully to what participants say, engage with them according to their individual personalities and styles, and use "probes" to encourage them to elaborate on their answers (p.4).

Two examples of qualitative-based research (through in-depth interviews) in Aboriginal affairs, that have made their way into publication are:
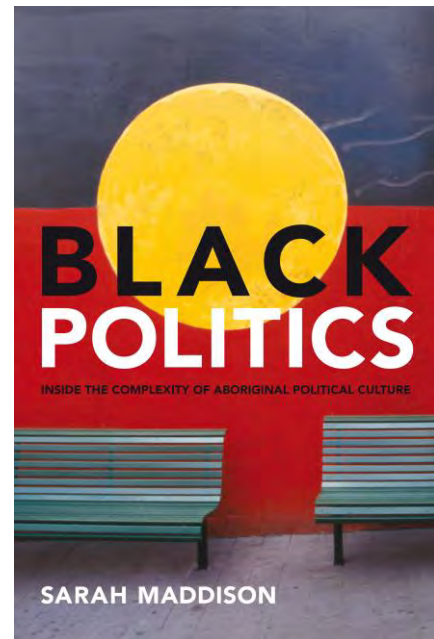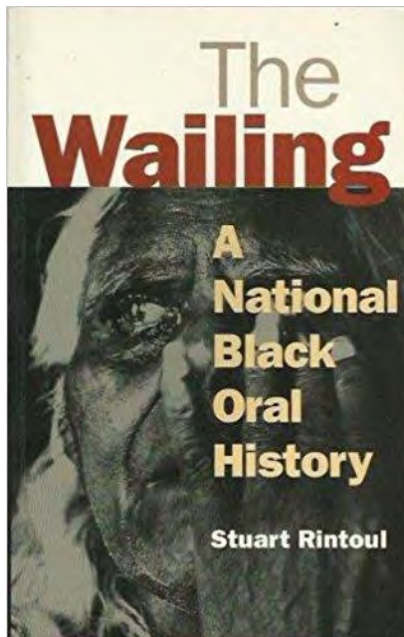
Quantitative Techniques – the basics and how they differ from qualitative methods

If qualitative methods are about 'words', then quantitative techniques are about 'numbers'. Unlike the flexible and open-ended nature of qualitative methods (such as interviews), quantitative techniques tend to be more rigid so that comparisons can be made between groups, locations, or at different points in time. Statistics, statistical analysis, large-scale surveys and questionnaires are all examples of quantitative research methods.

Per cent of Indigenous population who have completed Year 12 (or equivalent)

Source: ABS Census Data 2001, 2006, 2011
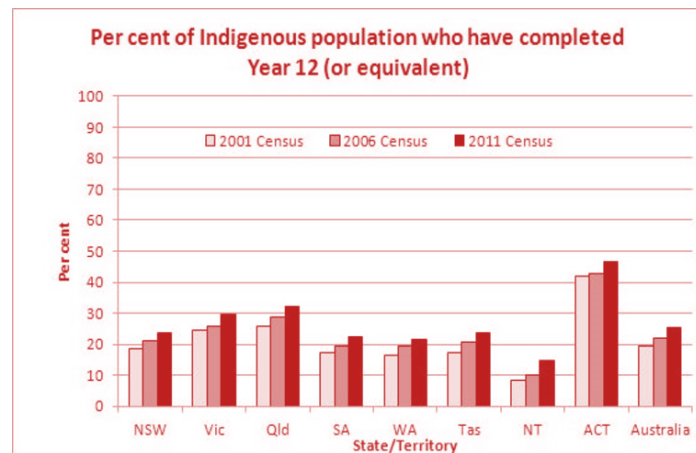
It is through statistical data collection and analysis undertaken by agencies such as the Australian Bureau of Statistics (ABS) that we are able to, for example, determine the percentage of Indigenous young people completing Year 12 and make comparisons between States and between years (2001, 2006, 2011).

Quantitative techniques, Zikmund (2010) suggests, are usually concerned with the collection of 'large samples to produce generalizable results.' Zikmund (2010) helps distinguish between quantitative and qualitative approaches by suggesting that quantitative techniques are aimed at 'measuring and testing', while qualitative techniques are aimed at 'observing and interpreting'.

So in turning back to the Year 12 Indigenous data above, statistics help establish the 'how many' while qualitative techniques (such as interviewing Indigenous school leavers) can help answer 'why' the results are the way they are.

