Foreword

The past two decades have seen a flourishing of VET research within Australia. The establishment of NCVER, AVETRA, and VET specific research centres around Australia have contributed to the generation of a VET research community and a growing body of knowledge that is the envy of many other nations. We greatly benefit from the independence and consistent framework that NCVER provides at the heart of the network.

Yet the links between the issues we explore as researchers in the field and subsequent changes in policy and practice remain tenuous. As members of organisations we are aware that for change to occur it not just necessary to provide evidence of improved practice, the move for change needs to be supported by powerful people.

Some two decades ago „No Small Change" proved to be a few words on pages that instigated radical changes in VET research infrastructure and built what we enjoy today. A decade later, Chris Selby-Smith described the link between our research and subsequent change in the VET environment as a „rickety bridge" that. It appears opportune that a further decade later Darryl Dymock and Stephen Billett have returned to this critical issue and confronted the question which should underpin all our research activity – how can we make a difference?

I hope that Ray Barker whose generous donation to our association enabled the commissioning of this research project may somewhere be able to smile in reflecting that his contribution has made a difference, and will continue to focus us on how we can make a difference.

Aligning VET Research, Policy and Practice

Darryl Dymock and Stephen Billett
Griffith University

AVETRA Dr Ray Barker Fellowship

2009

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Llandis Barratt-Pugh, President AVETRA July 2010

Acknowledgements

Contents

Key points

- Most VET research in Australia is government funded, and therefore identified in publicly available statistics. However, there is also a considerable amount of research undertaken within VET institutions and within and for industry which has the capacity to directly affect policy and practice.

- There is a range of interest-holders in VET who have particular perspectives about what constitutes worthwhile research and specific premises for how the worth of an individual piece of research, a research publication or a body of research might be appraised. Consequently, there is no single definition of „impact" of research, because it is valued differently by interest holders.

- Nine premises upon which the worth of research can be appraised were identified: i) peer esteem), (ii) satisfaction of funding body, (iii) policy alignment, (iv) policy take-up, (v) practice alignment, (vi) practitioner take-up, (vii) social benefits, (viii) economic benefits, and (ix) developmental value to the researcher, research team or institution.

- In educational research generally, and therefore in VET, there will be ongoing tension between the concern of some researchers to qualify and nuance their findings and the needs of those end users who want clear application and unambiguous measures of benefits. However, and regardless, impact likely best occurs through engagement with research and requires action at all points and interaction among the players.

- The relationships between researchers and end-users is mediated by a range of factors that interact to a greater or lesser extent, which are unpredictable and predicated on such considerations as how it is disseminated and how potential users choose to engage with it.

- While single pieces of research can be significant in themselves, there is general acceptance that building up a body of knowledge over time can have an impact on both policy and practice.

- Overall, some of the most influential impact factors appear to be: i) *timeliness,* ii) *applicability,* iii) *accessibility,* iv) *credibility,* v) *dissemination and availability,* vi) *interactions between stakeholders,* and vii) *the extent to which research is valued by particular stakeholders.*

- Directly aligning research, policy and practice is difficult to achieve, but there are signs that at least small collaborations might be possible, which should result in a stronger network of effective linkages, but these need to be worked on continually by all parties.

Introduction

Identifying the impact of research has become of interest in recent times through a growing concern to align identifiable outcomes with public expenditure, and a desire for evidence-based decision-making. This move has many parallels (for example, the cost-benefit analysis of training, performance pay for teachers) and is motivated by imperatives that often need to be served by highly quantifiable measures. Yet, in the past and in other places, research has largely been expected to focus on the generation of new knowledge, not its take-up by others. For instance, in the American discourse, „impact" is almost universally taken as the degree by which peers express their esteem in terms of citations.

Indeed, at an earlier point in time the discussion was about whether research should be basic or applied. The purpose of basic research was more general, to advance knowledge; applied research was seen to be more aligned to societal needs and fashioned towards the interests of those who sponsored it. However, the standing of pure research is now being questioned and there is a growing expectation that expenditure on research, particular public expenditure, should lead to tangible social and economic benefits. Consequently, there is a growing interest in alignments among research, policy and practice. In this way, the benefits of research are increasingly focusing on a new set of criteria which are diverse and sometimes contradictory. So, on what bases should we proceed to make judgements about the impact of research?

This report explores the literature and the perceptions of key stakeholders about the impact of vocational education and training (VET) research on policy and practice.

Research approach

AVETRA nominated three main purposes for the project:

1.   To draw together material on the take up and use of research in VET in Australia and overseas

2.   To map the dimensions of funded VET research in Australia - funding agencies, sources, and the nature of the research being supported

3.   To document the nature and character of VET research and its links with policy and practice, and the role of VET research in professional, personal and organisational development, including higher degree research.

Those purposes have been addressed through four research questions:

1. What research evidence is there nationally and internationally about the impact of research on VET policy and practice?

2. What are the current sources of funding for VET research in Australia, and what are the bases and parameters of such research?

3. What have been the major areas of VET research output in Australia in the past five years, as revealed in publications of major agencies, at national VET-focussed conferences, through research higher degree dissertations and theses, and in recognised Australian VET journals?

4. What are the perceptions of the current role of VET research in influencing VET policy and practice among: a) researchers, b) policy-makers, c) practitioners?

The research was undertaken through four interrelated phases of activities:

Phase 1: A review of Australian and international literature on the impact of research on VET policy and practice, within the broader framework of the impact of educational research.
Phase 2: Identifying the main sources of funding for VET research in Australia.
Phase 3: Summarising the nature of VET research exhibited in NCVER publications, VET-related research dissertations and theses from Australian universities, AVETRA conference papers, and selected journals, in the past five years.
Phase 4: Collecting perceptions of the impact of VET research through semi-structured interviews and email correspondence with researchers and end-users of research.

For Phase 4, the respondents were identified in two ways: through a purposive sample identified by the researchers or members of the Reference Group as key informants, based on the latters" experience as researchers or end users of VET research, sometimes both; and by self-selection by responding to the invitation to AVETRA members or to other publicity about the project. Publicity was facilitated by AVETRA through its newsletter and through an email invitation to its members to make contact with the researchers. A copy of the invitation is attached as Appendix B. Other organisations, including the Australian Council of Private Education and Training (ACPET), also disseminated information about the study.

From the initial selection and ensuing responses, 34 people were interviewed, and there were also discussions face to face, by phone and email with a number of others with experience of VET research. The intention was to obtain a variety of views from both those generating research and where the potential impact is made, and that strategy was very successful. Of the 34 interviewees: 12 (35%) were TAFE/RTO practitioners/researchers, 9 (26%) were from Business/Industry, 7 (21%)

were University researchers, 5 (15%) worked for a state or the national government, and one (3%), was from NCVER. The names of all respondents are included in Appendix A.

The Human Ethics Research Committee at Griffith University approved the research orientation and procedures, which included the proviso that comments and quotes from those interviewed would not be personally attributed in this report. That anonymity is also protected by the use of „they" and „their" when necessary in referring to individual respondent"s views.

In addition, a Reference Group was established and consulted for the project, comprising: Erica Smith, President, AVETRA, Victoria; Helen Foley, Principal Policy Officer, DETA, Queensland; Daniela Jaron, Research Leader, Service Skills Australia, NSW; Pauline de Vries, Principal Lecturer, Panorama TAFE, South Australia.

At the time of the data collection, NCVER was also undertaking a study on the impact of its own and commissioned research. However, discussions with those responsible for these activities established that the two projects took different approaches and were not in conflict, but were likely to complement each other.

As shown in the letter of invitation (Appendix B), university researchers were invited to submit their responses to the 2007 Australian Government RQF exercise and a number willingly provided material for that purpose, but in the end it was decided that the diversity in the presentation of that material made it too difficult to incorporate it and discuss it within the framework of this project.

In addressing the research questions, the researchers were also aware of the four stakeholder responsibilities identified by Selby Smith, Hawke, McDonald and Selby Smith (1998, 22) as necessary to enhance the extent to which research influences VET decision-making:

i)   The research „system" should have an appropriate incentive structure to encourage researchers" commitment to the research enterprise, to currency of research, to quality, and to engage with their broader communities;
ii)   Decision-makers have an obligation to be engaged with the world of ideas, and to think read and participate in intellectual debate;
iii)   Funding agencies have a responsibility to ensure the research base is not weakened by a preference for short-term and instrumental research; and
iv)   A strong network of effective linkages is necessary in order not to undermine the potential for research to have an influence in VET decision-making.

This report is structured to address directly the four research questions and to consider briefly the four „responsibilities" listed above. First a review of Australian and international literature is used to discuss

conceptions and approaches to assessing the impact of educational research on practice. This discussion leads to a summary of „impact factors" in response to Research Question One. The next section, on the context of Australian VET research, identifies and elaborates current avenues for VET research funding, in response to Research Question Two. Research Question Three is then addressed, through a consideration of VET research outputs over the past five years.

For Research Question Four, on „perceptions", the major data source was interviews with key respondents, as outlined above. The key points from those interviews and other responses are summarised under each of the factors identified in the literature review.

The final chapter begins with a review of the findings, followed by presentation of a range of views from researchers and users about the current state and prospects of VET research in Australia. That flows into a discussion of possible ways of better aligning research, policy and practice, and some proposals for ways of capturing the worth of research which accommodate a broad array of perspectives and imperatives. The report then moves to a consideration of the extent to which the four stakeholder responsibilities for VET research in Australia, cited above from Selby Smith et al (1998), appear to be currently met.

In the conclusion, the complex issues of research impact and the variety of views on the topic elicited through this research are distilled into a number of key points, which have been reproduced at the beginning of this report.

Research impact – what the literature says

In a study of research impact in Australian vocational education and training (VET), Selby Smith et al (1998) used the 1993 Australian Bureau of Statistics" (ABS) definition of research, which has remained unchanged since then:

> R&D [Research and Development] is defined according to the OECD standard as comprising creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man [sic], culture and society, and the use of this stock of knowledge to devise new applications. (ABS, 2008)

The Bureau also maintained that R&D activity is „characterised by originality, the outcome of which is new knowledge", and that it ends „when work is no longer primarily investigative". However, there does not have to be „a specific practical application, or new or improved materials, products, devices, processes or services".

In other words, under the ABS definition, research can be basic or applied. However, for the purposes of the Excellence in Research for Australia (ERA) scheme introduced from 2009 to evaluate research performance in Australian universities (ARC, 2008b, 1), the definition of research is based on the „Frascati definition", as published by the OECD (2002):

> 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 is new and creative.

Noteworthy here is that the ERA documents leans on the ABS definition, indicating that the ERA definition is „consistent with the broad notion of research and experimental development (R&D) as comprising creative work undertaken on a systematic basis in order to increase the stock of knowledge of humanity, culture and society, and the use of this stock of knowledge to devise applications." Apart from the substitution of „humanity" for „man", this elaboration is almost identical with the ABS definition, thereby extending the life of that conception.

Curiously, given other imperatives, and in contrast to the requirements of the previous government"s Research Quality Framework, the ERA definition appears to be largely focused on basic research, rather than its applicability to specific social and economic imperatives. As will be seen, such a definition, along with its accompanying indicators to „measure" research quality, creates tensions for those researchers who emphasise many of the traditional measures of research worth and privilege peer esteem.

Defining „impact"

There has been considerable debate in recent decades about the extent to which it is possible to identify the effects of research. This is because as a concept it is inherently value laden. For example, Kostoff (1994, 207) wrote:

> The process of estimating *potential impact* of basic research is complex. Most of the impacts of basic research tend to be indirect. To estimate these impacts requires tracking the dissemination of the products of basic research for a long period of time over many different pathways. Neither the tracking databases nor the tracking techniques exist to perform this tracking and impact quantification.

Here, Kostoff referred particularly to research in the physical and human sciences, where cause and effect are arguably more easily established than in the social sciences, for example. Yet, he also emphasised that even in these forms of „hard" scientific research it is only reasonable to consider the potential impact of research. In the decade and a half since that time, attempts have been made to develop „measurements", or at least indicators of impact, in various disciplines, notably in the economics and health fields. For instance, in a discussion of impact studies of two countries" education and training policies, Castejon and Chakroun (2008, 54) observed there is an increasing emphasis internationally on the need for „evidence-based policy making". An example of this is the World Bank"s (2008) use of Development IMpact Evaluation (DIME):

> Impact evaluations assess the specific outcomes attributable to a particular intervention or program. They do so by comparing outcomes where the intervention is applied against outcomes where the intervention does not exist. An appropriate comparison group represents what would have happened in the absence of the intervention. By establishing a good comparison of outcomes for these two groups, an impact evaluation seeks to provide *direct evidence* of the extent to which an intervention changes outcomes. (emphasis added)

Similarly, in a cross-sectoral review of models of research practice, Nutley, Percy-Smith and Solesbury (2003, 12) found most of the literature considered impact in terms of direct practice change, which they attributed to the dominance of the healthcare sector. Nevertheless, although Nutley et al (2003, 17) concluded that the most tangible impacts of research were changes in policy, organisation, resourcing and delivery, they also found more intangible changes – in understanding, attitudes and behaviour. Their review confirmed the distinction commonly made between the *conceptual* value of research (i.e. changes in knowledge, understanding and belief) and its *instrumental* value (i.e. directly changing behaviour in policy or practice).

In relation specifically to VET, Selby Smith et al (1998, 4) saw the „impact" of research as having two elements: „use" – whether the research has

served a particular purpose, and „influence" – whether the research has had an effect on decision-making (e.g. in VET policy and practice). For the Research Quality Framework (RQF) exercise in Australian universities - proposed by the Australian Government in 2006/7 but not proceeded with - research impact was defined as „the social, economic, environmental and/or cultural benefit of research to end users in the wider community, regionally, nationally, and/or internationally" (quoted in Moodie, 2007, 11). In particular, impact in this exercise was seen as being anything other than its valuing by peers or within the academy. Indeed, individual and university responses had to constitute evidence-based accounts (preferably quantifiable) in the form of case studies that end users had both engaged with the research and had benefited from that engagement.

By contrast, the ERA indicators are used to assess research *quality*, though publication in ranked journals, refereed conference publications, citations analysis, volume and activity analysis, research income and esteem (ARC, 2008a&b). Under the „Applied" heading, the indicators refer only to patents, plant breeders" rights, registered designs and research commercialisation. There is no reference to impact on policy or practice.

In the earlier, RQF, definition, „benefit to the end user" may seem a reasonable indicator of impact, but what constitutes a „benefit" and who decides whether an outcome constitutes a „benefit", and how long does it take? Indeed, despite Selby et al (1998) finding that establishing a causal effect is problematic, the RQF Development Advisory Group concluded that „because of the long-term impact of much research, impact may be related to original research conducted in the 6 years preceding the research assessment period provided the research *can be shown to have a direct relationship* with the research being assessed for quality" (quoted in Moodie, 2007, 11, emphasis added).

Other definitions beg similar questions about establishing cause and effect. For example, in a review of literature, Stanwick, Hargreaves and Beddie (2008) cited Beacham, Kalucy and McIntyre"s (2005, 3) definition of impact: „the effects and outcomes, in terms of value and benefit, associated with the use of knowledge produced through research", and that of Duryea, Hochman and Parfitt (2007): „the beneficial application of research to achieve social, economic, environment and/or social outcomes." However, there are conceptual and procedural difficulties in pinning down such terms as „effects and outcomes" in the first definition, and in „measuring" the outcomes listed in the second, let alone establishing a clear link between the outcomes and the research. Not the least of these difficulties are the diversity and potential contradictions in what constitutes outcomes and their relative worth.

