# Generalising from Qualitative Research: Case studies from VET in Contexts[1]

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**Abstract**

One of the reasons that research is conducted is to build the evidence base to inform strategic or policy directions. In this context, the value of qualitative research is often questioned because 'you cannot make generalisations from results when the sample is not statistically representative of the whole population in question'. However, a scan of the research literature in the field of Vocational Education and Training (VET) reveals a considerable amount of qualitative research which is used for this very purpose even though much of the headline data is in the form of numerical statistics based on sampling regimes. Can findings from qualitative research legitimately be generalised and applied beyond the frame of a particular case or even a set of 100 semi-structured interviews on a particular topic? Are there features within qualitative methods that justify generalisable inferences?

The paper stems from the research experience of the authors over the last two decades, during which time we have, as it turns out, been living with a dichotomy. On the one hand, we were taught in our research training that you can't generalise much from qualitative research, if at all. On the other hand, what has emerged for us is that, first of all, people *do* generalise from qualitative research; and second, we suggest that we may well have *good reason* to be able to do so. By 'good reason', we mean that the generalised decisions that are made on the basis of the findings of qualitative research are sound, that the findings *have indeed* been generalised successfully. That is, when the findings have been applied more generally, it has been found that the generalising has proved valid and reliable.

## Introduction

One of the reasons that research is conducted is to build the evidence base to inform strategic or policy directions. In this context, the value of qualitative research is often questioned because 'you cannot make generalisations from results when the sample is not statistically representative of the whole population in question'. However, a scan of the research literature in the field of VET reveals a considerable amount of qualitative research which is used for this very purpose even though much of the headline data is in the form of numerical statistics based on sampling regimes. Can findings from qualitative research legitimately be generalised and applied beyond the frame of a particular case or even a set of 100 semi-structured interviews on a particular topic? Are there features within qualitative methods that justify generalisable inferences?

This paper stems from the authors' experiences and defences of generalisations made from findings of qualitative and mixed methods research. It draws on an extensive

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literature review conducted for an earlier paper (Falk and Guenther 2006) and explores some examples from research carried out in the field of vocational learning over a number of years, that highlight the issues.

## Posing the question: can we generalise from qualitative research?

There seem to be three sometimes overlapping views in the research literature about qualitative research with regard to its generalisability or not. (a) One is a more-or-less acceptance that generalisability is not the main purpose of qualitative research, but there are plenty of other good reasons for employing it (e.g. Myers 2000:2); (b) The second view is that, yes, you can generalise, but if you do, you have to issue cautions about the limited capacity to do so based on the limited numbers (e.g., Benz and Newman 1998), a view which in part inherently accepts the scientific paradigm's rules and constructs about 'good research'; and (c) The third view, named by Stake (1980) in reference to case study research, is one of formalising the idea that qualitative research is generalisable.

## Literature review

### *Generalisability defined and debated*

Generalisability refers to the degree to which research findings are applicable to other populations or samples (Polit and Hungler 1991; Ryan and Bernard 2000). It involves 'the usefulness of one set of findings in explaining other similar situations' (Grbich 1999:66). Generalising is 'central to the definition and creation of valid public knowledge' (Metcalfe 2005). It is sometimes equated with terms of 'transferability' and 'external validity' (Tashakkori and Teddlie 2003).

Since the 1990s, qualitative methods have become more common in disciplines such as education, social work, health services and evaluation research, with an increase in qualitative research studies in professional journals (Schofield 1993; Boulton and Fitzpatrick 1994; Blaxter 1996; Mays and Pope 2000). There is however considerable debate over the nature of the knowledge produced by qualitative methods and whether a term such as generalisability, derived from the quantitative paradigm, can mean the same when used to judge the rigour of qualitative research design, or whether a completely different term should be applied.

Some authors doubt that generalisability can be achieved in qualitative research. Lincoln and Guba (1985:110) say: 'The only generalization is: there is no generalization.' Others emphasise the context-specificity of qualitative research (Wainwright 1997), which limits generalization to other situations (Creswell 1998). Hammersley (1990:108) says that ethnographers are generally 'not very effective in establishing the typicality of what they report. And in the absence of such information we must often suspend judgement about the generalisability of their claims'. The literature review now outlines the main strands of this debate on generalisability.