Mack *et al.* (2005) have produced the following table which help further distinguish between quantitative and qualitative methods:

Table 1. Comparison of quantitative and qualitative research approaches

	Quantitative	Qualitative
General framework	Seek to confirm hypotheses about phenomena	Seek to explore phenomena
	Instruments use more rigid style of eliciting and categorizing responses to questions	Instruments use more flexible, iterative style of eliciting and categorizing responses to questions
	Use highly structured methods such as questionnaires, surveys, and structured observation	Use semi-structured methods such as in-depth interviews, focus groups, and participant observation
Analytical objectives	To quantify variation	To describe variation
	To predict causal relationships	To describe and explain relationships
	To describe characteristics of a population	To describe individual experiences
		To describe group norms
Question format	Closed-ended	Open-ended
Data format	Numerical (obtained by assigning numerical values to responses)	Textual (obtained from audiotapes, videotapes, and field notes)
Flexibility in study design	Study design is stable from beginning to end	Some aspects of the study are flexible (for example, the addition, exclusion, or wording of particular interview questions)
	Participant responses do not influence or determine how and which questions researchers ask next	Participant responses affect how and which questions researchers ask next
	Study design is subject to statistical assumptions and conditions	Study design is iterative, that is, data collection and research questions are adjusted according to what is learned

(p.3)

When looking at tables like this, you could be forgiven for thinking that a 'choice' is required between qualitative and quantitative techniques. However, rather than it being a case of 'either-or', research projects often draw upon both streams. Mixed methods of research have the potential to test data against each other. For example, if through interviews you were to find a particular 'pattern' in what participants were saying, you could then go test the 'pattern' via statistical data from larger pools of participants (for example, Census data).

Data – how to present it compellingly

Finding an exact figure for the number of universities in the world today is problematic, given that definitions of 'university' can differ across nations. However, one estimate puts the figure at between 9,000 and 17,000[16], with over 4,000 in the United States alone[17]. There are 43 accredited universities in Australia.[18] Meanwhile, the number of tertiary education students throughout the world is forecast to more than double to 262 million by 2025.[19]

So with so many research institutions, students and researchers throughout the world, how does one present their research in a compelling way so as to have it heard, read, or stand out in the crowd? *(Remember one of the obligations of a researcher is to share their findings and disseminate their data, report, or thesis.)* The answer to this is simple - target and tailor to your audience.

Research does need to appeal to the popular masses, it is not journalism nor popular media. While you could place your report or thesis online in the hope that someone might read it, the wiser approach is to think about who *should* read your report or who *needs* to be aware of the data you've collected or findings that you've discovered. It could be your line managers, a department, a government, a community, another research body, or other people working in a similar line of work. By catering to your audience, you will also need to consider how to *present* your findings.

Ask

Work towards answers

Share
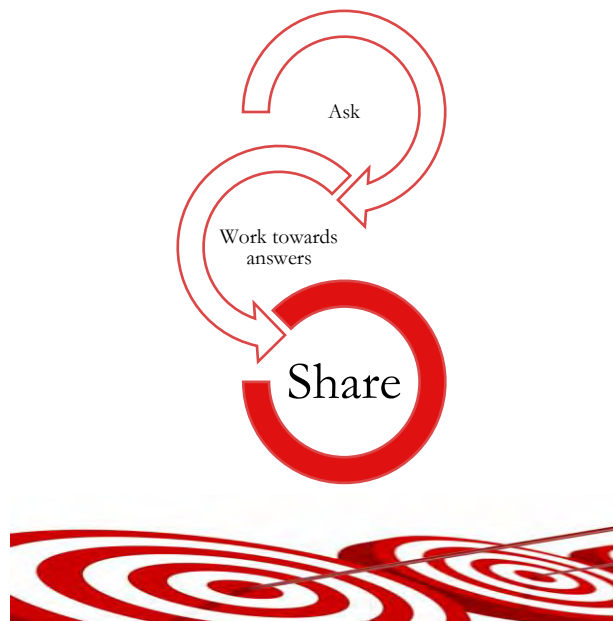
No matter who your audience is, be sure to make your presentation clear. Your report should be readable, logical and easy to follow.