In referring to this difficulty, Gallagher (2002, 1) argued that research applications in such areas as health and technology have given „consumers" unrealistic expectations of what might be achieved in educational research: „everything we know about human behaviour suggests that only modest changes are possible through intervention". He described the educational research environment, dealing with the social and behavioural world, as one where „contextual variations matter greatly,

but are elusive to gauge." Similarly, Fielding (2003, 289, quoted in Gardner and Pollard, 2008, 1) cautioned:

> My sense is that [the term „impact"] valorises what is short term, what is readily visible and easily measurable. My sense is that it has difficulty comprehending and valuing what is complex and problematic, what is uneven and unpredictable, what requires patience and tenacity.

The extent of this complexity is underlined by the claim by Molas-Garrett, Tang and Morrow (2000, 172) that „research on the outputs of R&D and other innovation efforts has shown that a very small percentage of the population accounts for most of the impact, while a large percentage of efforts have little or no impact".

In the UK, Davies, Nutley and Walter (2005) considered approaches to „non-academic" research impact and noted that the starting points included the research outputs themselves, how the findings reach the user communities, and the impacts they have there. They identified a number of models of research use but raised questions rather than drawing conclusions, noting (p.4) that „the diversity of social science research, and the complexity of the means by which research findings come into use, make understanding and assessing non-academic research impacts a challenging task."

The vagaries of determining the impact of VET research are demonstrated by Stanwick et al (2008), who identified four problematic issues through a review of literature: (a) that impact is often complex and non-linear, (b) that establishing cause and effect is problematic, (c) that impacts differ by discipline area, and that (d) there are issues related to the time taken for research to benefit the end user. For their project, Stanwick et al (2008) identified four „domains of impact" that are almost linear in kind and progress: i) knowledge production, ii) capacity building, iii) informing policy, and iv) informing practice. They cross referenced each of these domains against „outputs", „outcomes" and „information sources".

From the information sources referred to in their paper, the approach taken by Stanwick et al (2008) appears to exemplify the quantitative approach. For example, they identified the number of publications and partnerships, and by drawing mostly causal links, e.g. in influencing policy change and driving professional development activities. This approach is consistent with their mission as a government-funded company: „knowledge of when and how research makes a difference may enable NCVER to make better decisions about how research funds are allocated, enhance value for money, and encourage competitiveness when seeking new contracts." (Stanwick et al, 2008, A3) As Gardner and Pollard (2008, 96) observed, „research funders and policy makers, who wish to have evidence of the impact or otherwise of policy interventions, will usually seek hard evidence on which to base their decisions to abandon, consolidate or develop the policy."

However, Gardner and Pollard (2008) argued for the inclusion of other forms of evidence of impact – *soft indicators*: „Any form of subjective,

anecdotal or impressionistic data that allows potential impact to be identified through reasonable interpretation of their strength and variety" is essential. Such indicators, they claim, could be used to identify the impact of research when the circumstances (e.g. „untidy" social contexts, timescales, resources, causal complexity) make it difficult or impossible to use more conventional indicators.

In one of the case studies produced as part of Selby Smith et al"s (1998) study of research impact, Anderson (1999, 157-8) proposed a different framework for conceptualising and evaluating the impact on research on decision-making: *first order effects* – where explicit recommendations are implemented; *second order effects* – new perspectives or understandings are generated; *short-run effects* – immediate impact, compared with *long-run effects* – with impact discernible over an extended period; and *hegemonic or counter-hegemonic effects*, „according to the extent to which it affirms or negates the dominant values, assumptions and interests around which official policy, planning and practice are organised". Anderson (1999, 158) also suggested the research process can have empowering or disempowering effects for the research subjects, which may affect the extent of their influence on decision making in their interests. This seems to be an important point and highlights the distinction between researchers as generators of knowledge and being accountable for the uptake of that knowledge.

Indeed, the difficulty of defining „impact" is underlined by attempts made to track the process of how social science research influences policy or practice. In a review of Australian educational research, Figgis, Zubrick, Butorac, and Alderson (2000, 356) proposed that:

> To talk about the impact of educational research is a gross distortion of the situation in that it takes a uni-directional view: it implies that research is the sole active agent. In fact, practitioners and policy-makers are equally (or more) active in creating „impact". The word „impact" might best be abandoned as a misguided reading of the relationship between educators and research.

If indeed researchers are not the „sole active agents", how might the complex interaction between researchers, policy makers and practitioners be conceptualised, and how can accountabilities for its uptake be acknowledged?

It seems that the imperative for the benefits of research and its impact to be more aligned with contemporary policy and practice, raises not just new but far more diverse and dispersed bases for valuing the focus of, approach to and outcomes of research activities. In some ways, this is consistent with much research which itself seeks to elaborate seemingly taken for granted assertions. Yet, the conundrum here is that such requests are driven by imperatives which want unambiguous and clear measures of benefits, without the qualifying clauses. In all, rather than leading to unambiguous statements, these developments together make more complex the processes of evaluating the broader impacts of research activities, including their alignment with policy and practice.

Process of engagement and securing benefits

The process through which research is taken up and engaged with extends well beyond the activities of researchers, and is premised on the actions and engagement of others. Nutley et al (2003, 19) suggested that the contexts in which researchers, policy-makers and practitioners work are important factors in determining impact. They developed, from their literature review and case studies, five models for conceptualising the process of research adoption: self-motivated learning, incentives and rewards, rational choice, social influence, facilitation, and knowledge management (p. 23). These authors concluded (p. 19):

> Research must always compete with other influences on policy and practice, including other forms of evidence like management information, personal experience, peer opinion. The reliability of research and the reputation of the researcher are important determinants of its competitive advantage and consequent impact.

In discussing the two most widely used approaches to explaining the pathways from research to policy and/or practice, Nutley, Jung and Walter (2008, 54) stated that the *rational-linear* view tends to assume a uni-dimensional progression from research outcomes to practitioner application, while a more *interactive* perspective emphasises the need for research findings to be adapted to different contexts and situations. A Canadian study of policy making (Landry, Lamari and Amara, 2003, quoted by Gardner, Holmes and Leitch, 2008, 90) identified six stages in a linear-rational approach: „*reception* (the research outputs are received by policy makers); *cognition* (i.e. the research is read and understood); *discussion* (i.e. the research is the subject of meetings); *reference* (i.e. the research is cited in internal documents); *adoption* (i.e. efforts are made to use the research) and *influence* (i.e. the research influences decisions)". The point here is that it would take the completion of each of these stages and for the process to be consistently faithful to the intents of the researchers, for there to be reasonable claims about direct linear consequences of the researchers" activities.

Nutley et al (2008, 54) noted that the main criticism of the rational-linear approach is that it „fails to address the often messy, contested and dynamic nature of research use", whereas the interactive perspective recognises the unpredictable nature of research take-up and use. Nevertheless, they pointed out (p. 56) that the interactive perspective has also been criticised on the grounds that bringing practitioners and researchers together on a regular basis may not be practicable.

For Figgis et al (2000), however, personal relationships are a key element of their *connecting web*, a „learning space" that bridges the gap between research knowledge and researchers, on the one hand, and practitioners or the policy makers dealing with professional problems, on the other. Figgis et al (2000, 365-6) worked „backwards" from specific educational

policy/programme initiatives to seek a research basis, and concluded that research influences could be discerned if two conditions were met:

- *if one looks at specific problems in education*: for example, at the issue of „boys" or „learning technologies", around which networks actually form. Without doubt, it is impossible to discern the influence of research on schooling in general or VET in general because those issues are not congruent with any real web of linkages (or even a web which could be established and voluntarily maintained); and

- *if one starts at the practitioner/policy-maker end* because in tracking back one finds oneself automatically observing real linkages. The change in direction shifts the task so it is no longer the fraught one of trying to track ideas forward into an unknown and fluctuating web but the more manageable task of documenting real people"s real actions (including the „real" action of thinking). [emphases added]

However, even with a „connecting web", the extent of the take-up of research may be influenced by factors not easily documented or in any way apprehendable. In government *policy-making*, for example, the extent of the impact may be influenced by political expedience, pressure of public opinion, and the perceived quality and relevance of the research (Schuller, 2004, in Galvin, 2008, 122, Gardner and Pollard, 2008, 90). Galvin (2008, 122) claimed „policy makers control this terrain", implying it is beyond the reasonable scope of researchers" influence.

Timeliness of research is also important, and its coincidence, or otherwise, with the political heartbeat. That is, a piece of research that either supports or contests current government policies or imperatives may be more or less welcomed at a particular point in time, not necessarily on the quality of the research or even its purposes, but on its timeliness. In the UK, Oates (2008, 115) argued for synchronising the timeframes of policy formulation and evaluation, blaming „temporal discontinuity" for deficiencies in the implementation, evaluation and re-design of several major educational initiatives.

Such concerns are not new - some 15 years ago, McDonald, Hayton, Gonzci and Hager (1993) drew attention to the unpredictability of the integration of research findings into policy in a publication generally regarded as a catalyst for the development of a more sustained VET research culture in Australia, *No small change*. These concerns have been echoed in recent times by other researchers (e.g. Clayton, 2007, Kell, 2006).

Sometimes, too, government agencies adopt an instrumental approach by undertaking their own in-house research or commissioning short-term studies in order to fill a research gap in a current or emerging policy area. Gardner and Pollard (2008, 91), citing Gardner and Gallagher (2007), commented that „arguably the intention here is to generate knowledge quickly, which in turn can inform policy in a fraction of the time

"conventional research" would take, but the underlying motive may often be to suit the political context." However, this may be an overly cynical interpretation that does not sufficiently recognise that government agencies operate in a political environment. Huberman (1994, 18, quoted in Gardner and Pollard, 2008, 92) observed there are probably no education problems that are „devoid of partisan interests", which includes those of the researchers.

The complexity of the inter-relationship between research and policy development is underlined by Robinson (2007, 10), a former Managing Director of NCVER with recent high level involvement in state government policy-making: „The process more resembles „osmosis", where gradually the research findings and the analysis filter down to become part of the knowledge base of people working in the sector and people planning in the sector." Moreover, it has been suggested that particular interests within the public sector are exercised by selective use of research to inform the policy process and seed government opinion.

Such tensions also exist in relation to the impact of research on *practice*. As Cordingley (2008, 44) noted, knowledge from academic research in education has to compete with other forms of knowledge in order to be sought and utilised by teachers. She claimed (p. 38) that in the UK „very little research writing [in education] is directly targeted at a practitioner audience". This is arguably not as true in Australia, particularly for VET, given the role of NCVER, and the activities of practitioner-researchers, some of whose views are presented later in this report. Nevertheless, Cordingley (2008, 42) identified a key issue in the question of impact:

> What drives researchers is the process of identifying, securing and grappling with confirmatory and contradictory evidence and posing questions. What drives teachers to act in ways that use research to support learning? Researchers uncover the complexity of learning and make it explicit. Practitioners experience the complexity of learning and strive to make it simple enough to shape the next steps in learning. These different purposes are like different wheels with cogs moving at different paces.

This perspective is consistent with Figgis et al"s (2000) argument noted above: it is the end user who creates and defines „impact", not the researcher.

If the purposes of research do not mesh with end-uses, however, the question is how to improve the processes (the „connecting web") so that good research work does not „run into the sand" before it can be used (Ince, 2008, 131). Who is responsible for the extent to which potential users engage with research and subsequently rate its worth?

Research take-up

The actual take up of research outputs by those other than the researchers who produce it, for example practitioners and policymakers, is

seen as a key measure of the benefit of research. This was the case perhaps most noticeably in the now-defunct RQF. The reasons for the low take-up of research identified by Molas et al (2000) may perhaps be attributed to some of the barriers to users" engagement with research identified by Nutley et al (2003, 41), by those who might engage with it. These reasons are reported to include:

- Lack of time – to read journals, attend presentations or conduct their own research
- Low priority
- Poor communication of research within organisations
- Perceptions of research – for example, internally conducted or commissioned research is more likely to be seen as relevant and hence considered
- Research is not timely or relevant to users" needs
- Research is less likely to be used where findings are controversial or upset the status quo
- Other sources of information may be valued more highly, particularly by policy-makers
- Individual resistance to research, especially when viewed as a threat to „craft" skills and experience – which can have a wider effect if it occurs at management levels
- Failure to value research at an organisational level, or an actively hostile organisational culture.

These authors then list a set of factors that might interfere with and shape the degree to which research is engaged with by others. What this listing indicates is that many factors that determine engagement with research outputs are beyond the reasonable scope of researchers" activities and capacities.

However, it is not just the communication of findings and analyses that shape engagement and take up. For example, the authors of „The impact of educational research" (DETYA, 2000, 9) concluded that effective *communication* of VET research rather than simply *dissemination* was necessary in order to increase its use in decision-making. A similar point was made by Smith (2001, 7) from a review of VET research:

> Making people aware of research findings or of the value of research in general does not ensure the utilisation of specific research findings, particularly in the politicised environment of policy-making. Here, ways have to be found to „inject" appropriate research into the policy-making process. This requires researchers to gain credibility and access to decision-makers that will introduce research into policy processes.

According to Nutley et al (2003, 40-41), factors that enable users" engagement with research include:

- Active dissemination, which can help to change attitudes and may support more direct use where discussion of findings is enabled
- Individualised educational strategies and those which allow interaction with colleagues and experts

- Supportive opinion leaders, both expert and peer
- Developing closer links between researchers and practitioners
- Support for practitioners to „try out" research findings and/or to conduct their own research
- Reminders – although these have only been examined in healthcare settings
- Adequately resourced facilitative strategies
- Multi-faceted interventions, particularly where attention is paid to the contexts and mechanisms of implementation.

From their „backtracking" studies, Figgis et al (2000, 357) identified three „crucial" areas for researchers in school education to promote the engagement of their research: i) publication – researchers (and funders of research) need to develop more targeted and imaginative mechanisms for publishing research findings; ii) networks – mechanisms need to be created which facilitate researchers, policy-makers and practitioners coming together into focused and sustained networks; and iii) incentives – researchers need incentives to take their work to the school education „industry".

There is also the issue of the extent to which a single piece of research can (or should) influence policy or practice. Robinson (2007, 10) argued:

> …undertaking a range of research projects in an area, rather than a single project, has a far more significant impact, especially when that work is coming from different angles and offering differing perspectives, in terms of conclusions. The more varied the research and its viewpoints, the more effective it is in terms of adding to the knowledge base and promoting debate.

However, this is not to say that more could not to be done in terms of improving the focus of projects and of research findings, and engagement with those who might use and be influenced by research outputs. Perhaps more attention needs to be paid by researchers and research institutions to securing these kinds of engagements.

Conclusion

In summary, there is a complex of factors that shape the ways in which research outputs are engaged with by users and therefore generate benefits, whether measurable or of the less measurable kind. Questions arise as to how research directly or indirectly influences public policy and educational practice, how long it might take for research to have an impact and under what circumstances, and the extent to which research is a key factor in any changes that are made to policy or practice. To what extent is utilising research the responsibility of researchers and end-users respectively, and to what extent is the research process a joint enterprise?

The factors that mitigate the relationship between researchers and end-users interact to a greater or lesser extent, are unpredictable and are predicated on such considerations as how the research is disseminated

and how potential users choose to engage with it. The most influential factors appear to be: i) *timeliness, ii) applicability, iii) accessibility, iv) credibility, v) dissemination and availability, vi) interactions,* and *vii) the extent to which research is valued.* Each of these is elaborated briefly in the next chapter, in response to the first research question, and as a basis for the later discussion of the interviews and other responses to this project.

Impact factors

In response to Research Question One for this project, „What does the literature say", the message is that „impact" occurs through engagement with research and requires *action* at all points and *interaction* among the players. According to Figgis et al (2000, 7):

> Applying research in an education context requires human intervention. To intervene, teachers, administrators and policy makers have to be interested in new ideas and motivated to act on them. For those ideas to be accessible to educators and policy makers, researchers have to actively market their knowledge to the education community as well as the research community. The researchers argue that for this active marketing to become a part of the research process a shift in what is valued in the work of universities and in the measures of academic productivity is necessary.