### *Reconceptualising generalisability*

It has been argued that qualitative research represents a distinctive paradigm and as such should not be judged by conventional measures of generalisability, or validity and reliability (Hammersley 1990). In qualitative research the focus, stemming from research traditions in the social sciences and the arts, is on discovery (Hamberg et al. 1994). Cronbach (1975:124) concludes that social phenomena are too context-specific

to permit generalisability. He suggests the priority of qualitative research is to 'appraise a practice or proposition… in context'. Denzin (1983:133) also rejects generalisability as a goal: 'every instance of social interaction, if thickly described, represents a slice from the life world' and is thus a proper subject matter.

Donmoyer (1990) looks to schema theory and its concepts of assimilation, accommodation, integration and differentiation (Piaget 1971) for language to characterise how generalisability occurs in experiential learning. He believes that applying this language to qualitative research gives it 'far more utility for applied fields . . . than was traditionally believed' (p. 198). Patton (2002) finds another term instead of generalisability: 'extrapolations . . . modest speculations on the likely applicability of findings to other situations' (p. 584), which may be made from qualitative research. Creswell (2005:48) also uses another term: 'In qualitative research, the . . . interpretation consists of stating the larger meaning of the findings'. Metcalfe (2005) says priorities for generalising knowledge differ across the qualitative paradigm, and authors need to make their priorities explicit. In this way, he believes that 'the debate on the quality of qualitative research might be both improved and better appreciated relative to other epistemologies'.

*'Naturalistic' generalisation: reader interpretation, researcher participation*

Qualitative research is 'very much influenced by the researcher's individual attributes and perspectives' (Schofield 1993:202). Stake (1980:64) suggests that qualitative methods may provide a vicarious link with the reader's experience and thus be a natural basis for generalization. As Lincoln and Guba (1985:217) say: 'the final judgment . . . is … vested in the person seeking to make the transfer'. This process involves reciprocity as the researcher, too, 'is always a subject in qualitative research' (Hamberg et al. 1994:177). The grounded theory approach to data analysis (Glaser and Strauss 1967) suggests that all explanations or theories are derived from the dataset rather than from a researcher's viewpoint, but elsewhere Strauss stresses the importance of researchers' taking advantage of earlier experiences for enhancing 'theoretical sensitivity' (Strauss 1987: 21). Enhanced knowledge is gained through the active participation of the researcher in a process which has been described as a participating-inductive model (Hamberg et al. 1994). Other authors agree that all research involves subjective perception and that different methods produce different perspectives, but argue that there is still an underlying reality which can be studied (Kirk and Miller 1986; Hammersley 1992).

*Design and validity*

Maxwell (1992) identifies generalisability as one of five types of validity emerging from qualitative research methodology. Generalisability aligns with other features, which are: descriptive validity (factual accuracy), interpretive validity (understanding of the perspective of the group under study), theoretical validity (the "fit" of data and theoretical explanation), evaluative validity (application of an evaluation framework. Maxwell identifies an internal and external generalisability. Internal generalisability applies within the setting or group studied; external generalisability applies beyond the group, setting, context, or time (Onwuegbuzie and Leech 2005). It is elsewhere called external reliability (Kincheloe and McLaren 2000). Patton (2002:230) advises selecting information-rich study sites and participants: 'those from which one can learn a great deal about issues of central importance to the purpose of the inquiry'.

*Sampling and describing*

A degree of generalisability can be achieved by ensuring that the research report is sufficiently detailed for the reader to be able to judge whether or not the findings apply in similar settings (Mays and Pope 2000). Detailed description should reveal the social relations that underpin it (Wainwright 1997). Generalisability may be enhanced by choosing a research site on the basis of typicality, or by using a multi-site methodology, but thick or rich description is vital (Schofield 1993)—it shows 'that the researcher was immersed in the setting and [gives] the reader enough detail to 'make sense' of the situation' (Firestone 1987:16).

Some authors (e.g., Firestone 1987; Mays and Pope 2000; Silverman 2001; Onwuegbuzie and Leech 2005) advocate combining qualitative research with quantitative measures of populations, purposive sampling and theoretical sampling. Combining sampling strategies may be used within a single method or mixed method research design (Kemper et al. 2003).