There is a growing body of research called 'translational research'. It is particularly popular in the field of medical science because preventative health teaches us that publicly accessible and clearly understood information can help reduce health risks. Translational research involves taking complex scientific knowledge

[16] https://www.quora.com/How-many-universities-are-in-the-world
[17] https://nces.ed.gov/programs/digest/d09/tables/dt09_005.asp
[18] http://www.australianuniversities.com.au/list/
[19] http://www.universityworldnews.com/article.php?story=20120216105739999

and translating it into everyday digestible information. This is particularly important when research has to bridge cross-cultural divides. For Aboriginal audiences, it is important that research is presented in a way that is accessible and clearly understood. So without stereotyping, it may mean that in some communities a face-to-face presentation is a more appropriate approach than online written reports. The key for any effective research presentation – no matter the audience – is not to *dumb-down* but to *clear-up*.

The University of Melbourne has produced a resource to help students in presenting their research findings. The resource asks researchers to consider the following structure:

What you're doing - Introduce:

- *yourself;*
- *your topic and the broader context of your research;*
- *the main hypothesis or research question;*
- *methods of data collection; and*
- *the key points your talk will cover.*

What you've found (or expect to find) - Include:

- *key findings, trends in your data, progress to date;*
- *any difficulties with your method.*

Why this is important /relevant - Specify:

- *whether your results confirm your hypotheses;*
- *whether you may need to redesign any aspect of the research;*
- *likely implications, or possible applications[20]*
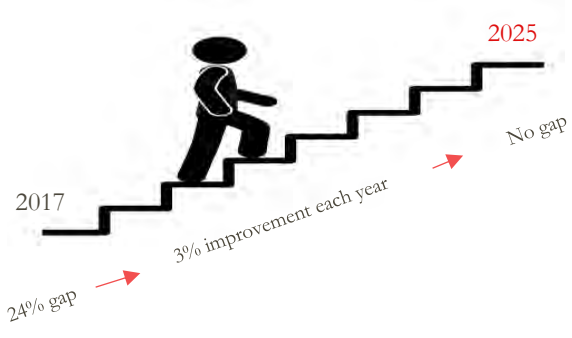
In sharing your findings, once again you'll need to cater to your audience. Options for presenting data include:

- story or narrative-based / *yarnin*;
- PowerPoint (but keeping written text to a minimum);
- handouts (Q&A sheets or fast facts sheets);
- using multimedia such as video or audio recordings (subject to permission being given);
- tabling a full written report but summarising it verbally; and
- diagrams such as pie charts, bar graphs, etc. to present quantitative data.

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[20] http://services.unimelb.edu.au/__data/assets/pdf_file/0005/470075/Presenting_your_research_Update_051112.pdf

You may choose to use metaphors or 'talk in pictures'. For instance:

Do you read/table this?	Or present this?
The findings indicate that based on current trends it will take 8 years to achieve equity between Indigenous and non-Indigenous students. With the gap in 2017 at 24 per cent, this means that schools will need to achieve on average a 3 per cent improvement per annum.	

Again, it's not about *dumbing-down* but rather, *clearing-up*.

Let's now consider 10 Golden Rules when embarking upon research and evaluation.

Ten Golden Rules

When undertaking research and/or evaluation, there are Ten Golden Rules that you could follow:

1   Do no harm

This is the foundation stone of ethical research. There is an expectation of researchers across the world that research will not harm people, reputations, relationships, communities, and/or environments. This principle emerged primarily out of the field of medical research. It was partly spurred by atrocities that occurred during World War II under the guise of 'research'. As Sparks (2002) explains:

"The German atrocities of World War II, some committed in the name of science, led to the Nuremberg Code of international ethics, which in part spelled out the requirement that any human subject must give informed consent to the research undertaken."

2   Your research question is the backbone of your research

Framing your research question is a vital first step in your research. The question has to be open-ended, so shy away from questions that might lead to 'yes or no' answers. QUT offers the following examples of good research questions:

- *"What is the nature of …?*

- *How do … differ?*

- *What strategies are used …?*

- *What are the effects of …?*

- *Under what conditions do …?*

- *What is the relationship between …?"*[21]

3   The goal of research is to prove; the goal of evaluation is to improve

As has been outlined elsewhere in this Guide, research is often about *proving* something while evaluation is about *improving* something. If you're undertaking research, then you cannot simply recycle the work of others. There's got to be something new in what you're doing, just like looking out to the horizon in a car trip you're taking for the very first time. Evaluation on the other hand, is about collecting data about something that is already underway or has passed already. Perhaps it is akin to driving forward, while at the same time looking for signs in the rear vision mirror?