As noted in the conclusion to the previous chapter, the most influential factors in the action and interaction between researcher and user appear to be: : i) *timeliness, ii) applicability, iii) accessibility, iv) credibility, v) dissemination and availability, vi) interactions,* and *vii) the extent to which research is valued. Each of those is briefly discussed in turn.*

Timeliness

There is a range of time-based considerations that shape the potential impact of research outputs. One of these considerations is the timing of the release of the research findings in relation to government policy making, budget cycles and the political „heartbeat". There is also the question of „shelf-life" – for how long does a piece or body of research remains relevant or potentially influential? This issue is related to another timeliness issue: the lag time between when the research is undertaken and when it is published or otherwise disseminated – in the intervening period. For instance, has the data collection context changed so much that the research findings are out of date, or do changes in the practice or policy environment mean that the research is no longer as relevant? Timeliness can be a researcher responsibility but more often is dependent on publishers, and sometimes on serendipity in government policy development, unless it is specifically commissioned.

Applicability

Applicability is about the perceived relevance and „usefulness" of research to both policy and practice. For example, a teacher or trainer needs to see that a piece of research can improve their students" learning; at government level, a body of research from diverse sources may inform the development of policy. In both cases, the end-users need to engage with the research – „to be interested in new ideas and motivated to act on them", as Figgis et al (2000, 7) said. Nutley et al (2003) suggested internally conducted or commissioned research is more likely to be seen

as relevant. An issue here is who is responsible for interpreting research for its applicability – is this a responsibility of both researcher and end-user, or is it up to the end-user to make sense of research for their own purposes? Figgis et al (2000, 357) proposed „incentives" for researchers to take their findings to the education community", as well as presenting their ideas in policy forums.

Accessibility

The question of interpretation mentioned above is also related to the accessibility of the research, i.e. the extent to which it can be understood by its audience. Accessibility or readability is dependent on the researcher"s perception of the audience for which they are writing and the researcher"s ability to write for that audience. For example, a paper written by a university researcher for a peer reviewed journal may be in quite a different style to a review of practice prepared by a VET practitioner for colleagues, but both audiences may be satisfied with the results. Here again is a curious contradiction for researchers. Within their own fields, securing publication in prestigious journals necessitates the use of particular genres and disciplinary language which are consistent with identifying and elaborating new knowledge. Yet, this kind of worth might be quite restricted to that disciplinary community and is rendered inaccessible to other communities.

Credibility

The credibility of research relies on individual perceptions and academic conventions. Credibility may be generalised to the source of the research - the researchers themselves or the institution/s they are affiliated with, or it may be determined by perceptions of the rigour of a particular piece of research – usually related to the methodology. Also, as with „accessibility", a piece of research seen as credible by research peers may not be valued by policy makers or practitioners if it is seen as too remote from their current work focus. Moreover, references of particular interest groups will define what stands as being credible research - the kinds of conceptual contributions valued as research outputs in a disciplinary or academic community are likely to be less appreciated by practitioners than procedural contributions.

Dissemination and availability

The processes by which research reaches its audience/s, intended or otherwise, are much discussed in the literature. The consensus seems to be that dissemination needs to be more than publication; it needs to be „active", „communicated", „injected" into the policy-making process, and „marketed". However, as discussed in relation to „applicability", to what extent should researchers be responsible for ensuring research reaches audiences that might utilise it, and do they have the capacity for that role anyway? Also, the 2008 ERA scheme (ARC, 2008a&b), actively promotes the kind of activities that are rewarded in forms of dissemination, as

indicated by statements of journal and conference publication, citations and peer esteem, not by the kinds of impact measures that might be favoured by end users.

Related to dissemination is the ease with which end-users can access research findings. Ready availability, particularly through websites and databases, should encourage greater use of research for hard-pressed executives, managers and practitioners, although the extent of the user-friendliness of the electronic interface is a consideration. Also, proactive dissemination of research findings, such as through email subscriptions and organisations" electronic and hard-copy newsletters, can stimulate interest. Conferences also offer opportunities to engage with up-to-date research, face-to-face and through published papers. Academic journals are increasingly accessed on line, and major publishers provide opportunities for contents alerts, but timeliness can also be an issue with journal publication.

Interactions

The most common recommendation in the literature for increasing the impact of educational research is to improve the interactions between researchers and those who utilise or potentially utilise research. However, the literature review has also shown that the nature of such inter-relationships is complex and mostly unpredictable. The linear-rational model may well be a myth, except perhaps in instances of collaborative research between researchers and end users, or instrumental research commissioned externally or undertaken in-house for specific purposes. It is also worth noting that the discussion of educational and training research impact in the literature is very strongly about government policy and educational institutions and classrooms, and hardly mentions workplaces, industry or community.

Extent to which research is valued

Underlying all the factors discussed above is the extent to which research *per se* is valued. The ERA exercise is concerned with research performance of universities and hence „impact" is assessed in terms of the quality of the research undertaken. At the policy and practice levels, there is ambivalence about the value of research, where it competes with other inputs and influences. Nutley et al (2003, 41) paint a grim picture of barriers to accepting research: lack of time for reading or undertaking research, poor internal communication of research, valuing other sources more highly, and individual or organisational resistance to the concept of research because it threatens reliance on employee experience, knowledge and skills.

Sometimes it is not so much that research is not valued at policy and practice levels, but that immediate exigencies and time pressures mean that it is not given sufficiently high priority. This can simply be because of the effort needed to access, interpret and apply the findings. Research is more likely to be valued by potential end users where they have had input

into the directions of the research, have participated in it, have interacted in some other ways with the researcher, have had it interpreted for their particular context, or have undertaken it themselves.

What emerges from this survey of the literature is that research per se and research findings are valued in different ways by the different stakeholder groups, and for diverse reasons. For example, senior government policy makers operate in a political environment where attitudes towards research vary, and relevance to current government strategies is important; in the university sector, for academic researchers the approbation of peers is a key factor and „pushing the boundaries" of research is valued; for other researchers and practitioners, direct applicability is more likely to be a major consideration.

In this study, the nature of those differing perceptions and reasons was explored through semi-structured interviews with policy-makers, managers, and practitioners with an interest or involvement in VET from government, industry and the VET workforce, as well as with researchers. Those responses, which address Research Question Four, are first set against the VET research context in Australia, in particular current avenues for VET research (Research Question Two) and the main areas of VET research output in the past five years (Research Question Three).

Australian VET research support

This section of the report, in response to Research Question Two, presents an overview of the main sources of VET research funding in Australia and the criteria for such funding, followed by a table showing VET research outputs and discussion around the main means of disseminating VET research findings in the five years to 2008.

There are three main sources of competitive public funding for VET research in Australia: the National Centre for Vocational Education and Training Research (NCVER), the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) and, for university researchers, the Australian Research Council.

NCVER (www.ncver.edu.au, 2008) is a not-for-profit company supervised by DEEWR but owned by the federal, state and territory ministers responsible for training, which:

> conducts and manages research into Australia's vocational education and training (VET) sector. The aim of the research is to ultimately contribute to an improvement in VET policy or practice. Some research is undertaken by the NCVER on a commercial basis.
>
> Both NCVER's in-house research program and the national managed programs of VET research are guided by the National Strategy for Vocational Education and Training 2004 - 2010, *Shaping our future*.

The main research funding comes through the National Vocational Education and Training Research and Evaluation (NVETRE) program.

The forerunner of DEEWR, the Australian Department of Education, Science and Technology (DEST) in 2006 commissioned a review of NCVER, intended to critically consider the range of services it provided, value of money for the government research and statistical contracts awarded to the organisation, the impact of work carried out under those contracts, and NCVER"s responsiveness to shareholder and stakeholder priorities. The Minister at the time observed that NCVER received around 40% of Strategic National Initiatives (SNI) funding under the *Commonwealth-State Agreement for Skilling Australia's Workforce*. Among the concerns raised in that report (p.2) is an over-reliance on a number of university researchers, lack of flexibility to address broader needs and to respond quickly to changing needs for policy related research, and perceptions of questionable quality in some published statistics and supporting documentation.

In terms of impact, the theme of this current report, the review recorded generally positive feedback on NCVER"s products and services, but with „employer organisations more questioning of their usefulness" (DEST, 2006, 3). Among other indicators of impact, the researcher found (p.3):

- Government is a major user of NCVER statistics and NCVER research has featured prominently in recent government policy papers;
- The research and provider communities strongly endorse the role of NCVER.
- While there are mixed views, industry is generally more critical of the usefulness of NCVER‟s work. Industry has a limited sense of involvement and ownership of the ongoing priority setting processes;
- a review in 2003 observed that the work had achieved world‟s best practice;
- Arguably, NCVER‟s products are already of greater usefulness to industry than it appreciates and better communication would improve access.

As will be seen, there was also generally positive support for NCVER from respondents to this present study, with the same sorts of reservations in some areas. The 2006 report showed (p. 69) that research grants funding increased from $1.1 million in 2000-1 to $1.9 million in 2004-5, and it seems there has been little change in research funding in recent years.

NCVER also collects VET statistics and administers Longitudinal Surveys of Australian Youth (LSAY), a research program that tracks young people as they move from school into further study, work and other destinations. From 2002 to 2006, NCVER administered funding for VET research under the national Adult Literacy Research Program, on behalf of the Australian Government (Adult Literacy Resource, 2009).

Information about the main national and international VET-related organisations and groupings is available on the NCVER website, particularly through its recently established Vocational Education and Training Information Portal. The NCVER portal provides access to over 300 Australian and international English language information resources related to research in the field of vocational education and training (www.vetinformationportal.edu.au). Other dissemination of research comes through regular publications such as „At a glance‟ summaries and through such means as forums and breakfast briefings.

The VET Information Portal complements another NCVER facility, VocEd, an international database of research abstracts with a special focus on Australia and the Asia Pacific region, supported by the UNESCO-UNEVOC International Centre in Bonn, Germany. These two avenues of dissemination are vital in improving the availability and timeliness of VET research and hence the impact on policy and practice. Another database, Edna (www.edna.edu.au/edna/go/pid/1), includes research relevant to government and non-government schooling systems, early childhood and higher education, as well as VET and adult and community education.

In addition to its supervisory role with NCVER, DEEWR commissions some VET research itself by invitation and competitive grants, and undertakes reviews for policy purposes as part of its Training and Skills Program. Recent examples include:

- Development of a strategy to support the universal recognition and recording of employability skills (with the Allen Consulting Group and NCVER)
- Development of a national employability skills e-portfolio website
- Study into the assessment and reporting of employability skills of senior secondary students
- National industry skills report - a cross industry overview and 10 industry specific reports.
- Survey of Vocational and Technical Education (VTE): participation, triggers, perceptions and aspirations
- Annual national reports of the Australian Vocational and Technical Education System
- Skilling the existing workforce project (with Australian Industry Group)

Other Australian Government funding has been available through specific initiatives, such as „Reframing the Future", which until 2008 supported professional development of VET practitioners through projects that included research components, and Learnscope, part of the Australian Flexible Learning Framework, which aims to extend the use of technology in VET. However, as will be seen in the next section, there is some debate about whether the processes undertaken in some VET professional development can properly be regarded as „research". Nevertheless, such initiatives appear to have encouraged greater explorations of practice among practitioners in public and private VET institutions, who traditionally have not had access to research funding.

The main avenue of research funding through the Australian Research Council is the National Competitive Grants Program (NCGP), which is available only to university researchers. According to its website (www.arc.gov.au/ncgp/default.htm), the NCGP provides:

- support for the highest-quality research leading to the discovery of new ideas and the advancement of knowledge
- financial assistance towards facilities and equipment that researchers need to be internationally competitive
- support for the training and skills development of the next generation of researchers
- incentives for Australia"s most talented researchers to work in partnership with leading researchers throughout the national innovation system and internationally, and to form alliances with Australian industry.

Under the two main elements of the NRGC, Discovery and Linkage grants, the ARC funds „a range of complementary schemes to support researchers at different stages of their careers, build Australia"s research capability, expand and enhance research networks and collaborations, and develop centres of research excellence" (www.arc.gov.au/ncgp/default.htm).

University-based educational researchers, including those with VET-related proposals, compete with other university researchers across all disciplines for the grants available. Those grants are usually for two or

three years, as distinct from the mostly shorter time frames required in the NVETRE program.

There are a number of university-based research centres or groupings with a particular interest in VET research. However, some of the specific VET research centres active in the late 90s and early this century, have been abolished or absorbed because they have not been funded externally or internally to do so. For example, the research capability in VET established at Canberra Institute of Technology in 1999 through the Centre Undertaking Research in Vocational Education (CURVE) in 2008 became part of the Centre for Education Excellence. Similarly, the Australian Centre for Organisational, Vocational and Adult Learning (OVAL), a former research centre at the University of Technology, Sydney, has been subsumed into the University's Centre for Research in Learning
& Change, and the Centre for Work and Learning Research at Griffith University has been amalgamated into the Griffith Institute of Educational Research. At the University of South Australia, the Centre for Research in Education, Equity and Work CREEW, which began in 1994, and has been a recognised research centre within the university since 1998, currently operates under the auspices of the the Hawke Research Institute for Sustainable Societies. This trend in the higher education sector reflects a pattern of university research management through the formation of large research groupings, partially driven by governments" requests for universities to have particular areas of research expertise.

However, in recent years in particular, other Australian university centres and other agencies have moved into VET-related research, including the Workplace Research Centre at the University of Sydney, the Work-based Education Research Centre (WERC) established in 2008 at Victoria University, the RMIT University Post-Compulsory Education and Training (PCET) Research Centre, the Research Institute for Professional Practice, Learning and Education (RIPPLE), a multi-disciplinary research centre based at Charles Sturt University, and the National Institute of Labour Studies (NILS), a labour studies research centre at Flinders University in South Australia. Others in this grouping include Dusseldorp Skills Forum, an independent and self-funding not-for-profit body, the Centre for Work and Learning Studies (CWALS), based in the Faculty of Education at Monash University, the Centre for the Economics of Education and Training (CEET) based at Monash University, the Centre for Post-compulsory Education and Lifelong Learning (CPELL) at the University of Melbourne, and the Centre for Labour Market Research (CLMR), a consortium of The University of Western Australia, Curtin University of Technology, Murdoch University and the University of Canberra. All of these add to the dynamic nature of VET research in Australia, a theme that is elaborated in the final chapter.

In addition, various initiatives have been undertaken in recent years to try to encourage collaboration, and to involve new researchers in VET, as well as to encourage those in non-university settings. For example, NCVER in 2007 provided NVETRE funding for research centres to provide a three year program of research aligned with the national research priorities, and in 2009 made available Communities of Practice Research Scholarship

grants of $4,000 each to novice researchers to conduct a project over one year. An example of collaboration is a significant national research program undertaken by members of OVAL, CURVE and CREEW and other researchers 2004 - 2008 to support VET providers in building research capability for the future (NCVER, 2009). The consortium was formed as part of a program of VET research funded by the former Australian National Training Authority (ANTA) and managed by NCVER. A mentoring component of the project is managed by AVETRA. There have also been other creative initiatives around collaboration and capacity building in 2009.

State government departments, umbrella skills organisations, unions, employer organisations, private registered training organisations and individual companies also undertake or commission VET-related research on as „as required" basis, but much of this is not reported in national statistics. A private (not-for-profit) company, ACER, also undertakes research in VET, although its research interests are more concerned with primary and secondary schooling.