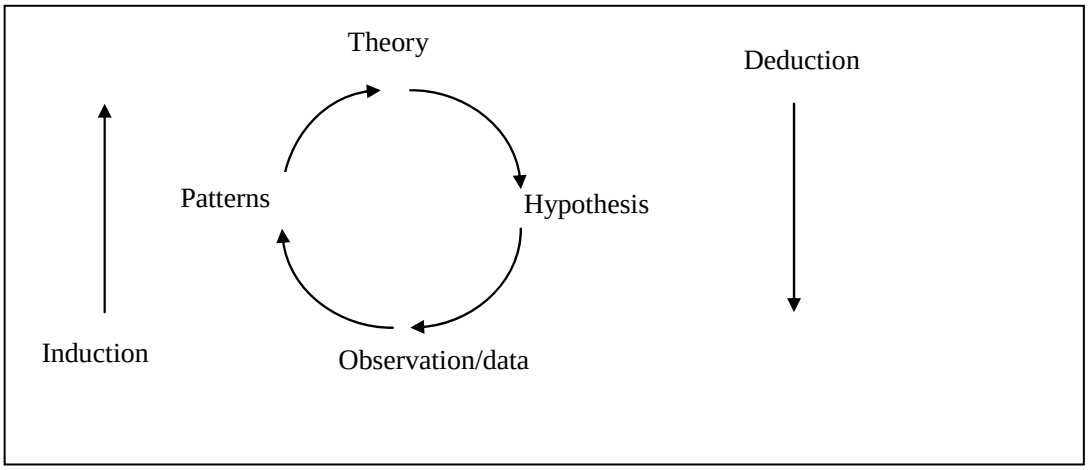
*Mixed methods*

This combination of methods—often referred to as 'mixed methods'—does a lot more than 'fill in the gaps' of one method or the other. Methods can be combined in a variety of ways: a) through the 'quantitization' (Tashakkori and Teddlie 1998) of qualitative data (for example collating and counting recurrent themes in the qualitative data) in order to add 'legitimacy to the researchers' conclusions' (Onwuegbuzie and Teddlie 2003:356); b) by accessing complementary quantitative data from within the same sample (for example through use of quantitative survey instruments complementing interview data) in what could be described as a 'concurrent triangulation strategy' (Creswell 2003) and may incorporate 'multilevel mixed sampling' (Kemper et al. 2003:287) and c) by drawing on data that comes from outside the purposive sample frame (for example using national or large sample surveys on related topics) to compare the 'accessible population' with a 'target population' possibly for the purpose of 'identifying the population to which a finding can and cannot be made' (Johnson and Christensen 2004:244-245). This approach uses what is sometimes referred to as 'sequential mixed methods sampling' (Teddlie and Yu 2007). While this may be an oversimplification of their uses—certainly the literature describes several other ways of looking at different mixed methods approaches (e.g. Tashakkori and Teddlie 1998; Miller 2003; Tashakkori and Creswell 2007), mixed methods allow researchers to on the one hand make deductions from empirical data (most often the quantitative data) while at the same time testing these deductions with the inferences that emerge (most often from the qualitative data)—and vice versa—to both test hypothesis and build theory (Erzberger and Kelle 2003). This combination effectively validates the findings of both data sources.

*The role of theory*

Generalization is closely involved with theory. Johnson and Christensen (2004) say, 'A well-developed theory explains how something operates in general . . . and it enables one to move beyond the findings of any single research study (p. 19). Yin (2003b) says analysts should generalise findings to theory, 'analogous to the way a scientist generalizes from experimental results to theory' (p. 38). Indeed Johnson and Christensen suggest that the only difference between qualitative and quantitative researchers is the starting point of the research on a 'research wheel'. Figure 1 explains this diagrammatically.

**Figure 1. The 'research wheel', adapted from Johnson and Christensen (2004:18)**




The theory then becomes the vehicle for examining other cases. Yin (2003b:32) calls this role of theory 'analytic generalization' (in contrast to statistical generalization). Maxwell (1992) also believes the generalisability of qualitative data occurs through the development of theory from the data—a theory that can be applied to similar persons in similar situations.

