

Assessing the impact of NCVER's research

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Abstract

NCVER has undertaken a project that examines whether its research has an impact in the vocational education and training sector, and if so, what sort of impact. One of the reasons why measuring impact is important is that knowledge of how research makes a difference allows NCVER to make better decisions about how funds are allocated and so enhance value for money.

This paper summarises the findings of the project. It also discusses the development of a model to assess the impact of NCVER's research. Using this model as a basis we then discuss the findings of case studies of the impact of particular NCVER research projects.

We did find impacts of NCVER's research across various the categories of impact according to the model we used, although measurement of impact is not straightforward. The project also highlighted the importance of dissemination in facilitating impact. Measuring impact is worthwhile as it provides an indication of where and how NCVER's research makes a difference.

Introduction

This paper is based on a project that examined the impact of NCVER's research. The project also developed a model which can be used to assess the impact of NCVER's research.

In the context in which NCVER operates, its foremost interest is in applied research – that is research that is funded to achieve a practical outcome related to policy development or practice. It is all very well to produce a lot of material but what really counts is its impact. However, measuring research impact is a difficult task. So the approach we take here is to measure the impact of three individual research project

and one themed body of research, from which we hope we can get a good feel for the overall impact of NCVER's research.

The following definitions are used for the purposes of this paper:

- ✧ Research is defined as work done that increases knowledge or applies existing knowledge in new ways.
- ✧ Research impact is defined as the beneficial¹ application of research across various categories.

The paper proceeds as follows. We firstly explain the methodological approach taken. Next, there is a literature review that outlines how we developed the model of research impact as well as some of the issues involved in measuring research impact. Following this we discuss the findings from our case studies. Implications of the research are then discussed.

Approach

The project was undertaken in two main stages. The first was a literature review and the development of a model to measure research impact². The second stage of this project was case studies on the impact of particular NCVER projects. Four case studies were chosen – three individual projects and one suite of projects based around a theme. The case studies, together with their intended impacts, are shown in table 1.

Table 1: Case studies

Name of case study and description	Intended impacts
<p data-bbox="229 1525 740 1637"><i>Contradicting the stereotype: case studies of success despite literacy difficulties</i> (2005)</p> <p data-bbox="229 1648 740 1830">This study investigated the strengths and strategies of individuals (adults) who were successful in life/work despite significant and continuing difficulties with literacy.</p>	<p data-bbox="762 1525 1337 1637">Challenging assumptions held by adult literacy practitioners and policy people about the deficit model of literacy.</p>

¹ While we are mainly interested in beneficial impacts it should be noted that not all impacts will necessarily be beneficial.

² This was facilitated by a workshop that was attended by a variety of stakeholders in the vocational education and training system.

Apprentice and trainee completion rates (2005)

The purpose of this study was to examine apprentice and trainee completion rates based on data from NCVET's national apprenticeship and traineeship collection.

To provide policy people information on apprentice and trainee completion rates to which time there had been a dearth of information in this area.

Aspects of training that meet Indigenous Australians' aspirations: A systematic review of research (2005)

This systematic review was a central component of the Indigenous Australians in vocational education and training: National research strategy for 2003-2006. The review's purpose was to provide a systematic evaluation of the evidence for good practice in VET for Indigenous people.

This project was aimed at providing policy and practice people with a comprehensive list of what constitutes good practice VET for Indigenous people.

Recognition of Prior Learning suite of projects

Publication dates ranging from 2003-2007

These were a variety of projects examining different aspects of recognition of prior learning within the VET sector.

These projects were intended to improve processes by which RPL can be taken up. It was aimed at informing both policy and practice.

Literature review and developing the model

There are three issues in particular that require consideration in relation to the development of a model to measure impact. These are:

- ✧ What are we using the research for?
- ✧ What measurement issues do we need to tackle?
- ✧ What models of impact are there that may be adapted for use for NCVET's research?

In relation to the first point we need to be aware of the context in which NCVET is operating. NCVET is primarily funded to do and distribute funds for applied research that will be used to inform policy development or practice. This has implications as to what sorts of impact are measured.