The number of organisations undertaking funded VET research in Australia augurs well for the field, but needs to be balanced by recognition of the limited funding available through government sources. NCVER is the biggest player in administering research activity and disseminating the results, and the 2006 DEST report indicated that in general it is seen as doing this job well. However NCVER"s research grants funding remains relatively static in an area of education that is key to the Australian government"s skills development policy. The other main source of specialised VET funding is the Department of Education, Employment, and Workplace Relations, with projects usually directly linked to government policy directions. The Australian Research Council is also a significant distributor of educational research funds, but these are available only to university-based researchers and are highly contested across the whole range of fields of study.

Main areas of VET research output

In response to Research Question Three, the section below discusses the major areas of VET research output in Australia in the past five years (2004-8). The sources for this discussion are:

i)   publications produced by NCVER,
ii)   VET-related theses and dissertations recorded in the Australian Digital Education Theses database administered by ACER,
iii)   papers presented at AVETRA conferences between 2004 and 2008, both refereed and non-refereed, and
iv)   the top five journals from the official AVETRA 2007 ranking of VET and adult education journals (*Research Today*, November, 2008, 2), for papers written or co-written by Australian-based researchers .

The latter journals are: *Journal of Education and Work, Journal of Further and Higher Education, International Journal of Lifelong Education, Journal of Vocational Education and Training, Studies in Continuing Education*.

The data from these four sources are presented in Table 1. The five categories of research shown in Table 1 are the five research publication themes adopted by NCVER, and the criteria for selection are the sub-categories listed by NCVER for each main theme (www.ncver.edu.au).

In the left-hand column of Table 1 are the categories of research focus. In the next column to its right are the outputs from NCVER (and the assistance of Colleen Young at NCVER in providing accurate figures in each category is gratefully acknowledged). The third column from the left comprises the ordering of Australian theses and dissertations into each of the categories, with those publications identified through the Australian Digital Education Theses database, which is administered by ACER. The column third from the right categorises the presentations at AVETRA conferences, as shown on the AVETRA website archives, excluding workshops. Articles published in the journals listed above are categorised in the column second from the right. In the far right-hand column is the total number of outputs in each category and the percentage of the total outputs.

Table 1 shows that in the research funded by NCVER, about one-third of the publications are in the „Students and individuals" area, whereas that is the equal lowest category in „Theses and Dissertations" and is similarly low in the themes of papers presented at AVETRA conferences. In journal articles, research papers related to industry and employers make up by far the lowest percentage. One might expect that the percentages of theses and dissertations would be reflected in the percentages for journal articles, but this is clearly not the case. There is a closer correlation between the percentages of theses and dissertations

Table 1: Major areas of published VET research output by Australian researchers 2004-2008

Category	NCVER[a]	Theses & dissertations[b]	AVETRA conferences[c]	Journals[d]	TOTAL
Students and individuals	77 (34%) e.g. *Moving on from enabling: Why do some students remain in enabling courses?; The role of vocational education and training in welfare to work.*	6 (13%) e.g. *A conceptual approach to the work, leisure and retirement education of adults with an intellectual disability.*	36 (12%) e.g. *Enabling learners: diverse outcomes; NESB students in TAFE: exploring the factors behind their completion rates.*	15 (18 %) e.g. *Constructing identities and making careers: young people's perspectives on work and learning.*	**134 (20.4%)**
Teaching and learning	35 (16%) e.g. *Integrated approaches to teaching literacy in Australia; a snapshot of practice in community services; Approaches for sustaining and building management and leadership capacity in vocational education and training providers.*	12 (27%) e.g. *Situated learning : perceptions of training practitioners on the transfer of competence across workplace contexts; Learning by experience: reconstructing the literacy engagement of nine men who self-report literacy difficulties.*	89 (29%) e.g. *Understandings of learning styles among VET practitioners; Can learning outcomes be divorced from processes of learning? Or why training packages make very bad curriculum.*	41 (49%) e.g. *Experiencing the workplace: shaping worker identities through assessment, work and learning.*	**177 (26.9%)**
Industry and employers	39 (17%) e.g. *A huge learning curve: TAFE practitioners' ways of working with private enterprises; To have and to hold: retaining and utilising skilled people.*	10 (22%) e.g. *A multivariate study of the relationship between organisational learning, organisational innovation and organisational climate in the Australian hospitality industry.*	42 (13%) e.g. *Assessing the workplace performance requirements of the post-industrial workplace; The role of VET in Australia's agrifood industry innovation system: lessons for other industry sectors.*	6 (7%) e.g. *Setting up learning partnerships in vocational education and training: lessons learnt; Enhancing enterprise expenditure on VET: policy goals and mechanisms.*	**97 (14.7%)**
VET system	42 (19%) e.g. *Pathways from rural schools: Does school VET make a difference?; Higher level vocational education and training qualifications: Their importance in today's training market.*	11 (24%) e.g. *Technical and further education (TAFE) managers: balancing managerial and professional outcomes in their role as educational leaders; 30 years on from Kangan: an analysis of the current policy position of TAFE Queensland.*	66 (22%) e.g. *TAFE managers: juggling educational leadership and accountability; Experiencing pre-apprenticeships: participants' views of a program with dual purposes.*	10 (12%) e.g. *Managing spaces: (re)working relations of strategy and spatiality in vocational education and training; The Development of Vocational Education and Training in a Senior Secondary Certificate of Education.*	**129 (19.6%)**
VET in context	31 (14%) e.g. *Building learning communities; partnerships, Social capital and VET performance.*	6 (13%) e.g. *A study of factors affecting participation and performance of police officers undertaking the Queensland police service's management development program by distance education.*	72 (24%) e.g. *Identities of place: their power and consequences for VET; Managing credit transfer from TAFE to university: the case for cross-sectoral collaboration.*	12 (14%) e.g. *Curious conceptions: learning to be old.*	**121 (18.4%)**
TOTAL	224	45	305	84	**658**

a As at 8/12/08; excludes projects under way, minor outputs, statistics; b From Australian Digital Education Theses database, ACER; c From AVETRA conference archives website; excludes workshops; d Published in *Jnl of Education and Work*, *Jnl of Further and Higher Education*, *International Jnl of Lifelong Education*, *Jnl of Vocational Education and Training*, *Studies in Continuing Education*.

and the percentages against AVETRA conferences, but it is impossible to make a credible link. In all, this suggests that there are particular emphases on areas of investigation within particular forms of outputs and these are not uniform across all forms of outputs.

Kearns (2007, 12) suggested there are four quadrants of research: looking in; looking out; looking back; looking forward, and claimed that much VET research to date had been „looking in". It is difficult to tell from Table 1 the extent to which the research falls in those quadrants, except to suggest that „Student and individuals" and „Teaching and learning" may be more clearly looking in, and that „VET system" may also fall more fully in that category. On the other hand, „Industry and employers" and „VET in context" may be more about looking out, but it would take a detailed review of the abstracts of the reports, theses and papers in all four areas of research output to be able to make an accurate classification under Kearns" categories.

In a graphic comparison of the total number of outputs for the five areas, Chart 1 shows that „Teaching and learning" has the highest number of reports, theses, papers and conference presentations, and that this is particularly boosted by the high proportion of journal articles (Table 1). However there is also not a huge gap between the lowest and highest theme.

Chart 1: Comparison of VET research theme areas 2004-8
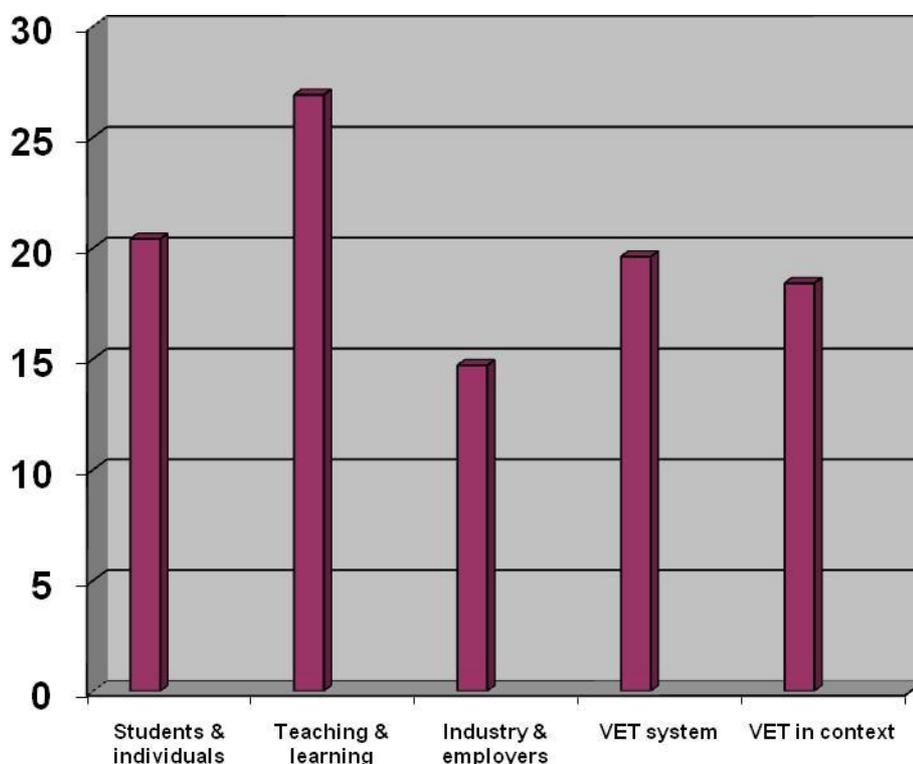
In summary. there is considerable variety in VET research outputs in the five years to 2008 and no one theme completely dominates, suggesting a

healthy interest in research and a flow across all areas, together with a national and an international reach. The review also reveals a highly active research community, especially as the figures generally do not include VET institutional and industry research outputs.

Interviews and other responses

This research project is about the nature and character of VET research and its links with policy and practice. As indicated earlier, interviews and written responses were used to access the perspectives of different kinds of researchers and users of research in order to provide a more qualitative basis for considering those links than the quantitative accounts in the previous section. This chapter is about the respondents" perceptions of research and its impact and addresses Research Question Four.

The people interviewed face-to-face and by phone and who responded in writing are not intended to be a statistically valid sample. However, they all have a significant interest if not involvement in VET research. Appendix A provides a list of the informants, and their institutional affiliations. Collectively, they provide a strong and experienced representation of the main "stakeholder" groups undertaking and/or utilising such research, comprising university and other researchers, managers and practitioners from public and private training organisations, senior people from government departments who make or influence policy, and people from industry and business with a range of responsibilities, from representing their members" interests to government and developing training policies to overseeing effective training aimed at developing successful enterprises.

Each informant was initially asked what they regarded as "research" in relation to their own work, and then about what they regarded as "impact".

Perceptions of research

Perhaps not surprisingly, university-based researchers had the broadest view of research, including "essentially it"s about growing a body of knowledge in a particular discipline or some discipline area… built around the idea that there"s some sort of rigorous systematic process that enables you to be able to collect data of various types and then be able to use that data". Another informant proposed that research incorporated an "element of unknown-ness about it, a risk-taking". There was also a suggestion there is sometimes confusion, demonstrated particularly at conferences, between systematic research and reflection on practice, for example, resulting in a "broad and woolly" view of research.

On the other hand, one academic thought that some practitioners" conceptions of research is based on a "high ideal" of what it is, and that some were undertaking inquiry into their own practice in order to improve it, without realising it was research. Along similar lines, one experienced researcher recalled working in a VET institution where "you didn"t talk about research, you talked about models you"d drawn from other places and people didn"t relate to it as research but as a good idea". A respondent heavily involved with professional development claimed that for the average VET practitioner (e.g. TAFE teachers), research is something that happens "over there – it"s got nothing to do with what I do."

Nevertheless, the VET practitioners interviewed for this project tended to recognise a distinction between what one called „scientific methods" of research and „informal" research. The latter encompassed „the lecturers themselves using their passion, creating something and trialing that with students". Another TAFE lecturer saw research as information that helped improve delivery of programs to students as well as keeping the „substance and knowledge and skills of that course up to date", and for the latter, one lecturer described part of their own research as checking what competing providers had been doing and the research basis for their decisions. At the institutional level, a VET manager spoke about benchmarking, of making adjustments to a course on the basis of what has gone well and what has not gone well, but saw research as „something that is quite formally structured", with valid and reliable methods and „it"s the sort of thing that you can be reasonably confident with to inform your decisions".

Like the lecturers, another VET manager distinguished their approach from „academic research" – they were involved in action learning: „looking at what"s relevant to practitioners and interpreting that". Similarly, a VET manager in an institution working closely with industry used external funds to develop a „coherent approach" to documenting what they do. This informant claimed that „we have VET staff doing interesting things but it"s about getting credibility around that work and helping VET staff understand really how to work and engage in a research space". The intention of that approach is to document the dynamics of working with a commercial client while delivering quality learning for students, in a process described as „a process of critical reflection and action learning so that we get a better understanding of what it is that we"re doing and why we"re doing it and how we can improve on that." The informant noted the tension referred to earlier in this section: „It is that whole notion of: is this really research, or is it just people getting together to try and do what they need to do better?"

Another senior VET practitioner spoke of observing an issue or problem in an institution, starting with a personal gap in knowledge and then through desktop research providing other people with information about the issue, and if necessary coming up with a set of questions and a proposal and a strategy to get the information required. This person had experience of being involved in large team-based research where the methodology was externally determined, and other smaller less focused in-house research using journal articles, documents, and „just talking to people". This person said that, in a VET institution, „You need to do it all the time, getting information – not just information, but ideas." Another VET manager, in a different state, had a similar view:

> I really find I"m searching for information, both qualitative and quantitative information, to adopt a strong evidence-based approach. So in my strategy formulation and in fulfilling the requirements of what I call these pre-conditions, what I tried to rely on was evidence, …, that the evidence was there, it existed, and could I then justify … the

course of action or the strategies that I was proposing and the benefits and some of the obstacles of that strategy process?

For a manager of a small RTO, however, the focus is more commercial: looking for gaps in training in order to develop proposals, using Australian Bureau of Statistics data to support a proposal for a particular cohort or geographical area, talking to employers, and researching an area in order to prepare a tender. Similarly, human resources managers in organisations wanting to train staff primarily saw research in terms of staff surveys, mostly done in-house, and data that would help them select the most effective training. One noted that most of the research with their staff was informal because of the range of literacy needs among them.

In the responses from those broadly grouped as „Industry", research is seen mainly for training purposes to meet employee needs and to inform approaches or reports to government. For example, one respondent saw research as vital for „positioning [this] industry in the eyes of the government", and the research was done both in-house and using data from the umbrella skills organisation. Trainers in that organisation undertook professional development, but were not involved in research per se, and did not get involved in policy making. In another commercial operation, research is also closely linked to productivity and profitability:

> For example, if there"s huge sample size and there"s significant outcomes, it actually makes us sit up and take notice and ask ourselves the question of whether we"re doing what we can to achieve similar results or whether we can push our barrow a bit more about that particular research.

In that commercial environment, the research is primarily quantitative: „people can tell us how they feel but at the end of the day we"re going to have to make decisions about how we do things … in the quantitative sense."

The need for a direct link between research and policy is also evident in the responses from another umbrella organisation in the „Industry" group, although they used a more balanced level of quantitative and qualitative research, both from external sources and from government-funded research they undertook themselves. The person interviewed said the organisation was „incredibly dependent" on the sort of research that comes out of NCVER and DEEWR, for example. A respondent from another organisation working on behalf of its membership, said that „any information that can add constructively to our thinking with some credibility would serve as research for us". This organisation also commissioned a private company to undertake surveys, and fed anecdotal information from members into its advocacy role and policy-making. However, there was some concern expressed about the different focus of research from different organisations, with „different levels of practicality and purpose" and whether it was done from an industry point of view.

