

Quality Research Guideline

“The Northern Territory Department of Education (the department) values quality educational research and is committed to the benefits which quality research can deliver to the development of its policies and education outcomes.”

The guideline is based on ‘*Criteria for Quality Research*’, the Human Research Ethics Handbook from the Department of Education and Training, NSW. In the process of assessing diverse research proposals, strategic and ethical considerations intersect with technical concerns (such as the suitability of the research methodology, the legitimacy of research questions, the appropriateness of methods, etc). During the review process, the department will assess the robustness and value of research applications based on such factors. The department’s role is not to actively improve the ‘quality’ of research applications, only to support those assessed as being of most value. Quality assurance of the research is the role of the researcher(s) and their organisation(s) or the supervisor(s), in the case of a student applicant.

Introduction

Quality research requires sound research design which supports the delivery of meaningful research outcomes. Each research proposal will be assessed on its potential to contribute to education theory, knowledge, policy and practice.

A range of methodologies are relevant to educational research. Their selection will depend on the purpose of the research and the nature of the research questions. These include methods producing:

- quantitative data that can allow generalisation, prediction and the testing of hypotheses; and
- qualitative data that can provide interpretation of meaning, complex phenomena and dynamic processes, and which can serve exploratory purposes and provide deep knowledge.

Criteria for judging quality research

While there are different types of research, there are some principles which can be applied to the assessment of research quality across the multiplicity of research endeavours. Some of the characteristics required address the soundness and quality of the research design itself, while other considerations focus on the value of the work to both the research and user communities.

The two main criteria used for assessing the quality of research proposal are:

- Theoretical and methodological robustness
 - Robustness requires adequate consideration of relevant methodological, conceptual and theoretical issues; and
- The potential value or impact of the project
 - The value or impact requires assessment of the value of the research to individuals, groups or systems and its potential to benefit participants through increased collaboration, transparency, accessibility, and receptiveness to research.

Theoretical and methodological robustness

An important criterion against which each research proposal will be assessed is the quality of the research design. A well-constructed design can provide confidence in the research findings.

The research proposal should include clear statements which address the following criteria:

- Research goals which are feasible, focused, clearly stated and clearly linked to the theoretical and physical context of the research and to its intended contribution;
- A research proposal which shows awareness and understanding of, and builds on, what is already known;
- The specific way(s) in which the research will contribute to existing knowledge on the issue;
- Relevant current national and international research should be adequately cited; and
- Limitations of the research should be identified, and unwarranted generalisation avoided.

The research strategy adopted should be appropriate for the research goals. The links between the research aims, conceptual framework, research strategy, the research results and the broader purposes to which it contributes should be explicit and well matched. Choice of the research strategy and data collection method(s) should be adequately justified.

The research methodology should be designed in such a way that confidence can be had in its findings. This includes incorporating or accounting for all important influences on the issues or variables being investigated.

The research should be feasible. This includes both the practical and resource requirements of the research, and the likelihood that the data collection strategies adopted are capable of producing the kind of information necessary to achieve the research goals.

The incorporation and application of ethical and legal principles in the research design are essential. These include:

- Moral obligations such as respect for participants and their rights, informed consent and protection from harm, including any adverse effects on educational progress or well-being;
- Research projects involving Indigenous participants and their communities or issues regarding Indigenous education should conform to the requirements outlined in *The Guidelines for Ethical Research in Australian Indigenous Studies 2012*. This can be found at <http://www.aiatsis.gov.au/files/research/GERAIS.pdf>;
- Reasonable anticipation of possible impacts on participants of engaging in the research process and the effects of reporting its results;
- Consideration of industrial issues;
- Adherence to privacy requirements;
- A clear plan to protect anonymity or to ensure confidentiality of participants' identities. A strong case needs to be made for any exception; and
- Outline of procedures for the secure storage of data.

Quality research demonstrates a systematic approach with thorough and thoughtful attention to detail in planning and explanation of the design and the reporting of results. This includes:

- Research methods, incorporation of ethical and legal principles and the value of research for its intended users and audience(s);
- Clear explanations of how concepts will be operationalised and how data will be collected, recorded and analysed; and
- Statement of the nature of evidence sought from participants and the criteria for the identification of that evidence.

Criteria for the selection of research participants and the process that will be used to identify them should be provided and justified. In the case of quantitative research the following details should also be included: an explanation of how the sample size has been determined, the sampling strategy used and choice of the sample frame. These choices should be justified in relation to the goals and purposes of the research and be able to appropriately support any conclusions. In large scale research, it is important to justify the large sample. The researcher should also explain how the design addresses the issue of sample bias.

Specific methods/techniques should conform to the relevant requirements for technical excellence for that approach. Sufficient detail regarding the application of the method to the research proposed, including relevant research instruments, should be provided to demonstrate this.

Research instruments should be well designed and validated. When using quantitative research instruments, it is important to ensure that they are valid and reliable. This includes the identification and elimination of measurement bias.

In the case of qualitative or exploratory research designs, the criteria and methods to be used for the identification of evidence should be detailed and supported through a rationale. Research instruments along with an explanation, where applicable, of the process by which they will be developed should also be provided.

Where interviews and questionnaires are proposed, care must be taken to ensure that their structure lends itself to uninfluenced responses.

With internationally developed instruments, researchers should have considered the relevance of any significant differences between the original and the local Australian context, norms and/or standards.

In the case of newly designed instruments such as tests and questionnaires, it is important that:

- They are submitted in their final form;
- There is a strategy in place for adequate piloting and validation of the instruments;
- Evidence is provided that they are valid and reliable for the intended purpose. This should include consideration of whether the instrument is appropriate for use with the target group in terms of its language, complexity and length, and whether it includes the examination of unnecessary or extraneous elements; and
- Appropriate clearance is gained from the owners of the intellectual property and, where relevant, fees are paid.

To provide confidence in the findings, the methods for analysing the data should be clearly stated, systematic and appropriate to the nature of the data. In the case of quantitative research, statements regarding how the relationship between variables will be examined and how other influences on variables will be controlled for are needed.

A well designed, systematic approach also minimises the possibility of unacknowledged or unrecognised influences on the findings and discourages the selective interpretation of evidence (intentional or unintentional).

Progress and results should be reported in a timely manner, by suitable means and in a format appropriate to the relevant audience(s) for the research.

Value and impact of the research

The project should deal with an important question for education. The context and background for the research, and the extent to which the proposed research builds on what is known and further contributes to this should be explained. Relevant research must be adequately cited.

The value of the research will be judged in terms of its findings being likely to produce lasting educational value for stakeholders in education. Researchers should consider whether their findings are transferable, or applicable only within a narrow context or for a short period of time.

The department is particularly interested in projects which are relevant to its Strategic Plan, and projects relevant to wider national education priorities. Students' learning outcomes should not be compromised as a result of their participation.

A collaborative approach is recommended, which is likely to increase transparency, accessibility and receptiveness to the project. The timeline for research must be realistic and show an effective use of time for all participants and involved personnel. Researchers should consider the risks, benefits, resources and workload associated with the research.

Dissemination strategies for the findings of the research should be included so that consideration may be given to their appropriateness.