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[21] http://airs.library.qut.edu.au/resources/1/3/

4   If it's not ethical, it's not on

In order for research to be ethical, it not only causes 'no harm' but it has several other vital qualities such as consent, confidentiality, respectful, honesty, and an upholding of the dignity of peoples and cultures. In the Aboriginal research space, it also includes principles such as self-determination and respecting history and cultures.

One of the cornerstones of ethical research is 'consent'. Participation in research should always be voluntary. Participants should provide their consent in advance of the study taking place, plus they have the right to withdraw at any stage. Researchers need to provide potential participants with the full facts in a way that is readily and easily understood.
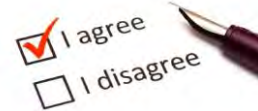
5   Proper citations & acknowledgements: plagiarism is a no-no

When undertaking research, researchers will inevitably draw upon previous studies done by others. This is especially the case when undertaking literature reviews. It is critical that other people's work is acknowledged and properly referenced.

If writers fail to acknowledge the ideas and words of others, then that amounts to plagiarism. The online organisation www.plagiarism.org offers the following examples of plagiarism:

- *"turning in someone else's work as your own*

- *copying words or ideas from someone else without giving credit*

- *failing to put a quotation in quotation marks*

- *giving incorrect information about the source of a quotation*

- *changing words but copying the sentence structure of a source without*

    giving credit

- *copying so many words or ideas from a source that it makes up the*

    majority of your work, whether you give credit or not."[22]

6   Techniques – fit for purpose

There's a saying, 'form follows function.' Once you've worked out what you want to *ask* (your research question), you then need to devise ways to best *answer* the question. Most research projects utilise a number of techniques or methods (i.e. a mixed-methods approach), including literature reviews, questionnaires and surveys, and interviews. What method/s you adopt will depend on how you can *best* answer your research question. It also depends on data being either readily available or potentially attainable within budgets and timeframes.

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[22] Go to http://www.plagiarism.org/plagiarism-101/what-is-plagiarism/

7 Great care: cultural safety and context sensitivity

If researchers and evaluators are operating within spaces that expose them to the oldest continuing cultures on Earth, then there is an obligation on the part of the researcher/s to respect cultures and Aboriginal peoples who form part of these ancient cultures. Certain protocols therefore have to be followed, such as *men's business* and *women's business* where that is appropriate. Also, researchers will need to be given community permission before they can divulge any culturally sensitive information. They will also require permission to work on 'Country', particularly when sacred cultural sites are involved.

8 Insightful analysis

The job of a researcher or evaluator is not only to *collect* data but *interpret, sort,* and *analyse* it, as well as *present* it. Aboriginal communities are likely to engage with researchers if the community can see the potential for tangible benefits from the research – especially from research that is both insightful and impactful. Conversely, communities are likely to shy away from research that has the potential for either negligible or adverse (social, cultural, economic, or environmental) impacts on communities.

9 Checking back with your participants

Community participants need to be treated as co-owners and co-producers of research. As such, feedback loops and open communication channels should be established between researchers and participants. At a practical level, this can include sharing interview transcripts and sending draft papers to participants to ensure that data have been accurately interpreted.

This checking back with participants can also happen during interviews, by the researcher asking question such as 'so, do you mean…' or 'am I right in saying…?'

10 Compelling presentation with smart and targeted dissemination

As previously mentioned, the presentation of your research or evaluation is equally important as the collection of data or the findings that you've made. In order for your research to be impactful, it needs to be compelling, clear, easy to follow, and logical.

You will need to tailor your presentation to your audience. Don't overwhelm your audience with a stack of words, think instead about using pictures, diagrams, Q&A sheets, or one-page fast facts sheets.

How you present your findings to an Executive Board is likely to differ to how you present to community members who have participated in your research. It's simply a matter of 'horses for courses'.

How to apply your skills: supporting participatory action research & Aboriginal research methods

In this final and concluding section we explore two areas of research that Aboriginal public servants are potentially and uniquely placed to support and foster, namely:

- Participatory Action Research (PAR); and
- Aboriginal research methods.