Amongst government policy-makers, one saw research as the collection and analysis of primary data in order to come up with a „message", and

distinguished that from „consultancies" to collate existing research findings. In both cases, the research was intended to address a particular „problem" in the policy area. It was suggested that in the VET policy context there is a generally more emphasis on quantitative research, including in-house, but that qualitative research is an important follow-on. Another policy maker said that practitioners can be very passionate about their teaching but „at my end of the organisation it"s about how do the dollars stack up." For that person, research included asking questions of VET organisations about why they continued to offer programs in certain ways and what comparisons were available from interstate and overseas. For another senior policy-maker, research was necessary to inform policy discussions about long-term challenges, not to deal with „today"s crisis", and they felt there could be „hundreds of studies out there that have a bearing on the question, but you have to be very dedicated to even get to a fraction of them".

In the views reported above, there are statements about the worth of elements of basic research – adding to the existing body of knowledge, and applied research – solving a practical problem or addressing a particular issue. University researchers in particular noted that in the academic community, it is the quality of research that is valued, and the reputations of individuals and institutions rest on that. Amongst policy makers and practitioners and in industry, however, the quality of the research is often taken as a "given". Nevertheless, most respondents noted the difference between „scientific" and less formal methods, and the related issue of credibility, but amongst practitioners and within business and industry, there is a tendency to see „fitness for purpose" as the main consideration. Users generally regarded statistical evidence as useful, particularly in policy making, but occasionally respondents expressed doubts about the validity and currency of some of these figures. Despite the general preference for applied research, there was support among policy makers and VET managers, as well as particularly among university researchers, for „blue sky" and „over the horizon" research.

Perceptions of impact

As might be expected, the variety of conceptions of research is reflected in views about its impact.

One university-based researcher saw impact at three levels: i) awareness raising (passive), which included publishing in academic journals; ii) being picked up and used by policy makers or practitioners; and iii) „higher" level impact where the change brought about by the research can actually be measured. However, that researcher noted the difficulty of ascribing a one-to-one relationship between a piece of research and its impact: „It"s more about a body of knowledge that could be cultivated, and it could be picked up five or ten years later." Another researcher described the „body of knowledge" in terms of a smaller projects fitting into a bigger picture, „and if you"ve got the leadership to provide a bigger picture they"re all important parts of a jigsaw puzzle about developing people"s futures". Similarly, a government respondent suggested that research may be

picked up in the context of other pieces of research to build a broader perspective and a relevant case, without researchers being aware of it. One researcher summed up this theme, citing the 1998 Selby Smith et al study: „It"s a kind of a drip effect; it"s an accumulation of a whole cluster of research that eventually has an impact."

This was supported by a university-based researcher"s comment that they often heard anecdotally of take up of their research, and that „it hasn"t been something we as researchers have deliberately chased." In this informant"s view, peer recognition is an indicator that the research will have „some sort of influence", and publication in highly regarded journals is about quality rather than impact. Another view was that journal rankings serve only to ensure many journals will „just sort of fall off, and …it"s not a really healthy academic environment", and that a decline in the number of journals is a „negative measure of [research] impact".

Another academic suggested that funded research, e.g. through NCVER, is often differently framed with distinct beneficiaries in mind, so the research report may be aimed at certain stakeholders. In funded research, they said, further funding could also be an indicator of impact. The researcher suggested this approach was perceived by some people as limiting the „blue sky curiosity-driven stuff." They also said that in VET a researcher can make a personal impact in building a community of scholars and „shaping thinking" about VET, and establishing it as an equally valid field of research as higher and schools education. There was also a view that research should benefit the community and society and that, therefore, it should be „applied and translatable and useable".

Yet, relevance to user interest has other consequences. One researcher commented on the difficulty of having even directly commissioned research accepted by government because of the political context in which it is undertaken and presented. Similarly, a respondent spoke of governments „cherry-picking" research to suit political agendas. In this area of political influence, one academic saw NCVER as an organisation willing to publish findings „they don"t like", while an alternative view was that at the writing up stage of the research for NCVER, the process „sanitises the report by downplaying or removing critical findings that run counter to current orthodoxy", hence undermining the intended impact. In a subsequent interview a response from NCVER to the latter claim was that any rewriting is to make the messages and findings more readable, not to change them. Nevertheless, such a process inevitably leads to some tensions.

Another respondent mentioned specific research they had undertaken over several years which had been included in NCVER projects and then had become part of government policy discourse. Nevertheless, one researcher thought that overall little could be expected in terms of impact on and for the sector because the resources allocated for VET research are minimal. At the same time, this person claimed progress had been made in some areas:

I often think we beat ourselves up about the fact that we don"t feel as though we make an impact, but the evidence is quite clear in many respects that we do. I think the impact has been pretty significant around a number of areas, and they include apprenticeships, they include issues around the market itself, and traineeships, and I think there"s been some important work in assessment [and] recognition of prior learning. So I think that in many ways they"ve progressively impacted on policy in a number of ways.

At a different level, one academic noted the use of research to update VET teacher education courses and was confident „it would be utilised in daily practice". The evidence for that utilisation, however, tends to be anecdotal, as it apparently does with small funded projects aimed at developing the VET workforce. One VET manager said they found it difficult to do longitudinal studies about the impact of research on staff practices because „every two, three or four years we get restructured and have to create a new business." Another VET manager thought that government policy about their organisation was based on political decisions rather than research-based; at another institution a senior teacher experienced institutional policy-making where the decision-makers appeared to be not aware of relevant research, nor seeking it. One respondent said that among teachers, individual reliance on research differed enormously, with senior teachers probably more likely to engage with research than part-timers there for only a few hours a week.

On the other hand, there were instances where research was undertaken, but then apparently ignored by those who commissioned it. A VET manager claimed to have been part of an externally funded project where „the report was buried because it didn"t show [the funding body] in a particularly good light." A respondent in the Industry group also referred to a report „five inches thick" from research in which they had been involved, but which had „never seen the light of day" because it was not „popular" with the authorities. This person said the fact that the report was not made public should not prevent it from informing other bits of research and otherwise trying to get value from the research that had been done.

An RTO manager got value from research in another way, when they saw an information gap: „I thought, well if I took a bit of that research and that research and put that together I could make something that was practical – and that"s what I was looking for, something that actually made a difference." This person was concerned that research should lead to change, and used literacy as an example:

… all this talk about adult learning principles, models of learning and all that sort of thing, they"re great, but what you really want is you want to see that someone"s improved their literacy and moved on. And that"s the ultimate aim from all this stuff isn"t it?

This sentiment was also reported by another VET manager involved in employer-funded training, who said that ultimately research was about producing a better learning outcome for the student and the client. On a

related theme, another experienced VET manager suggested „there"s heaps of research that tells everybody what"s the best … demonstrated best practice, proven best practice, but there"s a huge gap between that and what you see happening today."

As noted in the previous section, human resources managers suggested the impact of research is that which helps them make decisions about training and to train better for the benefit of the organisation, in line with industry and enterprise standards. For employers, it is about identifying changes and efficiencies that improve the „bottom line", and internal research may have more impact that external research. Another industry organisation distinguished between the impact of different approaches to research, such as quantitative data for forward planning and qualitative data in policy development.

At the government level, one respondent described bureaucrats as the people who are „in the middle of the sandwich", who go out and talk to providers, students, industry stakeholders – „all have their vested interests", and with the government of the day – „and they have their own perceptions, agendas and priorities". Finally, „we will try to conceptualise that, we will try and put that into a credible policy and framework; we"ll try and sell it but in the end there"s a lot of other variables that you can"t really influence." This implies their own position is somewhat ambiguous and powerless, but this is contentious, given the capacity of public servants to influence the policy and legislative process, including potentially through selective seeding of ideas with research.

Another government policy maker said that very rarely is it possible to say a particular piece of research led to a particular policy, but „there"s often an evidence base that underlies the directions that government goes, aside from their ideological positions". However, one government person said that sometimes there is an assumption that research underpins proposals when this is not necessarily the case and on occasions there is a need for more specific research to be commissioned. In this regard, commissioned research was seen as having a more discernible impact than broader research, at least for short-term solutions.

In summary, there is some cynicism amongst researchers and occasionally in the „Industry" group about the political factors that influence the extent of a take-up of research in government policy. On the other hand, some researchers and policy-makers expressed belief in the „drip-effect", the notion that a growing body of knowledge can affect policy and practice. Amongst practitioners and those in industry, research needed to make a difference, e.g. to teachers" practice, to students" learning, to workers" lives, and to the „bottom line".

In order to present respondents" particular perceptions about „impact" in a structured way, their responses have been categorised below under the factors identified in the literature review, in response to Research Question One.

Timeliness

Time affected different people in different ways. For example, a university researcher mentioned the need to finish some projects within a twelve month period to meet the funder"s requirements as a potential limitation; there were several examples from university and VET-based researchers of the strong impact of a particular piece research because they happened to be „hot issues" politically at the time of publication, including one where „it couldn"t be better aligned with the current policy direction of COAG", while there was also an example provided of another piece of research was left in abeyance because of political considerations.

However, the question of timeliness might be considered differently if the „hot topic" emerges some years down the track: one government policy maker told of recently locating papers from an AVETRA conference six years ago which were „spot on" for informing newly emerging policy. Another suggested that research should not „chase" policy, and that it was important for researchers to continue to address significant issues rather than feel they had „missed the boat" in terms of informing policy:

> If [the policy] doesn"t go to the underlying nature of the problem that you"re trying to address, but you haven"t got research to address it, that problem will remain. So even if you start your research in parallel with a decision being made, sure as eggs that decision is going to be revisited, and you"ll have that research ready to go.

A VET lecturer said often they had no time to look at research: „I mean we all like to read it, but if you"ve got to get a course running next week, are you going to read research?" On the other hand, one lecturer commented that even if they did have time to read research, they might ignore it because it was too „political" for the institutional environment at the time.

The time lag between the undertaking and publication of research, as well as the time taken to influence practice or policy, was also raised by practitioners, and within the industry group. As noted in the „Impact" section, industry respondents in particular indicated they were looking for immediately applicable data that would improve the bottom line or support their proposals to government. One respondent said;

> The response time for research… does create an issue because quite often we have to move faster than that, especially as we"re in … an industry-led system. And quite often we"re at the forefront of a lot of that and providing that leadership role, then we do need the evidence in a shorter time-frame than the lengthy timeframes that seem to happen.

Another industry person thought that statistics were usually out of date, so policy had to rely on extrapolations that may be inaccurate. In contrast, a government person said that the „freshest" research is that commissioned to address a particular issue or problem. Another saw a connection between timeliness and the means of dissemination: they did

not have time to locate and read academic journals to address current problems, so how and when the findings were disseminated would determine whether they might be accessed to have an impact on policy.

In summary, there are different dimensions of timeliness: for researchers it may be in regard to meeting deadlines; for funding bodies and user groups it may be timely publishing of results so there is not too great a gap between when the data is collected and when the findings are available, since the currency of the findings may influence the extent of their usefulness. Another key aspect is the policy area, where the impact of the research is often mitigated by whether it addresses government concerns at the time, and in some cases research may build up over time and be drawn upon at government level when the need arises, which may take years.

Applicability

The responses above indicate the close connection between when research is published or accessed and its applicability or relevance to policy, and to some extent to practice. A university researcher observed that having national priorities in VET had provided „channels" that helped shape research proposals, and ensured VET research was pragmatic and applied, but to some extent at the expense of broader research. They also noted that „the researcher"s frame of mind or ethos is to keep things open a little bit … not to tie the knot too tightly", which sometimes conflicted with a funding body"s expectation that findings would be „sharp" to meet their own priorities. Respondents indicated a similar tension existed in directly commissioned research undertaken for private companies. Nevertheless, VET research was generally considered more applied and less theoretical than in other areas of education involving academics.

However, one contentious issue in any discussion of applicability is the extent of the researcher"s responsibility to demonstrate the relevance of their findings for policy or practice. One argument advanced was that it is unreasonable to expect university researchers to have the same awareness of policy-making or practice that full time staff in those areas do, and that in any case it is what one respondent called an „abnegation of responsibility" on the part of policy makers and practitioners that requires them to interpret research and decide to what extent it is relevant to their particular situation. A further aspect of this argument is the issue of timeliness discussed above: that research findings may not be „applicable" until months or years afterwards, and may contribute to a body of knowledge rather than have an immediate impact by themselves.

Another view is that to make an impact the stakeholders have to be involved from the beginning: „Because we [researchers] don"t have the end users in mind, we sometimes miss the mark completely". A further suggestion is that any interpretation of relevance and application should be done within the VET organisation or network. A VET manager said that initially they would do a search of available databases for research to help with a particular situation, but if that was not sufficiently specific for the

institution, they would do their own research or commission it. One lecturer complained that VET decision-makers sometimes cannot see how experience from elsewhere can be applied locally: „Sometimes you think it is quite self-explanatory, but for some people they really need it explained of how it can be applied in about fifty different directions …". A VET manager also commented on the difficulty of interpreting research where their own students are different to the ones the research was commissioned around.

The problem of interpretation also exists in the public service. For example, one issue mentioned was the number of small to medium pieces of research that flow across a senior public servant"s desk without sufficient coherence for the officer to make sense of them for policy purposes (although an „occasional gem" comes through). One expectation at this level is that research will lead to presentation of multiple options with solid justifications. A senior officer described the process of developing a policy through forming a framework and trying to „populate" that framework with the available research. Another policy maker also said that „the kind of research that might influence policy is the kind of research that might provide innovative solutions without asking for a great deal of money." On the other hand, one government officer said that policy makers are not always clear about what they are looking for and so even the commissioned researchers sometimes deliver a product that is not precise enough for policy makers.

In industry, there was general agreement that research needed to be applicable to immediate situations and problems: „You don"t do [surveys] unless you want to do something with the results." One view was that VET research generally influenced government policy and legislation, but that it „might hit the mark 50 to 60 per cent in relation to the needs of industry", and that was because „a lot of the research is done from an existing framework or from an existing legislative requirement and hovers around that instead of actually stepping outside of the square and looking at the needs of industry." Perhaps with a similar sort of scenario in mind, a respondent from another industry group said its members would be willing to be involved in research where they could see the benefits for them, and where „it"s a trusted sort of researcher and not someone who"s going to take the research findings out of context, which sometimes happens." An alternative approach to ensuring applicability and trust was followed by an employer group working with a university to train some of its employees, by which external research was brought to bear on internal issues through the students" assignments.

In summary, applicability of research comes down to perceptions of usefulness and of whose responsibility it is to interpret the findings. The industry view seems to be that immediate applicability to current issues is a key factor. There also appears to be a need for a „broker" role: at the practice level, in interpreting and disseminating implications for busy individual practitioners, and at the policy level to pull together related research and link it to government directions and strategies. While NCVER does this at a national level, there seems a need for brokerage at all levels, including within organisations and institutions.

Credibility

In the discussion above, both the source of the research and trust in the researcher were identified by respondents as influencing the impact of research. This concern for credibility takes different forms amongst the respondent groups. As noted in the earlier „Impact" discussion, for university researchers „credibility" may be related to peer recognition, locally, nationally and internationally. However it was the potential end users who had most to say about aspects of credibility. For example, one VET manager mentioned commissioning a researcher because that person had done in-depth research in the particular field, and said that sometimes people want to know who the source is before they will take research seriously. „You"re more likely to trust research that … has a fairly rigorous methodology to it, peer reviewed and probably some sort of committee overseeing it," another respondent said. An RTO manager spoke of trusting the integrity of academic research, but checking out the results by talking to someone in real life affected by the issues explored in the research.