*Summary of literature review*

The strongest grounds for generalisability in qualitative research begin with rigorous attention to the definition of what is meant by the term itself. It is probably not necessary to seek new language. The qualitative paradigm has long since come of age; it is in a position to use terms like generalisability without apology and in its own right. Defining terms or priorities (Metcalfe 2005) however, is always a good idea. Much of the writing surveyed in this literature review is in agreement that qualitative studies may form a basis for understanding situations other than those under investigation. The strength of this basis depends again on rigour—that of a study's design and methods for gathering and analysing information-rich data (Yin 2003a, b); its attention to validity, reliability, and triangulation (Patton 2002); and a well-developed theory emerging from the findings (Johnson and Christensen 2004).

## Three illustrative cases

*Case 1: Three converging case studies of rigorous sampling and micro-empiricism*

A new and generalisable theory of learning was generated from three intensive case studies (Falk and Harrison 1998, 2000; Falk and Kilpatrick 2000). The research, funded by the Australian National Training Authority (ANTA) in 1998 (Falk and Harrison 2000) analysed community interactions to show aspects of the quality of the processes that build social capital. The research was theory-building, using the principles of grounded theory as in Glaser and Strauss (1967), Lincoln and Guba (1985) and Strauss and Corbin (1990), rather than theory-testing. The theory so developed stands as a generalisable model for interactive learning processes.

The methodology was qualitative, using a three case study structure with ethnographic techniques for data collection and a range of analytic techniques discussed below. The three sites were selected for their different features (size and nature of industry base, degree of community organization activity), though each was a whole 'small community' of between 5–10,000 people. This type of multiple case study design is

what Yin (Yin 2003a:47) describes as a replication design from the basis of a 'theoretical replication'. In this way, the focus of the study, which was on the nature of the interactive outcomes between community members, could be related to the variables of the employment base and community organizational dynamic in action while at the same time providing more solid grounds for generalisability. In each of the three sites, the sample of participants was identified through a purposeful technique checked with socio-demographic variables.

Triangulation was provided in a number of ways. There were three layers of validity checks: (a) the use of multiple theoretical and conceptual lenses to examine the issues and parameters involve *before* beginning the research; (b) the depth and extent of the sampling processes and feedback, member-checking and other data collection mechanisms; and (c) the multiple data analytic techniques used to align interpretations and test for consistency and categories across the data sets. All of these provided the bases for warrantable generalisability.

*Case 2: A case of mixed methods*

An example of a mixed methods approach is drawn from a study conducted for the Northern Territory Council of Social Service (NTCOSS) in 2004 (Northern Territory Council of Social Service 2004). The purpose of the research was to investigate how pathways to employment and training opportunities in the Northern Territory can be created and improved for employment disadvantaged groups. The research involved several components: 1) an extensive international literature review; 2) a national review of 'what works'; 3) development of a statistical profile for each of nine employment disadvantaged groups; and 4) a series of 70 semi-structured interviews and focus groups among stakeholders across the Northern Territory. The research findings were used to develop principles of 'what works' in the Northern Territory and recommendations for strategic policy implementation.

In this case, generalisability was applied to the Northern Territory context and to a quite specific target audience. The integrated mixed methods approach supported and underpinned the formation of practice principles, which in turn were applied to the strategic policy context of the Northern Territory. In terms of outcomes this project is being used as a basis for the Northern Territory Government's *Employment Disadvantaged Pathways Project* (Northern Territory Department of Employment Education and Training 2006) and has helped shape further research conducted by stakeholder groups (Morton et al. 2006). The authors of this paper are also working on another project using the NTCOSS methodology to build knowledge and understanding of the role of vocational training in the Australian Government's Welfare to Work strategy (Guenther et al. 2007). These outcomes demonstrate how applicable—indeed generalisable—the findings of projects based on this methodology are.

*Case 3: A case of multiple case studies*

A final example comes from the ANTA funded *Role of VET* research conducted by the Centre for Research and Learning in Regional Australia (CRLRA) (2001). The research involved a 10 site program of research conducted over two years, which used case studies of the role of vocational education and training to consider principles of effective delivery in regional areas of Australia. While this research could rightly be described in terms of a 'mixed methods' approach because it relied on triangulation

with internal (quantitative surveys) and external quantitative data (site statistical profiles), the breadth and depth of the qualitative data stands out by itself. Sites for this research were selected from regional centres across Australia: two in New South Wales and Queensland; one in Victoria, Western Australia, South Australia, Tasmania and the Northern Territory; and one New South Wales–Victoria cross-border site. The 10 case studies involved more than 700 semi-structured interviews with identified VET stakeholders.