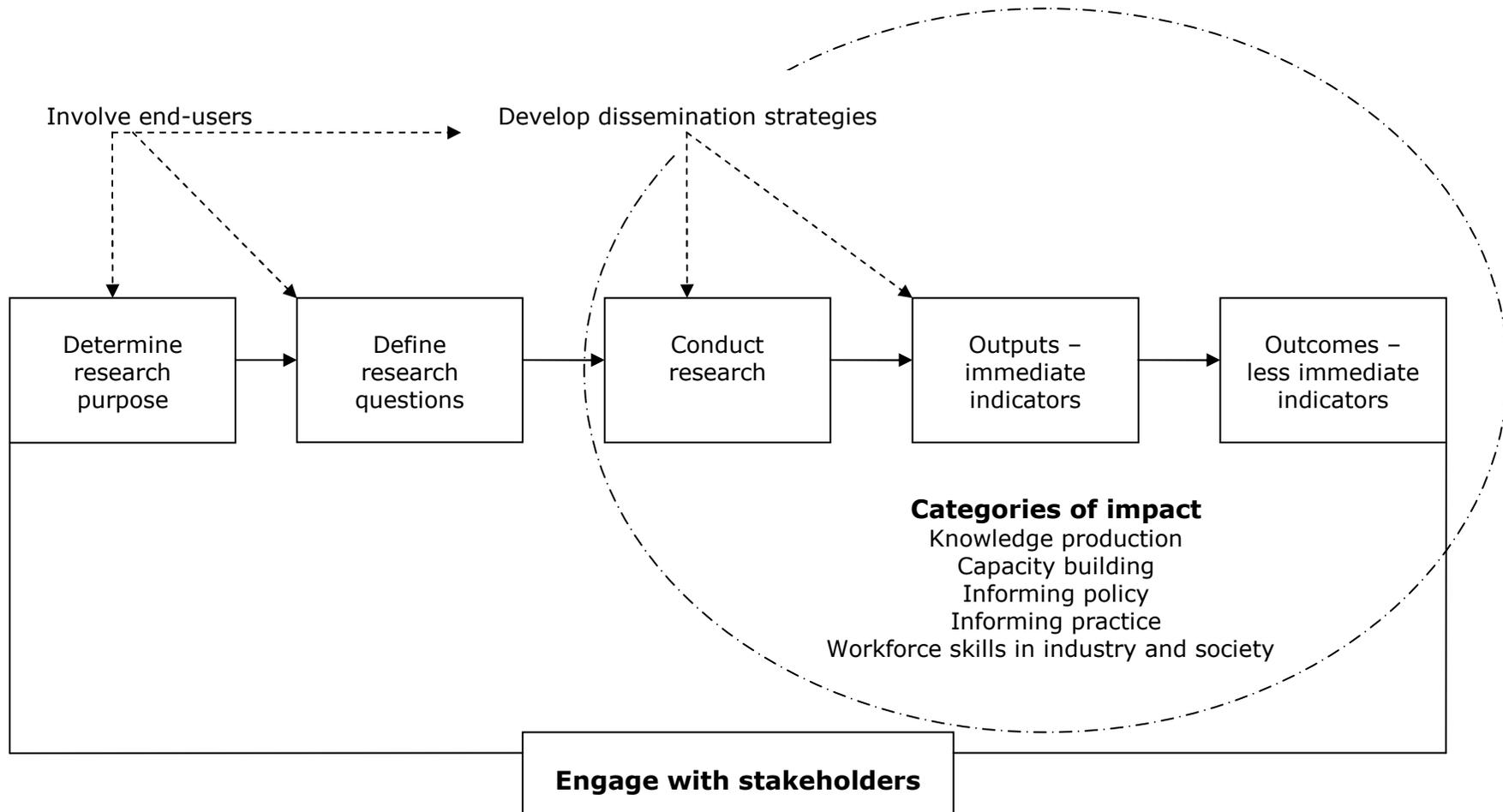
Measurement of impacts can be complicated and non-linear (Selby-Smith et al, 1998). One of the key issues is the problem of attribution. How do we know that a particular piece of research has made an impact, say for example, on a policy? Establishing cause and effect is difficult and in addition, the time-lags involved in realising the impact of a piece of research increases the problem of cause and effect. Also related to this is sorting out the effects of one research project from other research in the area. The literature suggests that, given problems in measurement, a combination of quantitative and qualitative indicators is the best approach to try and capture the impacts of research. Furthermore, bodies of research are often more likely to have an impact than a single research project.