In relation to the issue raised earlier about whether reflecting on practice is really research, one VET practitioner and researcher suggested that the only way to develop some rigour around exploring ones own practice was to put an action learning or action research process around it, an approach endorsed by two other experienced VET managers. In sceptical vein, another VET manager suggested that people conducting research create mechanisms that show positive uptake because that is the way to obtain further funding. There was scepticism too from a human resource manager, who said undertaking in-house or commissioned research was the only way for their organisation to ensure credibility because in some statistics and in some university studies, they believed data were skewed to achieve a particular result. Another manager reported the problem of trying to obtain credible results when surveying members of their organisation about an issue to which only a minority, not always those most affected, responded. Similarly, an industry respondent claimed that often the same small unrepresentative group of people continued to speak for the industry when research was being undertaken.

Two of the industry people interviewed had reservations about the validity of some national VET statistics used for developing policy, without going into detail. At government level, one respondent also expressed concern about the lack of peer review of statistics submitted as a basis for policy development. During the interviews for this project, mention was also made of an in-house workforce survey „that probably wouldn"t meet the rigours of the sort of research that [academics] might be doing, but certainly it will suffice for the purposes of confirming or otherwise our policy development processes."

Credibility may also be related to perceptions of who should benefit from the research. For example, one person said, in relation to a major training program:

If we see employers as being the client of VET, then all our research is geared to keeping them happy; but they"re not actually the client, the student is the client of VET and their motivation for engaging with VET is likely to be a different thing altogether.

Another respondent said that the perceived independence of the research was going to be a „pressure point" for people like them, who always assume some influence has been applied. At the other end of the scale, a government policy maker said that a proposal has to be supported by really strong evidence, „but that doesn"t mean that we"d use it." In a similar vein but a different context, a VET business manager said „there"s a lot of good ideas out there, but implementing them and making them work commercially is a different story."

In summary, credibility is, almost by definition, in the eye of the beholder. There was some scepticism among users about certain research results, particularly in industry. For university researchers, credibility is related to peer perceptions and acceptance as much as user responses. Most respondents wanted rigour in the research process, but there was a range of views on the sort of rigour required and the extent to which rigour is an issue in considering credibility.

Dissemination and availability

How and when research findings are disseminated is closely related to other factors discussed in this section, particularly timeliness, applicability and availability. NCVER was commonly mentioned as a significant and effective means of dissemination of research, including through its reports, summaries and workshops, along with the VocEd website.

University researchers generally did not mention dissemination except in terms of „impact" and „applicability" as discussed above, as well as in journals. One university researcher proposed that with dissemination in academic journals an indicator of impact, citations had become a proxy for discussion amongst academics. Another commented that waiting say two years for an article to be published was „hardly cutting edge stuff". That respondent also said that often because of the need to move on to another project, a lot of data obtained in research for a previous project often does not get built on.

VET managers mentioned websites and web links as the most effective ways of getting research to practitioners, with effectiveness „measured" by the number of hits, downloads and anecdotal evidence of implementation. E-newsletters were also well-subscribed. One manager said most people accessing information were reading PDF documents on screen rather than in print form. Other means of dissemination included presentations and booths at conferences, whereas policy makers indicated they tended not to attend such events, although one said that research presented at VET conferences in recent times was more up to date than it had been in the past.

One practitioner said that research „doesn"t … land in your lap – you"ve got to really … go out there and find it," and that if it stays in journal articles and is hard to find or „you"ve really got to tease it out", it will not have impact at the operational level. Another said that research often does not reach practitioners and „if it does (years later) it is usually in a degraded form, like Chinese whispers." This person gave „learning styles" as an example of misunderstood research, but also added that digital media now allows more immediate access and open debate. One respondent suggested AVETRA"s profile had been enhanced nationally and internationally by having all its conference papers available online.

In relation to sources for end-users, apart from NCVER publications, *Campus Review* was the only publication mentioned more than once. The HR and Industry respondents said they tend to rely on industry bodies or NCVER to alert them to relevant research outside what they had commissioned or undertaken themselves. As noted earlier, the take-up of such research is also a matter of timeliness for an organisation or practitioner.

Other methods of dissemination mentioned during the interviews for this project included compilation compact discs (CDs), synopses of literature, fact sheets, exemplars, stories, electronic book publishing, an electronic magazine, and personal visits to VET institutions („they were very excited about knowing the latest").

In summary, dissemination and availability are increasingly mediated by electronic resources. University researchers saw dissemination mainly in terms of journal publication, which raises again the question of the timeliness gap. However electronic access to journals, and publisher updates to subscribers, as well as use of institutional websites and databases, particularly through NCVER, and emerging technologies such as electronic books, mean considerable potential availability to users of research.

Accessibility

Making research available or being able to access it needs to be balanced with being able to understand what is being presented. Some end-users were critical of the way research was presented. For example, one person responsible for the dissemination of research said that academics needed to write in a way that will get the attention of their audience; and a VET manager said: „There"s a lot of academic research that"s done but they can"t relate it to the real world and how it can be implemented". A government policy maker said:

> What people really need to know is sort of a real feel for what the research is telling us about the world and what it is. The researchers need to do more work on putting themselves in the user"s position and saying: what do people really need to know about this. … It"s thinking about who your audiences are and then thinking about how you can get that message out to them.

One practitioner referred to NCVER"s „tiniest of executive summaries, where you just get the pertinent points and then if you want to go further, … you can go and read the whole kit and caboodle," and a policy maker said they liked the NCVER report model.[1] This contrasted with a university researcher"s opinion that most researchers do not regard the summary in the current model of NCVER reports „as correctly reflecting the important – and often significant in policy terms – nuances that are detailed in the supporting documents (not in the 25 page report as this is usually too brief to carry any real substance)."

Those responses are partly about applicability and interpretation, but also about making research accessible. And once again they raise the issue of the extent of researchers" responsibility to the potential end users - one policy maker called for „basic marketing" of a research message („researchers are hopeless at that"), while a university researcher just as strongly rejected the notion of the „researcher as marketer".

As a corollary to that issue, a member of the „Industry" group suggested there is an increasing amount of research conducted within or provided to industry by groups with an understanding of the industry, rather than by external researchers, and that this made the research more accessible and usable. On the other hand, a university researcher reported immediate and to some extent unexpected engagement by a significant company with research undertaken in another context when it was presented at a public seminar.

In summary, the issue of accessibility is closely related to credibility and applicability. Some users think it is about how the research is presented. However, attempts by an organisation such as NCVER to limit the size of commissioned reports and summarise key research findings for potential users has been criticised by some researchers as not recognising the complexity of the issues discussed. Within industry, accessibility is sometimes related to the perceived extent of the understanding by the researcher of particular contexts and cultures.

Interactions

As might be inferred by some of the comments above about applicability and accessibility, there were numerous comments and suggestions about the relationships among researchers, „interpreters", disseminators, policy makers and practitioners. University researchers talked of intentionally working with VET sector partners on research projects, and developing research skills among practitioners; at least two researchers advocated a more integrated, unified networking approach to research, „getting all the disparate partners and actors together". One felt that a feature of VET was the strong collaborations some researchers have within the policy

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[1] The current NCVER model for research reports is a one-page statement of key points, a three-page executive summary, and a 25-page presentation of the research.

community, but other researchers and some in the policy community seemed to think those links could be improved.

A university researcher said that the „exceptionally high turnover" of senior bureaucrats in State, Territory and Australian governments over recent decades had meant that incoming policy-makers „are unaware of any previous research or even of how to access it." A VET manager had a similar view of senior institutional staff without an educational background. This opinion of policy makers did not appear true of the government officials interviewed for this project, but one of them thought that „researchers spent so much time in their own world and they don"t actually get the results out to the people who aren"t in that world."

Another VET manager"s experience over many years and of an RTO manager was that what works best is a partnership between a research „expert" and a practitioner, and a policy maker advocated a „symbiotic relationship" with a researcher. However the first respondent also noted that it was often difficult to involve private RTOs in collaborative projects because of the latters" one year budgets and need to meet the „bottom line", and also that links with a university had faltered once a funded project was finished. Another VET manager suggested interactions came through informal networks and personal contacts and through meeting conditions set by funding bodies. Conferences were also seen as opportunities for researchers to get together, and for new researchers to share their findings.

A VET manager outlined a proactive approach from their institution by:

> raising our profile … [by] participating in research or funding applications where possible; trying to enhance the personal profile of people who are undertaking research by sharing and being collaborative, trying to disseminate that information to various avenues in VET, and be willing to share as well.

Another VET manager described a research approach which moved away from individual staff and „their" research and „their" career to a whole team approach to research, looking at how the group has responded to a new challenge around servicing a commercial contract. There were also examples provided of other action learning and action research projects, as discussed earlier, involving a group of practitioners for staff development purposes.

A government policy person said they had been exploring with a university-based organisation possible cooperative ventures, initially research-based, around a development that would affect VET provision. On the other hand, a person from an industry organisation said members often refused to cooperate with researchers because they had done so in the past and believed nothing had come out of it. A respondent from an employer group had observed a different but positive development: company employees undertaking university studies were bringing what were described as „more external touch-points" into the business.

Several of the industry people interviewed mentioned strong links with NCVER or input into its research directions. One pointed out that although they did not have resources to do much formal research themselves, they had representatives on a number of national and state bodies who provided input into research conducted by those bodies.

One of the policy makers was keen to see closer links between their area and researchers:

> It"s important to build the link between researchers - whether they"re working in a university or a TAFE or private companies - and policy makers a bit closer together because it"s actually quite difficult to engage researchers in real world problems sometimes if they don"t have that connection with real world timelines.

This latter comment contrasted with a researcher"s view that „the greatest challenge for the VET community is to actually connect with those who can best use the outcomes."

Another policy maker also called for a more „fluid" relationship with researchers, and suggested inviting a researcher with relevant interests to government-industry forums. This person said that sometimes government colleagues thought research meant spending a lot of money, whereas that need not always be the case.

In summary, the interactions between researchers and end uses appears to be one of the key elements in any consideration of „impact", perhaps the most important one. There is already a variety of informal and organised links, but interactions appear mostly to be based on ad hoc arrangements and personal relationships, rather than on „networks". There was support across all respondent groups for more structured interaction.

Valuing research

As mentioned above, the extent to which research is used as a basis for policy and practice depends on the extent to which it is seen as having some worth for the purpose. In this study, the value of research *per se* was not much raised, probably because the respondents were self-selected in that they agreed to take part in an interview and therefore were at least supportive of the *notion* of research, and hence critical of those who were not. For example, a policy maker said that not enough of the proposals that came forward were based on research because some senior officers tended to write from experience rather than on the basis of research, and a VET manager who had worked in government thought that most public servants on education projects saw themselves as servants of the department rather than as brokers of research. Another policy maker referred to one Australian state where potentially useful data had been collected but where organisational support was not provided for the data to be properly analysed. However a researcher who recalled earlier years when government policy appeared to be made on the basis

of „gut feelings and anecdotal evidence" thought that the process had improved.

A VET manager involved in interpreting and disseminating research for practitioners detected a range of opinions across VET about the value of research, although felt that in institutions teachers were often quite up to date. A practitioner said that although there was a lot of relevant research, across their [state] VET system „there"s no mandate that it must be implemented or it"s not held up at a high level and visible to everyone." One VET manager suggested there were two kinds of practitioners: those who were happy with their present boundaries, and those who looked outside the boundaries „to see how they can influence and impact, and what influences and impacts them."

Several respondents suggested that research in TAFE was driven by attempts at finding a competitive business model, rather than the quality of educational delivery. One claimed real innovation in VET would come when the economic model did not dominate, and another said that in a public sector organisation research takes a secondary position to financial considerations and overarching political imperatives of the government of the day: „Here we talk quite openly about accountability, quality and team work and all these good things; but I don"t hear anything talked about research per se in … mission statements and statements of intent." In another VET institution, research was seen as valued in some disciplines, dependent on the culture of the teaching area and the attitude of its leader.

In summary, the extent to which research is valued as a contribution to policy or practice appears to be determined by both individual attitudes and institutional priorities. At the individual level, in some government departments policy formulation appears to be experience based rather than research evidence based, but there are indications that this situation is slowly changing. Within public-funded institutions, research into teaching and learning generally does not seem to have a high priority with management, and hence it appears up to individual practitioners to identify, access and utilise research that may have an impact on curriculum and teaching. Nevertheless, there are pro-active groups at both state and VET institutional level dedicated to testing strategies and sharing experience. For industry, research is seen as a valuable tool, but it is used with discretion and sometimes regarded with scepticism.

Conclusion

Research Question Four asked: What are the perceptions of the current role of VET research in influencing VET policy and practice among:
a) researchers, b) policy-makers, c) practitioners? The answers can be discerned from the responses discussed above.

Among researchers, there are mixed perceptions about the impact of research on policy and practice. Those in universities generally have to balance their concern for peer esteem of their work with their desire to

influence policy and practice. In the academic community, the quality of the research is the basis for professional reputations, and specifically funded industry or government research is seen as most likely to have an immediate impact. The issue of timelines is a key issue in regard to influencing government policy. However there is also some concern that funding bodies should not privilege succinctness over portraying the complexities of research in publishing findings.

Researchers in public and private VET institutions have tended to research their own teaching or administrative practice, particularly with funding through such projects as Reframing the Future and Learnscope. However the issue of credibility sometimes arises from the nature of the methodology with such projects, despite documented evidence of their impact among practitioners. With recent support from organisations such as NCVER and AVETRA, particularly for new researchers, there are some bright spots, but those in publicly funded VET institutions appear to believe research generally has a low priority and hence low potential impact.

At the government policy level, the impact of research is mitigated by a range of factors, most of them outside the researchers" control. Those identified by respondents included whether the research is congruent with current government policy, the extent to which it needs to be interpreted to be regarded as relevant, the extent to which apparently disparate research is seen as coherent enough to inform a policy. Policy makers in particular noted the capacity of a developing body of knowledge, possibly from a particular researcher or centre, to influence government policy after a period of time, with timeliness always a key consideration.

Industry related bodies with a policy-making function in the main favour their own research in terms of making an impact because they see that as being more specific to their needs. Relevance and economic outcomes are important considerations.

Amongst VET practitioners, research must be readily available for it to make an impact. The increasing availability of electronic sources and the existence in some areas of an agency with a brokering function, have the promise of creating some impact on practice, but this depends on the motivation and availability of individual practitioners. The increasing casualisation of the VET workforce will also affect the amount of time available to teachers to seek out and implement research findings.

As with industry policy makers, research for practitioners in industry, e.g. in training or human resources, makes an impact if it is closely related to their immediate needs, and it is likely to be influenced by „bottom-line" considerations, particularly in profit-making businesses. The same considerations apply to private RTOs.

In an interview for this project, when asked what „How does research impact on policy and practice?" one respondent replied, „Messily". The analysis above of the perceptions of all the respondents reinforces that view. The number of potentially influential factors is considerable, and

their influence is further complicated by considerations peculiar to particular sectors – university, VET, government, industry- as well as by issues and perceptions within those sectors. However, this is not to say that there are no ways of improving the potential for impact, of creating a more interactive environment, or environments, for researchers and users of research. The next chapter considers how research, policy and practice might be better aligned.

Making the most of research

In the introduction to *Australian vocational education and training messages 2007,* Cully and Beddie (2008, 6) observed:

> From modest beginnings in the early 1990s a vibrant VET research community has developed in Australia, with its own professional association representing researchers in universities, technical and further education (TAFE) institutes and other agencies. Maintaining and renewing that capacity is a constant challenge.

This final chapter incorporates a review of the project"s findings and a discussion of how VET research capacity in Australia might be enhanced through better alignment, of research, policy and practice.