In the *Role of VET* research, interviews were transcribed, coding and initial thematic analysis was conducted using qualitative data analysis software, and detailed site-by-site analysis of the emerging themes was carried out using a standardised framework of categorisations based on an OECD (1982) set of social indicators. While the data did show the uniqueness of each site in a variety of ways, several themes appeared across all or several sites. The consistency of some of these thematic patterns gave rise to a synthesis of findings, from which generalised principles were derived. While we were careful at the time to say that these principles should only be applied to the sites concerned, it has been interesting to note that many of the findings and principles have been replicated in other more recent research, using the same framework of categorisation (e.g. Guenther 2005; Guenther et al. 2006).

***So what can we conclude from this discussion?***

The foregoing discussion has several implications for generalisability in qualitative research, and we forward these knowing that the field of VET research has been proactive in fostering qualitative research and using its outcomes.

*First*, generalisability *is* possible from qualitative and mixed research methods. It is possible partly because of the replicability of the findings across several populations. So if, using the same methods, we can demonstrate the same findings in several (like or even unlike) population groups then we can correctly assert that the findings are generalisable beyond the initial one or two cases. This process of replication is based on assumptions not too dissimilar from those used in quantitative methodologies, which rely on representative samples as the basis for extrapolation to a broader population group. The idea is akin to Yin's (2003b:49-53) 'literal replication' and finds support in several examples from case study practice. Smith and Henry (1999) for example develop a set of generalisable case study 'protocols' so that duplicated case study methods are replicated to enable comparability of findings across a number of scenarios or sites. Similarly, CRLRA (2001), in the series of 10 Australian case studies discussed above, established standard methodologies for each case study site and were able to 'quantitize' the findings according to an agreed framework. In both these examples the 'protocol' or 'framework' is built on a set of guiding parameters that ensure the integrity and comparability of the findings and which enable a synthesis of findings based on a robust methodological design.

An extension of this sees the outcomes of a series of case studies as a result of a type of qualitative 'hypothesis test', not dissimilar to an empirical scientific experiment that sets out to demonstrate or prove a scientific theorem or law—we can describe this as a 'deductive' (as opposed to inductive or theory building) method (Johnson and Christensen 2004:18). The difference of course is that 'proof' of the law in scientific terms is most often associated with probabilities and repeatability of numerical results under set conditions. In qualitative research, while it is possible to 'quantitize' text

based findings—'converting qualitative data into numerical codes that can be statistically analysed' (Miles & Huberman 1994, cited in Tashakkori and Teddlie 2003:714)—this is not the same, in part because generally it is impossible to reconstruct the conditions under which the 'experiment' is undertaken. However, we argue that the same methodological principle applies: that is, a robust methodology allows us to test, prove and/or disprove a theorem regardless of whether the method is qualitative or quantitative.

*Second*, generalisability is also possible on the basis of theory building—that is, the 'inductive' approach. For example, as patterns of behaviour are observed across multiple and potentially contrasting research objects, conclusions may be drawn about factors that contribute to those patterns—that is, how and why the behaviour occurs. It is possible through a 'theoretical sampling' process (Charmaz 2000:519) to build theory so that across a range of scenarios, patterns of behaviour are predictable (and therefore generalisable). In terms of case study methodology, this could be described as a 'theoretical replication' (Yin 2003b:49-51). Again, this approach has a corresponding cousin in scientific (quantitative) methods. In science this process is used when a series of observations are made to explain and predict patterns of behaviour (Johnson and Christensen 2004:19). An example of this is the development of Darwin's theory of evolution.

*Third*, generalisability is possible because of the receiving audience's perceptions. This, on the surface, appears to be a dangerous statement to make because it challenges the notions of true, objective, scientifically valid research and may be interpreted as research that appeases the intended audience. Several counters can be made to this argument. First, much so-called scientific quantitative research can be tailored to suit the perceptions of the intended audience. Consider for a moment science based research reports on a number of issues: smoking; nuclear power; forest practices; farm nutrient discharges into environmentally sensitive areas. A 'spin' can be placed on any of the findings to say whatever the audience wants to hear. Second, many of the generalised findings of quantitative research, which are extrapolated to a larger population on the basis of representative sampling schemes, simply do not apply to many sub-population groups and seemingly disregard the context of these particular groups. A case in point to illustrate this is the recent release of the Australian Bureau of Statistics (ABS 2006) *Measuring Australia's Progress* report, which highlights generalised improvements across a number of indicator bands for Australia as a whole. Because the focus in this kind of methodology is on 'generalised' findings and the audience is assumed to be interested in just these, a large amount of important findings which are *not* 'generalised' are disregarded. The report itself acknowledges the limitations of the findings especially for Indigenous people. This illustration highlights the need for the applicability of any research findings (qualitative or quantitative) that address the context of the receiving audience. Therefore, while we often rightly note the limitations of small-scale qualitative research studies, in some cases the relevance and generalisability of the findings from a purposefully selected sample, to similar groups in an intended audience may be recognized for its credibility by researchers (who understand both the sending and receiving contexts) and the audience (who apply it to the receiving context).