Before discussing how Aboriginal public servants could assist with these approaches, let's first establish what they mean. With regard to PAR, Kendall *et al.* (2011) suggest that PAR…

> …*simultaneously contributes to knowledge for the social sciences and to social action in everyday life. The method relies on a strong scientific basis, but evolves in a cyclical fashion in response to the accumulation of evidence. Thus, the research progresses in iterative cycles that consist of clearly defined phases, namely definition, planning, action, evaluation/observation, and reflection/revision.*

> *Most importantly, PAR focuses on the process by which knowledge and shared understanding is generated to mobilize collaborative action for change. Central to the approach is the collective ownership of the research processes and outcomes. Thus, although the practice of PAR can differ, in its most extreme form it is conducted within the context of a respectful relationship between researchers and those who are the focus of the research. Research becomes a process for change driven by those most affected by the topic, and researchers become facilitators rather than experts* (pp.5-6).

Kendall *et al.* (2011) highlight the potential power of this approach in Indigenous Australian contexts, notwithstanding that at this point in time there is a general lack of research maturity in applying such methods within the field; along with a corresponding need for further training and professional development to ensure PAR's effective application in Australia.

Let's now turn to Aboriginal research methods. In their literature review for the OCHRE evaluation, Katz *et al.* (2016) identify a number of research methods that draw upon Aboriginal ways of knowing and doing. The methods that Katz *et al.* identify (pp.31-32) are summarised here:

- *"Storytelling and metaphor are important for Indigenous peoples…In Indigenous evaluation the use of metaphorical devices, such as stories, can replace the concept of the logic model 'which is based on a linear and a causal relationship between actions and outcomes' (LaFrance, 2012, p. 67)*

- *Yarning is increasingly being used as a data collection method for Indigenous research because it 'creates a space through which Aboriginal and Torres Strait Islander peoples can voice and infuse traditional cultural knowledge in the creation and completion of research' (Leeson, Catrin, & Rynne, 2016). Bessarab and Ng'andu (2010) discuss four types of yarning that take place during the research interaction:*

  - ☐ *'social yarning', where engagement and trust is built*

  - ☐ *'research topic yarning', usually in the form of an interview which is relaxed, yet focuses on gathering information about the research topic*

☐ *'collaborative yarning', which includes sharing ideas or brainstorming about the research topic, and*

☐ *'therapeutic yarning', where during a conversation the participant discloses emotional or traumatic experiences. When this occurs the researcher is to adopt a listening and supportive role to assist the participant to make sense of, or affirm, their experience.*

▪ *'Dadirri' is a word from the Ngangikurungkurr people of the Daly River in the Northern Territory and is used to describe 'inner, deep listening and quiet, still awareness' (Ungunmerr-Baumann, 2002, p. 1). 'Dadirri' is known by different names in different Aboriginal cultures, and in the mainstream Australian context it is most accurately translated as 'contemplation' (Ungunmerr-Baumann, 2002, p. 1). Dadirri in a research context requires the researcher to continually be reflexive of their relationships with others, the reciprocal role that the researcher and participants/community have in the research, and in sharing stories with each other. West et al. argue that drawing on Dadirri as a research method is empowering of both Indigenous researchers and Indigenous communities as it 'enables working with indigenous people and allowing their voices to be heard' (2012, p. 1585).*
(extracts from Katz et al. 2016, pp.31-32.)
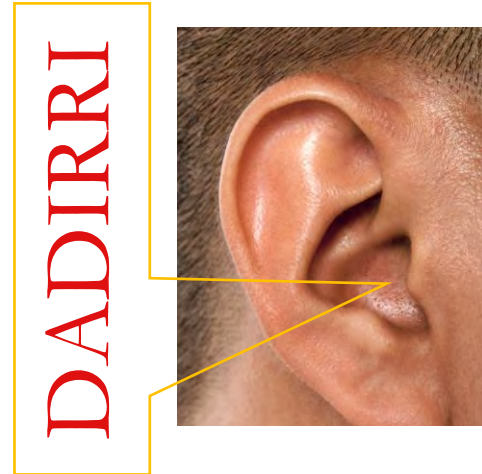
Dreise (2017) identifies a number of ways in which Aboriginal public sector employees could potentially assist and add value to community participatory action research models and Aboriginal research methods, including:

▪ *Helping establish relationships on the ground with Aboriginal communities, by building understanding and trust;*
▪ *Enabling community capacity building and information exchange;*
▪ *Translating between Aboriginal and western ways of knowing and doing;*
▪ *Developing appropriate cross-cultural language and communication strategies;*
▪ *Legitimising the views of Aboriginal community in government agencies;*
▪ *Facilitating access to administrative data within government and non-government organisations;*
▪ *Providing background cultural, political and socio-economic context about communities under study; and*
▪ *Facilitating introductions and forums between respective parties* (p.14).