Main findings

First, a clear finding from this study is that there is a considerable amount of VET research being pursued outside that undertaken by „established" researchers through nationally-funded schemes. This „other" research includes VET practitioners examining their practice or implementing educational initiatives (although sometimes this is only possible through external grants), VET managers trying to improve institutional policy and practice, government policy makers undertaking or commissioning research to address specific problems or issues, enterprises trying to identify more efficient ways of operating, and industry organisations seeking to influence government policy on behalf of their members.

The range of organisations involved in VET research suggests that the „vibrant VET research community" may be more widespread than generally thought, perhaps in line with what McDonald et al (1993) envisaged in *No small change*. Nevertheless, the decline of university-based VET research centres and the move to training certificates and diplomas over university qualifications as the minimum qualification for VET teachers has implications for „maintaining and renewing that capacity". If VET teachers do not have to engage with relevant research literature as part of their training, arguably not only is their practice inadequately informed, but there is also the prospect that they will not value research for their own professional development and for the benefit of their students.

Secondly, the responses to the present study indicate there is a range of views about what research is and what its purpose should be, and therefore about what constitutes „impact". For example, the university researchers interviewed here seem to favour the idea, initially proposed by Selby Smith et al (1998), that research is about „growing a body of knowledge" and there is some support for this view from policy makers. However, this process is likely to take time, and may mean that any „impact" is not discernible for a long period, in line with Robinson"s (2007, 10) belief that „gradually the research and the analysis filter down to become part of the knowledge base," but it is also clear that government

departments and occasionally industry organisations commission research directly because insufficient research is available on a particular policy topic. As Gardner and Pollard (2008, 91) noted, this quick generation of knowledge may be to suit the political context, but that is the reality of government policy making.

There is also a perception among some end-users that research findings are not always presented succinctly enough or sufficiently spelled out for them by researchers. On the other hand, some academics do not accept it is their role to „market" or „interpret" their findings for particular contexts, despite Smith"s (2001) call for researchers to gain „access to decision-makers", and Figgis et als" (2000, 7) belief that implementing research requires „human interaction" from all those involved - researchers and end users. There are apparently successful examples of „human intervention" in some VET contexts, where intermediaries with an understanding of the context disseminate and interpret relevant research for VET practitioners. Mostly it is academic researchers who see value in publishing in academic journals, for peer esteem reasons and to meet the expectations of government and their institutions, following the direction of the ERA principles (ARC, 2008a). In that regard, time lag may be an issue (as identified by Stanwick et al, 2008), but end-users value the access they have to such articles through electronic databases, another example of how technology has changed the availability and timeliness of research. Conferences continue to be seen as useful dissemination and networking forums by researchers and practitioners, less so by policy makers, and hardly mentioned by business and industry, except when it is industry-specific.

Thirdly, in regard to dissemination, NCVER is well regarded by researchers for stimulating VET research through funding and by researchers and end-users for disseminating it. However there are differences of opinion between some researchers and end-users about the credibility and usability of the current model of NCVER research reports. Also, there is some concern that present government funding guidelines mould and constrain the sort of VET research undertaken by university researchers, although this is also seen as something that has helped define the sector as a legitimate area of educational research, separate from school and higher education. Some parts of business and industry have reservations about the accuracy of certain VET statistics used to inform government policy, and there are reported cases of research not being implemented because the funding agency or body responsible does not like the outcomes. Both these factors are listed by Nutley et al (2003, 41) as barriers to potential users" engagement with research. In relation to NCVER, all of these issues and others mentioned in the present report were canvassed in the *Report of the Review of NCVER Ltd Research and Statistical Services* (DEST, 2006).

Fourthly, for VET stakeholders in general, credibility of research is important, with some seeking academic rigour in the methodology, but others, particularly in business and industry, more concerned that research shows an understanding of how it applies to their own particular contexts, an issue identified by Nutley et al (2003, 41) as a facilitating

factor. At the practitioner level, some explorations are around improving their practice, and some managers - what Nutley et al (2003, 41) call „supportive opinion leaders" - are using action learning and action research frameworks to try to make the research more rigorous. Evidence-based policy and practice are popular notions in VET institutions, but some managers are concerned that the business model is driving research rather than trying to improve outcomes for students. Also, research within VET by administrative and teaching staff still does not generally appear to be sufficiently valued or supported by management.

Fifthly, there appears to be increasing interest amongst some public servants in using research, and claims of a strong evidence base to policy, but some bureaucrats reportedly value personal experience over research, or accept face-value evidence without question. The latter does not seem to be the result of what Nutley et al (2003, 41) call an „actively hostile culture", but more apathy or perhaps simply an historical trend. Timeliness of research is a major factor in its impact on policy and this is sometimes serendipitous; commissioned research is more likely to have an immediate impact. The overall process may not be far from Anderson"s (1999, 157-8) framework of *first-order, second-order, short-run, long-run* and *hegemonic* or *counter-hegemonic* impacts, or perhaps can be summed up succinctly in Selby et als" (1998) conceptions of „use" and „influence".

Given the complexity of the interactions, it is difficult to see how research and policy timeframes could be synchronised in Australia, as Oates (2008) argued for the UK. In order to have impact on government policy, it seems research should present a choice of well-justified options, but expensive options are unlikely to be accepted. In any case, research always has to compete with political factors to make an impact on policy, as Smith (2001), Schuller (2004), and Gardner and Pollard (2008), among others, have pointed out.

Sixthly, in both government and industry, quantitative research is particularly important, but qualitative research is also utilised where appropriate. However, for business and industry and private RTOs, the purpose of research is to improve efficiency and the „bottom line", and sometimes to develop a proposal or case for government, often through in-house surveys, but also by accessing industry sources and occasionally by commissioning research. There is occasional scepticism about the validity and usefulness of some academic research, perhaps because in these commercial contexts there is an expectation of a direct relationship between research outcomes and changes in policy or practice, following the cause and effect model discussed by Kostoff (1994) and the healthcare models identified by Nutley et al (2003). However there are also examples of closer industry links with universities through training and research. Also, in some VET provision and research, the concept of „industry" as a driver of VET and of research is often not clarified by proponents, and sometimes it seems the voices heard may not be fully representative, particularly in organisations with a diverse membership.

Finally, as Selby Smith et al (1998) and numerous authors since that time have noted, even „good" research will not necessarily lead to improved

policy or practice, but in every context it will compete with other influences and considerations for attention and implementation, and that it may take time for its significance to be appreciated. Nevertheless, it is quite evident from the discussions with the respondents, and from the submissions received, that research *is* making a difference to VET policies, to practices and to the ways that organisations and enterprises operate, i.e. changes can be identified, but are not always easily measured. There were strong indications from all the respondent groups that they favoured a more integrated and collaborative approach to VET research in Australia, and those views are explored in the next section as a contribution to moving forward.

Moving forward

Among university researchers, there is passion for VET research and appreciation of how it had developed in Australia, although it is relatively recent. One informant suggested that VET policy had tended to develop ahead of research. Another said that „we"re trying to grow a field at the same time as grow a body of knowledge of VET", and a third spoke of the difficulty of competing for research funds against areas such as science because VET is not „sexy". Other respondents also pointed to the relative lack of funding generally for VET research, particularly given the Australian Government"s push for skills development. The role of NCVER as a catalyst for VET research was widely acknowledged despite the concerns about some of the perceived constraints placed on both researching and reporting. However, one policy maker said „it"s still only fairly recently that their research agenda has become relevant". At the other end of the scale, one respondent from industry said they had no idea about the extent of VET research in Australia and whether there was „too much" or „not enough", or „is it the same old, same old, where they just go to the same people all the time and get the research, get the information?"

A common hope expressed by experienced researchers is to further build research capacity in VET. A VET manager thought there is a need for new researchers, in order to „bring a liveliness and refreshing look to the questions they ask and perhaps the issues they raise." One researcher saw the next generation of researchers coming from VET practitioners, but this view was offset by concerns that the lowering of the minimum VET training qualification (referred to in the previous section) and a likely consequential fall of VET practitioners seeking university qualifications. As noted above, this is likely to mitigate against research being valued and undertaken, as one respondent said:

> This focus solely on low-level practice is the greatest possible threat to quality teaching and learning and will mark a significant point from which any potential for research to impact on policy or practice can be expected to decline.

Under the current training requirements in Australia, there is no substantive research strand in the Certificate IV in Training and Assessment, and the Diploma in Training and Assessment provides for a single elective unit, which is imported from another training package. On the other hand, in those universities still offering VET teacher education, there are still hundreds of students enrolled, who have the capacity to make a contribution to VET research and to value its role in their ongoing professional development.

Within VET, however, a manager pointed out that VET staff often don"t get the opportunity to be mentored to undertake projects „because it"s outside the funded work they"re employed to do". Another wanted to break down the mystique around research „and how you have to have certain qualifications to do it." A related development is the recent move by some TAFE institutes to become statutory bodies with greater autonomy and offering advanced qualifications, which may see them include research as an element of staff profiles.

There were calls for collaboration from all respondent groups. „Change will happen though enduring networks of people," one academic said, „and those networks need to be built into the career structure of [VET] researchers." A researcher and a lecturer each lamented what they saw as the competitive approach and lack of openness encouraged by present funding policies.

Respondents at all levels could see opportunities for more research, because in the words of one, „VET is still a babe in the woods", in research terms, but there had been a decade or so of „doing the jigsaw bits and pieces and then they began to slowly fit into some sort of a pattern" on which to build. An experienced VET manager suggested it was time for a „very new style of research". This research would help practitioners address such matters as understanding the issues faced by clients to whom they are providing services, dealing with the „layers of change" that are impacting on practitioners, and what"s coming up over the horizon and „what"s going to happen to VET if we keep chopping and changing – and that not to say that we"re not to be resilient and learning to go with change but I think to understand sometimes a little more about what impacts it actually does have."

Suggestions made for research topics and themes, grouped roughly according to the five categories from Table 1, included:

Students and individuals
Outcomes from the students" perspective;
Nature of transaction between providers and the
individual; Educational experience of the individual;
Transition of particular groups of students from school to TAFE; and
Longitudinal study of career outcomes for young people who go through VET training.

Teaching & learning
Evolution of VET professional development in Australia;
VET practitioners – „we just don"t know anything about them";
Interactions between part-time students and part-time teachers; and
Factors that influence students" success.

Industry & employers
Aligning industry requirements, training packages and
providers" resources;
Informal learning in the workplace;
Re-skilling the trade training workforce;
Criteria for selecting trainers for contracted courses for
industry; More proof that VET delivers better outcomes in
industry; Workforce planning; and
Workforce skills development.

VET system
VET policy and policy development;
Staff retention, skill shortages and delivering a quality product;
Measuring the health and well-being of a VET institution from a HR
context;
Sustainability;
Individual, employer and government responsibility for
training; Transfer of training between enterprises; Qualitative
research for policy development; and
Economic considerations of completion rates for VET qualifications.

VET in context
Statistics on the private provider
workforce; Quantitative and longitudinal
work; Community learning; and
How RTOs can keep up with workplace and technology changes.

The list of suggestions above was compiled of course from „top of the
head" suggestions from respondents at the time of interview, and one
might argue that some of them are already well researched. Nevertheless,
they were nominated presumably because the respondents believe more
research is needed around those topics. The extent and nature of the list
show that across the spectrum, people believe there is much VET
research still needed to inform the field, which in turn requires the further
development of research capability and financial support.

Connecting research with policy and practice (and vice versa)

Given that the relations among interests in the field of vocational
education are seen as being contested, it was encouraging to experience
a general sentiment of good will towards and consideration of others in
interactions with informants. The goodwill generally evident among those
interviewed was expressed in several suggestions and offers to bring
stakeholders together in order to try to better align research, policy and

practice. One industry person proposed that AVETRA might sponsor a forum to bring together, for example, ACCI, the AI Group, the ACTU, the State training authorities, the TAFE Directors" Association, Group Training Australia, ACPET, the private training providers, etc. They suggested selecting three or four key pieces of research „to see what they can do with them as an integrated whole rather than a series if independent bits of research." Another person in the „Industry" group proposed bringing together the AVETRA network with their own network for mutual benefit, and offered to facilitate a high level meeting between its member organisations and AVETRA. A government officer commented favourably on a 2008 forum of invited Australian VET researchers convened to meet with an OECD delegation, and said they would be very interested in „doing that a bit more strategically" with researchers. Finally, two experienced researchers emphasised AVETRA"s role in facilitating members" closer engagement with end users of VET research.

It is those sorts of initiatives that might provide the „connecting web" that Figgis (2000) identified as a means of bridging the gap between research knowledge and researchers, on the one hand, and practitioners and policy makers on the other. Such interactions do not require researchers to „market" their research, but enable potential end users to explore the research with the researchers, in order to determine its fitness for particular contexts, and where further research may be needed, which may include „over the horizon". In other words, the different purposes of researchers and end-users, which Cordingley (2008, 42) called „different wheels with cogs moving at different paces", can be explained by those most involved in order to either improve the meshing or help all parties understand why better meshing is not possible.

There does not have to be one „connecting web", however. One of the findings of this project is that there are numerous interactions between researchers and end users happening across Australia, some facilitated by „brokers" of various sorts, including of course NCVER at the national level, but also some at state and institutional level. What is needed is to foster these often ad hoc and temporary relationships so that the networks are more explicit and, most importantly, are sustained.

Finally, as part of helping identify and explain not only the different purposes, but also the ways in which research is valued and its impact perceived, the section below presents for consideration a framework for capturing the worth of research to all the parties involved.

Capturing the worth of research

Premises for appraising the worth of research

This project has identified that there is a range of interest holders who each have particular premises for how the worth of an individual piece of research, a research publication or the body of research could be appraised. These interest holders include industry, government, peak industry bodies, enterprises, universities and researchers. From the

review of literature, interviews with interest holders comprising representatives of industry, commonwealth and state government agencies and a national research centre as well as the voices of researchers, it is possible to identify a range of nine premises upon which the worth of research should be appraised.

These premises comprise:

i) how the research is valued within the research community (i.e. peer esteem);
ii) the satisfaction of those who have funded the research (e.g. funding bodies, governments, industry partners);
iii) the alignment of the research with current policy-related priorities (i.e. policy alignment);
iv) the selection of the research to directly inform policy (i.e. policy take up);
v) the alignment of the research with current priorities for practitioners (i.e. practice alignment);
vi) the informing of practice (i.e. practitioner take up);
vii) social benefits arising from the research (i.e. social benefits);
(viii) the economic benefits arising from this research (i.e. economic benefits); and
ix) the developmental value of the research to the researcher, research team or institution (i.e. developmental benefit).

These premises, their characteristics and the kinds of evidence they might require, are presented in Table 2.

In offering these premises, and recognising differences in the privileging of the kinds of worth they represent across holders of interest, the diversity of the benefits and worth of research can be acknowledged. For some holders of interest, the premises of others or of unrealised potential are of little concern. However, it is necessary to accommodate the range of worth of the premises, including those of researchers.

The premises here are that, not only are there multiple bases upon which the worth of research can be apprehended, but that the particular premises can have specific requirements which may be and often quite distinct from other premises and even contradict them. Moreover, as some of these premises are beyond the control and capability of the researcher, in terms of any objective assessment of their merit, it is important that their potential of their worth be accommodated. For instance, if those engaging in policy or practice development do not consult comprehensively conduct thorough searches, this can mean that some research, regardless of its worth will not be included in considerations. Hence, it is important to identify worth, in terms of the potential of a piece of research to contribute to policy and practice, as well as whether that potential is realised through the actions of others (e.g. policymakers and practitioners), for whatever reason.

