Extension and the VET sector: Time for closer alignment?

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Abstract

Extension (industry training) and VET (the formal Vocational Education and Training system), each vital to Australia's education and training for agriculture, have developed as separate domains. Recent research suggests that the potential of closer alignment should be further explored. Extension provides usually non-certified courses to primary producers. The VET sector involves accredited training in a quality-assured national framework. Despite subsidy incentives for producers to access VET, they are increasingly interested in the short courses and flexible delivery offered by extension.This paper explores implications for improving outcomes from investment in training and for rural capacity building from a project in which a sample of management level extension courses across Australia was analysed for the extent of alignment with VET. Eighty-four per cent of these extension courses are mapped to training package competencies. The potential is there for VET to capture new enrolees for its diploma and advanced diploma courses. Closer alignment between sectors would facilitate this process.

Introduction

Education and training play a vital role in encouraging the greater adoption of the innovative technical and business practices necessary to build capacity in Australia's rural industries and make them more sustainable and competitive. The responsibility for this training is largely borne by two sectors—the formal Vocational Education and Training (VET) system, and extension (industry training)—which have developed largely in isolation and with limited linkages.

The VET system funds agricultural 'management' training at level 4 and above. The extension sector consists of many small private companies and some government agencies` providing usually non-certified courses. It is timely to consider the potential of increased alignment between the two.

The publicly funded VET sector involves formal, usually institutional, accredited training in a quality-assured national framework of educational recognition. VET-system Registered Training Organisations (RTOs) are favoured by the FarmBis training subsidy program, a program jointly funded by the Australian, State and Northern Territory Governments. In New South Wales, where FarmBis has been replaced by a State government initiative called Profarm, a similar situation applies. Despite this incentive for primary producers to access the formal VET system, statistics supplied by the National Centre for Vocational Education Research (NCVER 2005) suggest there is a low rate of completion of whole qualifications at Certificate IV and above in agriculture. While VET appears to be meeting the needs of career establishers and new entrants in the agricultural industry, only a small number of RTOs are attracting ongoing market share from primary producers already running businesses. Farm business owners and managers are interested in a fast response to new learning needs, and a commercial orientation. The extension sector is attractive to this client base, as it is more likely to fit an immediate and practical need.

This paper reports recent research undertaken at the Department of Rural Health, University of Tasmania and funded by the Cooperative Venture for Capacity Building. Findings suggest that better alignment of the VET and extension sectors would improve outcomes from investment in training, and improve rural capacity building. The project involved a literature review and a survey of 134 management level extension courses offered in the six Australian states, which were analysed for the extent of existing and potential alignment with VET. The analysis included characteristics of the courses (such as topics, duration, marketing, delivery, assessment and any target group-specific considerations) and elements of good practice in the linking of courses to provide various pathways for learners.

Literature

Capacity building may be defined as 'intervention, consequent enhancement of human and social capital, plus increased motivation or commitment to act, or empowerment to act independently' (Macadam, Drinan, Inall & McKenzie 2004, p. 16). The concept 'offers a sound approach to supporting rural Australia in managing the effects of change' (Macadam et al. 2004, p. 29)—an appropriate approach because Australian agriculture operates very much in a climate of transition (Kilpatrick 2000). Large productivity and profit gaps between best and

worst farm performers point to substantial skill gaps in technical and business planning in all sectors (Rural Industry Working Group 2001). Education and training is especially important for those functions which require adaptation to change (Bartel & Lichtenberg 1987; Sloan 1994), and in encouraging greater adoption of the innovative business practices necessary for sustainable futures (RIRDC 1998; OPCET 2004).

However, primary producers are time-poor, with many unwilling to commit to extended periods of training. A recent ABARE survey (ABARE 2006) shows that 30% of sheep/beef producers are not prepared to spend any time on any one training course in farm management and technical skills; 27% are prepared to spend two days; only 17% are prepared to spend five or more days. The average was two days. An innovative and leading agricultural group, the Birchip Cropping group in Victoria adopts the view that rather than training, they should encourage and support research and self-identified learning (Allison, Gorringe & Lacey 2006).