Models of research impact assist in thinking through the above issues. There are several of these models described in the literature, including one known as the Payback Framework. The Payback Framework was developed in the 1990s as a way of assessing the impact of health research (Buxton & Hanney, 1996). The model has two aspects. The first is a five dimensional categorisation of the benefits ranging from knowledge production through to broader economic benefits. The second is a 'logic model' of how to best assess the impacts and is essentially a flow diagram of the research process showing where impacts occur.

This model was seen to be relevant to assessing the impact of NCVER's research because it has application to the social sciences, the model covers several domains of impact including impact on policy and practice, and the model has been used quite extensively and has been adapted to different discipline areas within the social sciences.

As a result of the workshop that was undertaken as part of this project, a model of research impact was developed based on the Payback Framework and adapted to the VET sector. The model has two aspects. Firstly there is a flowchart of the research process (figure 1) and secondly there is a multi-dimensional categorisation of impacts (table 2).

Figure 1: Model of impact for NCVET research



We see from figure one that the main elements of the flowchart are that:

- ✧ At the beginning of the research cycle a research purpose is established and from this the research questions are defined, possibly with some input from end-users;
- ✧ A dissemination strategy on how to best translate the findings of the research to end users is developed early in the research cycle;
- ✧ The conduct of the research is not an isolated activity, but rather a stage where the research can have impact, for example by the way of work in progress seminars or consultations with end users. In this stage dissemination strategies may be refined;
- ✧ There are various categories of impact that will occur post the main research activity; and
- ✧ Stakeholder engagement can occur throughout the research cycle.

Table 2: Categories of impact and example indicators

Categories	Examples of indicators	Examples of information sources
Knowledge production – Includes dissemination, contribution to the literature and informing future research	Publications, presentations and media references Citations in other documents	Bibliometric analysis
Capacity building – Includes supporting researchers to do fit for purpose research, improving skills of stakeholders and developing early career researchers	Formation of networks and ongoing networks Engagement of new researchers	Records of collaborations by researchers Research reports by new researchers
Contribution to policy – Research is used to guide decisions or actions	Submissions to parliamentary enquiries Informing new policies	Case studies of instances where informing policy has occurred
Contribution to practice – Includes informing the behaviour, actions and knowledge of how things are done	Good practice guides Adoption of new practices or changes in practice	Case studies of instances where informing policy has occurred

For each of the categories of impact the table gives examples of indicators of impacts and sources of information³. It needs to be noted that the table describes possible indicators. This does not mean that they will all apply to our case studies. Nor are they an exhaustive list – there may be less generic indicators that are specific to one piece of research, or to one field of study.

There also needs to be an awareness of the difficulties in developing a suite of indicators for some categories of impact. While measuring citations can be a relatively straightforward exercise, networks for example are a far more amorphous concept making it difficult to adequately measure their impact.

As was mentioned previously, this also has implications for what should be assessed. In particular, we need to be aware that some of the impacts such as informing policy and informing practice are more likely to be influenced by a body of research rather than one research report (although there can be exceptions to this).

It should be noted that, given the wide range of NCVÉR's stakeholders, it follows that fairly broad definitions are applied across the categories of impact, indicators and sources of information. For example, bibliometric analysis involving citation indexes and web searches will not apply a strict metrics or ranking criteria that is more suited to the hard sciences.

Findings and discussion

There were a relatively small number of people interviewed for this project. Generally for each case study the principal researcher and three or four end users were interviewed.

Examples of case study findings

This section highlights some of the findings from the case studies but for the sake of brevity is not an exhaustive list.