Table 2: Premises for the worth of research and the kinds of evidence required

Potential source of worth	Characteristics	Evidence
1. Peer esteem	The degree to which peers value the worth of the research.	Quality of publications, publishers, quantity and quality of citations
2. Funder satisfaction	The degree by which those who fund or support the research value its worth.	Statements of satisfaction by funding bodies or industry partners etc
3. Policy alignment	The degree by which the research is aligned to current policy issues and imperatives in the public and private sectors.	Evidence of alignment between the research and current policy issues and imperatives
4. Policy take up	The degree by which the research has actually shaped the formation of policy in the public and private sectors.	Evidence of take-up through citations in policy documentation
5. Practice alignment	The degree by which the research is aligned to issues that practitioners are currently facing.	Evidence of alignment between research and current imperatives for practitioners
6. Practitioner take up	The degree by which practice is informed and influenced by the research.	Evidence of the influence of the research upon practice and its adaptation by practitioners
7. Social benefits	The degree by which the research has generated social benefits, broadly defined.	Evidence of social benefit through documented accounts and other sources
8. Economic benefits	The degree by which the research has generated economic benefits for individuals, communities or society, broadly defined.	Evidence of economic benefit through documented accounts and other sources
9. Developmental benefits	The degree by which there have been developmental benefits for those participating in the research project.	Statements of benefit accruing to individuals engaged in the research

Therefore, among these nine premises, distinctions are made between the potential to inform both policy and practice (i.e. alignment of the research to the policy and practice imperatives) as well as actual instances of research being used to inform policy or practice. Also, added here are the two general categories of „economic" and „social" benefits that will be difficult to equate and also often value-laden. For instance, some commentators might view research on a particular topic is being either helpfully trans-formational or reinforcing the status quo. Nevertheless, these contributions need to be included because of the potential impact that can arise through these contributions. Included here is also the developmental value of research to those who conduct and publish it. Perhaps the greatest volume of research activities undertaken across Australia is that undertaken by students as part of their higher education or research higher education degree programs. So, there is a direct educational worth to the student in these degree programs, just as there usually is to researchers engaging in research projects. In both instances, the benefits are for a more informed community which has pervasive impacts, which may not easily be captured by other premises.

Importantly, at different times, and differently in particular situations, the worth across these premises will be diverse. For instance, research aligned to the topic of skill shortages will attract interest and likely engagement. However, at a time of high unemployment this research is less likely to be afforded the same interest and uptake, regardless of its worth against other measures.

These different kinds of potential indicators of worth, and the kinds of evidence that might be required to indicate or grade that are worth elaborated below. It is highly unlikely and would be very unusual for a piece of research or even a body of work to be seen to be worthy across all of these categories, although it can clearly happen.

Purposes for research appraisal

There are a number of purposes in which the appraisal of the worth of research might be undertaken. These include: i) making judgments about the worth of individuals" research activities, ii) a single piece of research or research publication, iii) a body of research conducted by individuals are alone or collectively, iv) the work undertaken by a research centre or university department, v) collections of interest within a university (concentrations) or vi) a cross field of research, such as understanding the worth and impact of research in the field of adult and vocational education.

Consequently, schemes that seek to capture the worth of research needs to be open enough to accommodate these various kinds of purposes. However, there seems to be no reason why these various purposes cannot be exercised through considerations of the various premises that are advanced in the previous section and presented in Table 2. However, activities to captures the worth for one of these purposes, might privilege a particular emphasis on some of these premises and the exclusion of others.

In order to move the premises and purposes here into a procedure that can be used for diverse purposes, Table 3 offers a draft template that might be used to appraise either an individual piece of work or a body of research work.

Table 3: A pro forma for appraising the worth of research

Research: (name of individual, group, centre etc)

Purpose of appraisal

Individual"s research productivity	A body of an individual"s research	A body of research undertaken by an institution	A body of research taken in a field of research activity	
Single piece of research or publication	A body of research undertaken by a research centre or faculty	Research undertaken by a specific concentration of staff		

Premises

Potential worth	y/n	Potential worth	y/n	Potential worth	y/n
1. Peer esteem		4. Policy take up		7. Social benefits	
2. Funder satisfaction		5. Practice alignment		8. Economic benefits	
3. Policy alignment		6. Practitioner take up		9. Developmental benefits	

Evidence of worth

Category of Worth (e.g. #1)	Kind of evidence (e.g. publication)	Instance of evidence

One of the limitations of categorising the worth of research in this way is that it is a rather technical approach to identifying impact. As has been shown throughout this report, impact is not easily defined, but is the outcome of non-linear and unpredictable interactions between researchers and end-users. Further perspectives on the current extent of those interactions are discussed below in relation to stakeholder responsibilities.

Stakeholder responsibilities

As indicated in the introduction to this report, one of the intentions is to provide a commentary on the current state of the four „stakeholder responsibilities" identified by Selby-Smith et al (1998, 22) as necessary to enhance the extent to which research influences VET decision-making. The brief review below against each of those responsibilities provides a snapshot of the health of VET research in Australia and its capacity to make an impact.

i)   „The research „system" should have an appropriate incentive structure to encourage researchers" commitment to the research enterprise, to currency of research, to quality, and to engage with their broader communities."

Comment: The research „system" is quite diverse, comprising university researchers dependent on funded projects and under government and institutional pressure to meet quality rather than impact targets; practitioners examining their own practice, often only with short-term project funding incentives; VET managers acting as interpreters and facilitators of research where the structure provides for it; policy-makers undertaking or commissioning their own research, but across governments and departments in a very ad hoc way that is often dependent on individual motivation; and in business and industry research

is very internally and mostly „bottom-line" focused. Within the VET sector, there is little institutional support for or encouragement of research, and the move to require certificate rather than degree-level qualifications and an increasing number of part-timers seem destined to diminish the pool of practitioners interested in or able to undertake research.

ii)   „Decision-makers have an obligation to be engaged with the world of ideas, and to think, read and participate in intellectual debate."

Comment: Even if decision-makers subscribe to this „obligation", it appears that the impact of research on government policy depends on the extent to which individual public servants value research, political and other considerations such as timeliness, accessibility and cost, and the appropriateness of the available research for the policy area, as well ultimately on their success in „selling" a particular option to the final decision-maker. Nevertheless, the willing engagement of government policy-makers in the present project indicates that there are senior public servants who take this particular „stakeholder responsibility" seriously. In public VET institutions, however, there is some perception that senior decision-makers are guided by economic not educational considerations, and that engagement in intellectual debate is not a priority. Technology should improve the accessibility of relevant research, which at least brings it within reach of decision-makers.

iii)   „Funding agencies have a responsibility to ensure the research base is not weakened by a preference for short-term and instrumental research."

Comment: Most publicly funded VET research is applied rather than basic. NCVER is seen as a significant catalyst for and disseminator of VET research, and has to balance the expectations of its government owners for mainly practical outcomes with the need for what Kearns (2007) called „looking forward". The funding of university-based research centres has given way to other collaborations, and there is at least some acknowledgement of the need for longer-term funding . Overall, considering the apparent value of VET to skills development and the Australian economy, researchers interviewed generally regard the relative strength of VET research funding as low, and that there is not a lot of scope for „blue sky" research.

iv)   „A strong network of effective linkages is necessary in order not to undermine the potential for research to have an influence in VET decision-making."

Comment: There is support from stakeholders for the „connecting web" that Figgis et al (2000) advocated, but the consensus is that the links between researchers and end-users are weak, partly because of the competitive market, but also because of the diversity of the sources of the research and the lack of suitable catalysts or facilitators. There are encouraging signals from people in key stakeholder groups they are open to innovative ways of coming together.

Conclusion

In an era of accountability and performativity measures, in which the processes and outcomes of publicly funded services per se (e.g. education, health) are under scrutiny, it is not surprising that there is renewed interest in ascertaining the worth of research outcomes, particularly if the research is publicly funded. However, there is much at stake here, so it is important for processes that seek to make judgements about the worth of research to be seen as valid, reliable and fair.

Yet, there is difficulty in finding what constitutes the impact of research. Even in those areas where measurable outcomes can be apprehended (e.g. physical sciences) there is concern that the scope and the degree of the impact is difficult or impossible to measure. The complexity of the task and of the issues explored in this research can be largely summed up in this response from an experienced VET manager:

> For some things you want to see really independent research, well-grounded, academic, etc., that points to a whole lot of things you then take up. In other instances it actually needs to be collaborative research because nothing is going to happen with it as the end result unless people are involved in it and can take the results forward. And then other types of research need the interpretation for clients and customers to be able to take it and use it…

That end-user‟s viewpoint sums up many of the challenges of attempting to determine what is meant by „impact‟ in the Australian VET context. Nevertheless, this research project has shed considerable light on a number of key areas and issues in VET research in Australia, including:

- Most VET research in Australia is government funded, and therefore identified in publicly available statistics. However, there is also a considerable amount of research undertaken within VET institutions and within and for industry which has the capacity to directly affect policy and practice.

- There is a range of interest-holders in VET who have particular perspectives about what constitutes worthwhile research and specific premises for how the worth of an individual piece of research, a research publication or a body of research might be appraised. Consequently, there is no single definition of „impact‟ of research, because it is valued differently by interest holders.

- Nine premises upon which the worth of research can be appraised were identified: i) peer esteem), (ii) satisfaction of funding body, (iii) policy alignment, (iv) policy take-up, (v) practice alignment, (vi) practitioner take-up, (vii) social benefits, (viii) economic

benefits, and (ix) its developmental value to the researcher, research team or institution.

- In educational research generally, and therefore in VET, there will be ongoing tension between the concern of some researchers to qualify and nuance their findings and the needs of those end users who want clear application and unambiguous measures of benefits. However, and regardless, impact likely best occurs through engagement with research and requires action at all points and interaction among the players - dissemination alone is not sufficient.

- The relationships between researchers and end-users is mediated by a range of factors that interact to a greater or lesser extent, which are unpredictable and predicated on such considerations as how it is disseminated and how potential users choose to engage with it.

- While single pieces of research can be significant in themselves, there is general acceptance that building up a body of knowledge over time can have an impact on both policy and practice.

- Overall, some of the most influential impact factors appear to be: i) *timeliness,* ii) *applicability,* iii) *accessibility,* iv) *credibility,* v) *dissemination and availability,* vi) *interactions between stakeholders,* and vii) *the extent to which research is valued by particular stakeholders.*

- Directly aligning research, policy and practice is difficult to achieve, but there are signs that at least small collaborations might be possible, which should result in a stronger network of effective linkages, but these need to be worked on continually by all parties.

The most useful approach to aligning VET research, policy and practice may be to take the advice of Figgis et al (2000) and abandon the term „impact" as a „misguided reading of the relationship between end-user and researcher", and seek to improve the engagement of policy-shapers, practitioners and researchers in the total research process. This is not easy to achieve, but there were strong indications from all the respondent groups in this project that they favoured a more integrated and collaborative approach to VET research in Australia. Such an approach should not only help address immediate needs and issues, but also involve all stakeholders in exploring and preparing for what may be over the horizon.

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Appendix A

Respondents

Interviews

Francesca Beddie, Manager, Research, NCVER, Adelaide

Dr Terry Clark, Academic Director, Higher Education, Southbank Institute of Technology, Qld

Dr Berwyn Clayton, Director, Work-based Education Research Centre, Victoria University

Brendan Collits, HR Manager, City Tattersalls Club, Sydney

Ian Curry, National Coordinator - Skilled Trades, Australian Manufacturing Workers' Union.

Pauline De Vries, Principal Lecturer, Property Services, Panorama TAFE, SA

Anne Gilleade, Curriculum Services Officer, Panorama TAFE, SA

Darren Gaunt, Director, Policy Research and National Governance, Department of Education, Employment and Workplace Relations, Canberra

Mark Harris, Educational Leader, Strategy and Governance, Southbank Institute of Technology, Qld

Professor Roger Harris Centre for Research in Education, Equity and Work, University of South Australia

Janet Hewson, TAFE NSW International Centre for VET Research and Learning (Workforce Development Unit), Sydney

Mary Hicks, Director of Employment and Training, Australian Chamber of Commerce and Industry, Canberra

Dennis James, IT support, Panorama TAFE, SA

Associate Professor Peter Kell, Co-Ordinator, Adult Education, Higher Education and VET @ 21C, University of Wollongong

Suzy McKenna, National Project Director, Reframing the Future, Adelaide Irena Morgan, Director, MW Training, Qld (private RTO)

Bill Moore, Lecturer, Property Services, Panorama TAFE, SA

Jackie Murray, HR Manager, Royal Sydney Golf Club Evelyn Nicolle, Clubs NSW

Anne Novelly, Duty of Care Coordinator, TAFE WA, Perth Campus (formerly Kimberley College of TAFE)

Craig Robertson, Acting Group Manager, Tertiary Skills and Productivity Group, Department of Education, Employment and Workplace Relations, Canberra

Christine Robertson, Deputy Director TAFE Operations, RMIT University, Melbourne

Christopher Robinson, CEO, Department of Education and Children"s Services, South Australia

Dr Michele Simons, Centre for Research in Education, Equity and Work, University of South Australia

Margaret Somerville, Professor of Learning and Development, Monash University, Victoria

John Stalker, Director, VET Policy and Evaluation, Department of Education, Training and the Arts, Qld

Maret Staron, TAFE NSW International Centre for VET Research and Learning (Workforce Development Unit), Sydney

Dr Tom Stehlik, Centre for Research in Education, Equity and Work, University of South Australia

Peter Theodoulou, Lecturer, Panorama TAFE, SA, seconded to Workplace Education, Adelaide TAFE

 Gordon Thomson, Manager, Governance & Accountability, Office of the Chief Executive, Department of Further Education, Employment, Science and Technology, SA

Richard Wallis, Employee Relations Director, Yum Restaurants International, Sydney

Kevin White, HR Manager, Club Marconi, Sydney

Paul Willis, General Manager, Training and Development Solutions, National Retail Association, Brisbane

Daniella Zucchetto, HR Manager, St John"s Park Bowling Club,

Sydney. *Other discussions and inputs*

Dr Elaine Butler, Adjunct Senior Lecturer, School of Education, University of South Australia

Professor Ian Falk, Charles Darwin University,

NT Rose Grozdanic, NSW TAFE ICVET, Sydney

Jo Hargreaves, Senior Project Officer, NCVER, Adelaide

Dr Geof Hawke, formerly Australian Centre for Organisational, Vocational and Adult Learning (OVAL), UTS, Sydney Professor Erica Smith, University of Ballarat

John Stanwick, Senior Project Officer, NCVER, Adelaide.

Appendix B

INVITATION TO CONTRIBUTE – RESEARCH IMPACT STUDY

Dear AVETRA member

Darryl Dymock and Stephen Billett from Griffith University invite you to contribute to the VET research impact study they are undertaking through an AVETRA Dr Ray Barker Research fellowship.

Following the item in the AVETRA September newsletter, this is an invitation to all AVETRA members who can provide examples of the impact of their VET research to make contact with us, either by ringing Darryl at the number shown below, or sending them to us for inclusion in the study. Examples of impact might include:

- The case studies that members generated in 2007 for the (defunct) Research Quality Framework (RQF) exercise.
- Examples of direct or indirect influence on educational practice or policy- regional, state, national, beyond
- Examples of direct or indirect influence on industry practice or policy
- Local impact, e.g. among work colleagues or within an institution.
- Other examples where VET research has made an impact, including impact on your own work.

This project conforms to Griffith University research ethics guidelines, and all information collected from individuals and organisations will be confidential. See the attached Information Sheet for more details.

Please contact us or send the examples or any other comments on the project to Darryl by **31 October 2008** by email (d.dymock@griffith.edu.au) or in hard copy to the address below.

The results of the research will be presented in a report to AVETRA in March 2009 and at the 2009 AVETRA conference in Sydney.

We look forward to hearing from you before the end of October.

Sincerely

Darryl Dymock and Stephen Billett

Dr Darryl Dymock
Professor Stephen Billett
Griffith University, Queensland
October 2008