*Fourth*, generalisability is possible through a combination of any or all the above. In most of the examples given in this paper, including the three cases discussed in more detail, the methods are mixed. And here, let us avoid becoming confused about mixed methods as a mix of qualitative and quantitative—and a mix of different techniques within a solely qualitative framework as in triangulation. Here we are including both these options. In the kind of research methodologies we are concerned with here, considerable degree of warrant for generalisability is built through the care the researchers have taken to account for detail, inclusion of variation in sample, triangulation of the methods and techniques and in reporting and considering outliers and limitations. Readers are usually left with the impression that, even though this is qualitative and we are not supposed to generalise from it, we are inclined to do so. Our own principles of logic tell us that we can do so, and with a degree of confidence.

*Fifth*, the next point for discussion in another paper is to be rather more precise about the contexts/conditions of generalisability of the different kinds of qualitative research we have discussed here. For example, in point one above, we say that if "we can demonstrate the same findings in several (like or even unlike) population groups then we can correctly assert that the findings are generalisable beyond the initial one or two cases". We would like to establish guidelines concerning the boundaries and warrantabilities of generalising from *what* kinds of qualitative and mixed methods research. Another example of the need for greater specificity lies in identifying the range of generalisable possibilities/restrictions for 'generalisability based on theory building'.

*Concluding comment*

The first-named researcher recently gave a university-wide lecture on the topic of this paper. Its aim was to be deliberately provocative with the purpose of promoting a debate. I asked the audience early in the lecture, 'What are your opinions of qualitative research?' The first answer received from a scientist was 'Unfounded, ungeneralisable story-telling'. It certainly achieved its aim of provoking discussion. However, after the lecture, the same person approached me and said, 'You know we had never been aware of these things when we did research methods at university. You've really made me think, and I can see now that there's a lot in what you say'. In this paper, we would like to think that we have taken the debate a step further. First, to show there are issues worth debating in this topic, second, to give the quantitative researchers a licence and invitation to join the discussion, and third to support qualitative researchers should they wish to take up and develop the ideas we are working on.

## References


ABS (2006). *Measuring Australia's Progress. At a glance 2006*, Australian Bureau of Statistics, Canberra.

Benz, C. and Newman, I. (1998). *Qualitative-Quantitative Research Methodology: Exploring the interactive continuum*, Southern Illinois University Press, Carbondale.

Blaxter, M. (1996). "Criteria for evaluation of qualitative research." *Medical Sociology News* **22**: 68-71.

Boulton, M. and Fitzpatrick, R. (1994). "Qualitative methods for assessing health care." *Quality in Health Care* **3**: 107-113.

Centre for Research and Learning in Regional Australia (2001). *Learning communities in education and training. Vol 1 and 2.*, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Charmaz, K. (2000). 'Grounded theory: Objectivist and constructivist methods'. *Handbook of Qualitative Research*. Denzin, N. and Lincoln, Y., Eds, Sage Publications, Thousand Oaks, CA.

Creswell, J. (1998). *Qualitative inquiry and research design: Choosing among five tradition*, Sage, Thousand Oaks, CA.

Creswell, J. (2003). *Research design: Qualitative, Quantitative and Mixed Methods Approaches*, Sage, Thousand Oaks.

Creswell, J. (2005). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. Second Edition, Pearson Merrill Prentice Hall, New Jersey.

Cronbach, L. (1975). "Beyond the two disciplines of scientific psychology." *American Psychologist* **30**: 116-127.

Denzin, N. (1983). Interpretive interactionism. *Beyond method: Strategies for Social Research*. Morgan, G., Ed., Sage, Beverley Hills**:** 129-146.