Knowledge production

The most common forms of outputs from the research that contributed to knowledge production were formal reports and presentations. In the longer term citation analysis

³ Note that this table is a cut down version of that which was developed for the project.

is a useful source of information on research use. Table 3 summarises citations in five categories. This broader interpretation of citations is used as we are analysing the impact of applied research that is used by policy people *and* practitioners. Additionally, in the last row of the table we have included media citations gathered from NCVER's records.

Table 3: Summary of citations across the case studies

Cited where	Contradicting the stereotype	Apprentice and trainee completion rates	Indigenous systematic review	RPL theme projects
Journal articles		3	1	4
Reports	5	13	9	46
Conference paper		9	4	14
Parliamentary database		3		
Other*	3	2	5	20
Total	8	30	19	84
<i>Media citations</i>	8	4	9	9

* Other includes citations in a variety of documents such as at-a-glance type documents, research degree theses, edited volumes and resource materials

While the *recognition of prior learning* theme case study had the greatest numbers of citations, as expected, the single report with the greatest number of citations was the case study on *apprentice and trainee completion rates*. The citations were also across a broad range of sources. It is interesting to note that there were few citations in journal articles across the case studies reflecting the policy and practice impact intent of NCVER's research.

Capacity building

Many of the capacity building impacts were clearly not planned; however there was evidence in the case studies that research had impacts such as further work, further development of capabilities, and the development of networks. As a specific example, the *Contradicting the stereotype* project led to capacity building impacts such as further development of multi-media capability which led in part to winning further

tenders, the development of new networks and further research work through NCVER's managed research program.

Contribution to policy

Impacts in terms of informing policy were uncovered for most of the case studies. For example the seven success factors⁴ derived from the *Indigenous systematic review* has been used as a touchstone for policy development in work on Indigenous engagement. The *apprentice and trainee completion rates* research was also used in influencing the way government has developed purchasing contracts for Australian Apprenticeship Centres. Another example from the *recognition of prior learning* theme case study is that it helped inform a major government initiative on recognition of prior learning.

Contribution to practice

While some practice impacts were identified, fewer examples of these were uncovered. This is partly due to these impacts being difficult to uncover in a small scale study but also relates to the intent of the research projects. For instance, the case study on *apprentice an trainee completion rates* was aimed at policy people so one would not reasonably expect there to be impacts of a practical nature. Nevertheless, some practice impacts were uncovered, particularly for *Indigenous systematic review* case and the *recognition of prior learning* theme case.

Importance of dissemination types

As part of the interviews respondents were asked to rate how important particular forms of dissemination were to impact on a five point scale ranging from 1= of no importance to 5 = of great importance.

⁴ These seven success factors relate to factors that lead to positive outcomes for Indigenous Australians due to vocational education and training.

Table 4: Importance to impact of various types of dissemination

Type of dissemination	Score
Project reports and working papers	4.4
Seminars and conferences	4.5
Briefing papers	3.7
Media Coverage	2.7
Academic publications	2.6
Discussions with policy makers	4.6

As can be seen from the table, three types of dissemination were rated above four - seminars and conference papers, discussions with policy makers and project reports and working papers. It is interesting to note that forms of dissemination that involve face to face contact are rated very highly.

Conversely academic publications and media coverage were not rated as highly as forms of dissemination. Of course these results need to be thought of in the context of the types of respondents to the interviews as well as the types of impact we were exploring. That is to say that we are looking at impact on policy and practice and in this context academic publications may not be as useful.

Main influences on impact

Some of the main influences on impact that came out through the case studies were:

- ✧ Personal contact and networks –These were highly valued as a way of facilitating impact as was engagement with the researchers.
- ✧ Short products - In terms of dissemination it became clear that short, succinct products and key messages are important and (it would appear) are the most highly valued products arising from the research in terms of initial engagement.
- ✧ Tailoring the product to the audience – A clear message from the case studies was that there is a need to know who the audience is and to tailor the research product(s) to meet the needs of the audience.

Implications

The findings of the cased studies, together with the workshop and literature review raised several issues regarding impact. Some of the implications that can be drawn from these are summarised below.