Dreise (2017) also suggests that…

…consideration could be given to the role of Aboriginal public sector employees in working with Indigenous researchers and culturally-competent non-Indigenous evaluators in building capacity in community-led participatory research. Within this body of work, parties could collaboratively pursue an agenda of 'triangulation', meaning that they are jointly committed to gathering and understanding multiple and diverse data sources and collection techniques to advance a complex phenomenon or research question (p.14).

Concluding statement

Aboriginal public sector employees working on the ground with communities (including those working on 'Country'), can bring context, sense of place, relationships, historical appreciation, and community memory to their roles. Figuratively speaking, they're likely to see and understand the 'roots', as well as the trunk and branches. In other words, they're well placed to see what lies beneath.

Given the vital importance of 'context' and networks to research and evaluation, Aboriginal public servants have much to offer in sharing their experience, insights, and 'how to'.

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Glossary of terms

This Glossary is divided into two sections. The first section provides definitions of a number of key terms that are particularly important in Aboriginal research. The second section provides generic terms that apply in social research, as developed by the University of Southern California.

Glossary in Aboriginal research

The following are some of the key research terms that are particularly important in Aboriginal research contexts:

- **AH&MRC –** Aboriginal Health and Medical Research Council (NSW).
- **AIATSIS –** Australian Institute for Aboriginal and Torres Strait Islander Studies.
- **Community capacity building –** investing in community's research capacity and skills through, for example, the employment of community-based researchers.
- **Community consent –** an agreement (at community and collective levels) to research based on negotiation and full disclosure of information, objectives, methods, and intended community benefit.
- **Research on Country –** respecting traditional cultures, histories, lands and waters and listening deeply to owners and guardians during all phases of a research project, including when seeking community consent and agreement.
- **Ways of knowing, being and doing** – a framework developed by Aboriginal scholar Karen Martin, namely an Indigenist research paradigm based upon the ontological, epistemological and theoretical positions of Aboriginal people.
- **Indigenous research methodology** – an embrace of Aboriginal protocols, values, behaviours, and knowledges within the research project's methodological framework
- **Decolonisation of research** – research that highlights the impact of colonisation and restores Aboriginal ways of knowing and being and justice.
- **PAR** – participatory action research involving the community

Glossary in generic social research

The following are extracts from the University of Southern California's *Organizing Your Social Sciences Research Paper: Glossary of Research Terms*: **Source**: http://libguides.usc.edu/writingguide/researchglossary

- **Case Study** -- the collection and presentation of detailed information about a particular participant or small group, frequently including data derived from the subjects themselves.
- **Claim** -- a statement, similar to a hypothesis, which is made in response to the research question and that is affirmed with evidence based on research.
- **Confidentiality** -- a research condition in which no one except the researcher(s) knows the identities of the participants in a study. It refers to the treatment of information that a participant has disclosed to the researcher in a relationship of trust and with the expectation that it will not be revealed to others in ways that violate the original consent agreement, unless permission is granted by the participant.
- **Credibility** -- a researcher's ability to demonstrate that the object of a study is accurately identified and described based on the way in which the study was conducted.
- **Data** -- factual information [as measurements or statistics] used as a basis for reasoning, discussion, or calculation.
- **Data Quality** -- this is the degree to which the collected data [results of measurement or observation] meet the standards of quality to be considered valid [trustworthy] and reliable [dependable].
- **Emancipatory Research** -- research is conducted on and with people from marginalized groups or communities. It is led by a researcher or research team who is either an indigenous or external insider; is interpreted within intellectual frameworks of that group; and, is conducted largely for the purpose of empowering members of that community and improving services for them. It also engages members of the community as co-constructors or validators of knowledge.
- **Empirical Research** -- the process of developing systematized knowledge gained from observations that are formulated to support insights and generalizations about the phenomena being researched.
- **Epistemology** -- concerns knowledge construction; asks what constitutes knowledge and how knowledge is validated.
- **Ethnography** -- method to study groups and/or cultures over a period of time. The goal of this type of research is to comprehend the particular group/culture through immersion into the culture or group. Research is completed through various methods but, since the researcher is immersed within the group for an extended period of time, more detailed information is usually collected during the research.