Donmoyer, R. (1990). Generalizability and the single-case study. *Qualitative inquiry in education: The continuing debate*. Eisner, E. and Peshkin, A., Eds, Teachers College Press, New York**:** 175-200.

Erzberger, C. and Kelle, U. (2003). Making inferences in mixed methods: the rules of integration. *Handbook of Mixed Methods in Social and Behavioral Research*. Tashakkori A and Teddlie, C., Ed., Sage, Thousands Oaks**:** 457-488.

Falk, I. and Guenther, J. (2006). Generalising from Qualitative Research: Case studies from VET in Contexts. *15th NCVER conference*. Mooloolaba, Queensland.

Falk, I. and Harrison, L. (1998), *Indicators of Social Capital: Social Capital as the product of local interactive learning processes*, Discussion Paper D4/1998, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston

Falk, I. and Harrison, L. (2000). "Indicators of social capital: Social capital as the product of local interactive learning processes." *Learning Communities: International Journal of Vocational Learning* **1**(1).

Falk, I. and Kilpatrick, S. (2000). "What is social capital? A study of rural communities." *Sociologia Ruralis* **40**(1): 87-110.

Firestone, W. (1987). "Meaning in method: The rhetoric of quantitative and qualitative research." *Educational Researcher* **16**(7): 16-21.

Glaser, B. and Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine Publishing, Chicago.

Grbich, C. (1999). *Qualitative Research in Health: An introduction*, Allen and Unwin, Crows Nest, NSW.

Guenther, J. (2005), *Vocational Education and Training (VET) as a Tool for Regional Planning and Management: Case Studies from Australian Tropical Savanna Communities*, PhD Thesis, Charles Darwin University.

Guenther, J., Falk, I., Arnott, A., Lucardie, D. and Spiers, H. (2006). *How can VET/ACE partnerships improve industry, community and individual socio-economic well-being?* , National Centre for Vocational Education Research, Adelaide.

Guenther, J., Falk, I., Borgelt, K., Tyrell, A., Arnott, A., Churchill, J., Gunn, J. and Black, S. (2007). VET in welfare to work: Does it work well? *EVOLUTION, REVOLUTION OR STATUS QUO? The new context for VET, AVETRA 2007 - 10th Annual Conference*. Victoria University, Footscray Park.

Hamberg, K., Johannson, E., Lindgrn, G. and Westman, G. (1994). "Scientific rigour in qualitative research—Examples from a study of womens health in family practice." *Family Practice* **11**(2): 176-181.

Hammersley, M. (1990). *Reading ethnographic research*, Longman, New York.

Hammersley, M. (1992). *What's wrong with ethnography?*, Routledge, London.

Johnson, B. and Christensen, L. (2004). *Educational Research: Quantitative, Qualitative, and Mixed Approaches, Research Edition, Second Edition* Pearson Education Inc., Boston.

Kemper, E., Stringfield, S. and Teddlie, C. (2003). Mixed methods sampling strategies in social science research. *Handbook of Mixed Methods in Social and Behavioral Research*. Tashakkori, A. and Teddlie, C., Eds, Sage, Thousand Oaks, CA.

Kincheloe, J. and McLaren, P. (2000). Rethinking critical theory and qualitative research. *Handbook of Qualitative Research*, Sage, Thousand Oaks. **279-314**.

Kirk, J. and Miller, M. (1986). *Reliability and validity in qualitative research*, Sage, London.

Lincoln, Y. and Guba, E. (1985). *Naturalistic inquiry*, Sage, Newbury Park.

Maxwell, J. (1992). "Understanding and validity in qualitative research." *Harvard Educational Review* **62**(3): 279-300.

Mays, N. and Pope, C. (2000). "Qualitative research in health care: Assessing quality in qualitative research." *British Medical Journal* **320**(7226): 50-52.

Metcalfe, M. (2005) Generalisation: Learning Across Epistemologies. *Forum: Qualitative Social Research [On-line Journal]* **6**, 1, Retrieved January 2007 from http://www.qualitative-research.net/fqs-texte/1-05/05-1-17-e.htm.

Miller, S. (2003). Impact of mixed methods design on inference quality. *Handbook of Mixed Methods in Social and Behavioural Research*. A, T. and Teddlie, C., Eds, Sage, Thousand Oaks**:** 423-456.