Bibliometric analyses

One type of impact that can be captured fairly robustly is citations. For NCVER, an analysis of citations provides an indicator of the use of NCVER's research. To be of use the analysis needs to be broader than just capturing academic citations⁵. This is due to the practical nature of NCVER's research so citations by policy people, practitioners and others are worth capturing.

One option to analyse citations is to use a tool such as *Publish or Perish*⁶. This is a free downloadable software program that extracts *Google Scholar* references, analyses them and provides various metrics to the citations. The advantage for NCVER is that unlike academic databases it extracts citations from sources other than journals, such as government reports.

Recording of impact information

A useful practice that was discussed at the workshop is for researchers to record stakeholder contact information during the conduct of a project. There is currently no onus for researchers to give NCVER feedback on impact. Recording of information could be done quite simply and would assist in the assessment of impact, given that researchers are in a good position to provide first hand advice on its use and influence.

Dissemination

The case studies confirmed NCVER's approach to dissemination in terms of producing many shorter succinct products, in particular the at-a-glances. These can be very useful as a 'capstone' product to summarise the salient issues arising from a programme of research or research theme.

⁵ Note however that we didn't see the value in using metrics for our purposes.

The use of new technology such as podcasts was also mentioned. These can also be relatively short products that provide some human interface with the research. NCVER has started using podcasts as part of its dissemination strategy. The other type of dissemination that was considered particularly effective was that which involved personal contact with the researchers. In particular this includes presentations at seminars and forums. This is another aspect of dissemination that NCVER has embraced over some time.

Knowledge translation

There is a significant role for knowledge translation in facilitating research impact - that is interpreting the research in terms of what it means to the various audiences that may be interested in the research.

Options for enhancing knowledge translation as part of NCVER's research are building it in as part of the research project i.e. as a stage of the research process. This would include allocating budget, time and people resources to it. However it needs to be recognised that not all researchers are skilled at translating the research to different contexts. So another option may be to have other people, skilled at translation, to call on to translate the research to different audiences.

Active efforts in research translation can also assist in overcoming, at least in part, lack of interest or apathy by potential end users or beneficiaries of the research. Often, people either actively look for and engage in the research because of a specific need, or they stumble across it as it hits their desk via an email or newsletter link – this is often filed away for future use. We need also to be aware that from a policy perspective there are other influences that effect decision making such as politics, budgetary and resource constraints, lobby groups and just plain expediency.

Involvement of end users

Engagement of end users in the research process was seen as a way of facilitating research impact. We need to be cognisant though that the independence and integrity of the research needs to be maintained. It is nevertheless important to involve the end-

⁶ See www.harzing.com

users in the research at some level. One useful approach may be to have work in progress papers to potential end-users of the project. At the conclusion of a project feedback could be sought from end-users by providing them with a ‘light-touch questionnaire’ to fill in.

Programs of research

Much of the literature on research impact says that a body of research (around a program or theme) is more likely to have an impact. We saw for instance that the *recognition of prior learning* theme case study had strong impact as a body of research. This has implications for research planning in terms of whether research should be programmed around themes that are of high interest and relevance. NCVER currently does establish a cycle of research priorities based on stakeholder consultations. There are however always instances where a single report on a particular topical issue will hit the mark.

Conclusions

The purpose of the project was to measure the impact of NCVER’s research. One of the clear findings of this study is that we did uncover significant impacts and the project provided evidence that it is possible to assess both individual projects and a suite of projects across a range of indicators. Nevertheless, measuring impact is not straightforward and many of the potential impacts proved difficult to pin down. The project also highlighted the importance of dissemination of research and that it is worth spending considerable effort on this.

There is renewed interest in the worth of assessing the impact of research, although we need to be aware about what can be reasonably assessed. For NCVER, it will provide valuable information about where and how our research is being used, and guide us on where to best put resources.

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References

Buxton, M & Hanney, S 1996 How can payback from health services research be assessed? *Journal of Health Services Research and Policy*, 1 (1), 35-43.

Selby Smith C, Hawke G, McDonald R & Selby Smith J 1998 *The impact of research on VET decision making*, NCVER, Leabrook.