- **Field Studies** -- academic or other investigative studies undertaken in a natural setting, rather than in laboratories, classrooms, or other structured environments.
- **Focus Groups** -- small, roundtable discussion groups charged with examining specific topics or problems, including possible options or solutions. Focus groups usually consist of 4-12 participants, guided by moderators to keep the discussion flowing and to collect and report the results.
- **Generalisability** -- the extent to which research findings and conclusions conducted on a specific study to groups or situations can be applied to the population at large.
- **Hypothesis** -- a tentative explanation based on theory to predict a causal relationship between variables.
- **Insiderness** -- a concept in qualitative research that refers to the degree to which a researcher has access to and an understanding of persons, places, or things within a group or community based on being a member of that group or community.
- **Meta-Analysis** -- an analysis combining the results of several studies that address a set of related hypotheses.
- **Methodology** -- a theory or analysis of how research does and should proceed.
- **Methods** -- systematic approaches to the conduct of an operation or process. It includes steps of procedure, application of techniques, systems of reasoning or analysis, and the modes of inquiry employed by a discipline.
- **Mixed-Methods** -- a research approach that uses two or more methods from both the quantitative and qualitative research categories. It is also referred to as blended methods, combined methods, or methodological triangulation.
- **Models** -- representations of objects, principles, processes, or ideas often used for imitation or emulation.
- **Ontology** -- a discipline of philosophy that explores the science of what is, the kinds and structures of objects, properties, events, processes, and relations in every area of reality.
- **Participant** -- individuals whose physiological and/or behavioural characteristics and responses are the object of study in a research project.
- **Peer-Review** -- the process in which the author of a book, article, or other type of publication submits his or her work to experts in the field for critical evaluation, usually prior to publication. This is standard procedure in publishing scholarly research.
- **Phenomenology** -- a qualitative research approach concerned with understanding certain group behaviors from that group's point of view.
- **Philosophy** -- critical examination of the grounds for fundamental beliefs and analysis of the basic concepts, doctrines, or practices that express such beliefs.
- **Policy** -- governing principles that serve as guidelines or rules for decision making and action in a given area.
- **Policy Analysis** -- systematic study of the nature, rationale, cost, impact, effectiveness, implications, etc., of existing or alternative policies, using the theories and methodologies of relevant social science disciplines.
- **Population** -- the target group under investigation. The population is the entire set under consideration. Samples are drawn from populations.
- **Principal Investigator** -- the scientist or scholar with primary responsibility for the design and conduct of a research project.
- **Questionnaire** -- structured sets of questions on specified subjects that are used to gather information, attitudes, or opinions.
- **Reliability** -- the degree to which a measure yields consistent results. If the measuring instrument [e.g., survey] is reliable, then administering it to similar groups would yield similar results. Reliability is a prerequisite for validity. An unreliable indicator cannot produce trustworthy results.
- **Representative Sample** -- sample in which the participants closely match the characteristics of the population, and thus, all segments of the population are represented in the sample. A representative sample allows results to be generalized from the sample to the population.
- **Rigor** -- degree to which research methods are scrupulously and meticulously carried out in order to recognize important influences occurring in an experimental study.
- **Sample** -- the population researched in a particular study. Usually, attempts are made to select a "sample population" that is considered representative of groups of people to whom results will be generalized or transferred. In studies that use inferential statistics to analyze results or which are designed to be generalizable, sample size is critical, generally the larger the number in the sample, the higher the likelihood of a representative distribution of the population.
- **Social Theories** -- theories about the structure, organization, and functioning of human societies.
- **Statistical Analysis** -- application of statistical processes and theory to the compilation, presentation, discussion, and interpretation of numerical data.
- **Statistical Significance** -- the probability that the difference between the outcomes of the control and experimental group are great enough that it is unlikely due solely to chance. The probability that the null hypothesis can be rejected at a predetermined significance level [0.05 or 0.01].
- **Theory** -- a general explanation about a specific behaviour or set of events that is based on known principles and serves to organize related events in a meaningful way. A theory is not as specific as a hypothesis.
- **Triangulation** -- a multi-method or pluralistic approach, using different methods in order to focus on the research topic from different viewpoints and to produce a multi-faceted set of data. Also used to check the validity of findings from any one method.
- **Validity** -- the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. A method can be reliable, consistently measuring the same thing, but not valid.
- **Variable** -- any characteristic or trait that can vary from one person to another [race, gender, academic major] or for one person over time [age, political beliefs].   **Source**: http://libguides.usc.edu/writingguide/researchglossary