Morton, W., Lee, H., Giles, A. and Walker, N. (2006). Employment Disadvantaged Pathways Project. *NTCOSS Biannual Conference*. Alice Springs Convention Centre, Alice Springs, Northern Territory Council of Social Service, Northern Territory Department of Employment, Education and Training, Australian Government Department of Employment and Workplace Relations, KPMG.

Myers, M. (2000) Qualitative research and the generalizability question: Standing firm with Proteus. *The Qualitative Report* **4**, 3/4 March 2000, Retrieved January 2007 from http:www.nova.edu/ssss/QR/QR4-3/myers.html.

Northern Territory Council of Social Service (2004). *Creating effective pathways to employment and training for the employment disadvantaged in the Northern Territory*, Charles Darwin University Learning Research Group and Northern Territory Council of Social Service, Darwin.

Northern Territory Department of Employment Education and Training. (2006). "Employment Disadvantaged Pathways Project." Retrieved January 2007, from http://www.deet.nt.gov.au/employment/employment_disadvantaged/employment_disadvantaged_pathways_project.shtml.

OECD (1982). *International List of Social Indicators*, Organisation for Economic Cooperation and Development, Paris.

Onwuegbuzie, A. and Leech, N. (2005) A Typology of Errors and Myths Perpetuated in Educational Research Textbooks. *Current Issues in Education [On-line]* **8**, 7, Retrieved January 2007 from http://cie.asu.edu/volume8/number7/index.html.

Onwuegbuzie, A. and Teddlie, C. (2003). A framework for analyzing data in mixed methods research. *Handbook of Mixed Methods in Social and Behavioral Research*. Tashakkori A and Teddlie, C., Ed., Sage, Thousands Oaks.

Patton, M. (2002). *Qualitative research and evaluation methods*, Sage, Thousand Oaks, CA.

Piaget, J. (1971). *Biology and knowledge*, University of Chicago Press, Chicago.

Polit, D. and Hungler, B. (1991). *Nursing Research: Principles and methods*. Third edition, JB Lippincott, New York.

Ryan, G. and Bernard, H. (2000). Data management and analysis methods. *Handbook of Qualitative Research*. Denzin, N. and Lincoln, Y., Eds, Sage, Thousand Oaks**:** 769-802.

Schofield, J. (1993). Increasing the generalizabiltiy of qualitative research. *Social research: Philosophy, Politics and Practice*. Hammersley, M., Ed., Open University and Sage, London**:** 200-225.

Silverman, D. (2001). *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*. Second edition, Sage, London.

Smith, J. and Henry, J. (1999), *Case Studies in New Learning Technologies: A research approach for investigating the application of new learning technologies--final report* Open Training Services at University of Technology,, Victoria

Stake, R. (1980). The case study method in social inquiry. *Towards a science of the singular: Essays about case study in Educational Research and Evaluation No. 10*. Simons, H., Ed., Centre for Applied Research in Education, University of East Anglia, Norwich.

Strauss, A. (1987). *Qualitative Analysis for Social Scientists*, Cambridge University Press, New York.

Strauss, A. and Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*, Sage, California.

Tashakkori, A. and Creswell, J. W. (2007). "Editorial: The New Era of Mixed Methods." *Journal of Mixed Methods Research* **1**(1): 3-7.

Tashakkori, A. and Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*, Sage, Thousand Oaks, CA.

Tashakkori, A. and Teddlie, C., Eds. (2003). *Handbook of Mixed Methods in Social and Behavioral Research*, Sage Publications Inc. Thousand Oaks, CA.

Teddlie, C. and Yu, F. (2007). "Mixed Methods Sampling: A Typology With Examples." *Journal of Mixed Methods Research* **1**(1): 77-100.

Wainwright, A. (1997) Can sociological research be qualitative, critical and valid? *The Qualitative Report* **3**, 2, Retrieved January 2007 from http://www.nova.edu/ssss/QR/QR3-2/wain.html.

Yin, R. (2003a). *Applications of Case Study Research*. Second Edition, Applied Social Research Methods Series, Sage Publications, Thousand Oaks, CA.

Yin, R. (2003b). *Case Study Research Design And Methods*. Third Edition, Applied Social Research Methods Series, Sage Publications, Thousand Oaks, CA.