Extension

The Australasia Pacific Extension Network (2006, para. 2) states that extension involves 'the use of communication and adult education processes to help people and communities identify potential improvements to their practices, and then provides them with the skills and resources to effect these improvements'. Marsh and Pannell (1998, p. 2) define agricultural extension broadly to include: '... public and private sector activities relating to technology transfer, education, attitude change, human resource development, and dissemination and collection of information'.

The separation of responsibility for the provision of agricultural training occurred in the 1940s, when the then Department of Agriculture separated extension programs from formal training and instigated its own internal accreditation processes (Primary Skills Victoria 2005). The training extension market in Australia was then dominated by government departments of agriculture until the late 1980s when services initially changed from free to fee paying, and then were gradually reduced. There are now many small private companies providing seminars, field days and (usually non-certified) courses. Table 1 (below) outlines current models of extension in Australia.

Table 1: Models, methods and media used for extension in Australia.

Extension model	Methods and media
Technology transfer or information access	Events such as field days to demonstrate new farming technology Meetings to present information to the farming community Print media, including rural newspapers, magazines, newsletters, books and leaflets Radio, television and videos Computer applications Information centres World Wide Web
Programmed learning model	Training programs/workshops Groups of landholders, community members, etc, to increase understanding or skills in defined areas
One-to-one advice or information exchange	Farm management consultancy Diagnostic services Rural financial counselling Informal information exchange between farmers
One-to-one technical advisory services	Formal or structured education and training University courses TAFE courses Training modules in Property Management Planning programs Other structured learning programs such as PROGRAZE One-off events based on adult learning principles
Group empowerment	Landcare groups Catchment groups Community development workshops

Adapted from Black 2000 and Coutts & Roberts 2003.

Existing primary producers are increasingly interested in short courses and flexible or work-place based delivery, a fast response to new learning needs, industry credibility in the qualifications and experience of trainers/assessors and a commercial orientation (Phillips KPA 2005). Participating in short courses also requires a low financial and time commitment (Agtrans Research 1998). The extension sector is attractive to producers, because it has evolved to be responsive to immediate and practical needs.

Quality of trainers is crucial to effective training in both extension and VET sectors.

> Primary production … continues to increase in complexity. No manager can therefore expect to be fully conversant with markets, production technology, legislation changes, environmental and other related issues. There is a growing demand for specialist inputs from advisers and consultants in all fields. The critical issue then becomes the quality of these specialist inputs, with quality related to the competency and performance of advisors and consultants. (Young 2005, p. 6)

Extension trainers have qualifications which are varied both in their domain of expertise and in their levels of educational achievement (Roberts et al. 2005). The FarmBis program, which has subsidised much extension in recent years, requires trainers, as a minimum, to:

- have obtained a Certificate IV in Assessment and Workplace Training under the Australian Qualifications Framework (AQF) or specified competencies from that certificate, or
- have obtained a current AQF Certificate Level IV in Training and Assessment, or
- be a Registered Training Organisation (RTO), or
- be auspiced through a RTO. (FarmBis 2006, Information for Training Providers)

A number of recent reports point out the need for ongoing professional development of extension officers/trainers (Andrew et al. 2005; Coutts et al. 2005; Roberts et al. 2005; Stone 2005; Young 2005), with some advocating a national accreditation scheme for professional advisers and consultants (Roberts et al. 2005; Young 2005). The availability of skilled practitioners is the basis for continuous enhancement of capacity building (Macadam et al. 2004).

The VET sector

VET includes both publicly and privately funded formal accredited training with a vocational/employment outcome in mind. VET's role is to

> provide skills and knowledge for work, enhance employability and assist learning throughout life. VET is offered not only in the public TAFE system, but also through private and community providers and in secondary schools. It can link to university study options, and provides up to six levels of nationally recognised qualifications in most industries. (ANTA n.d.)

VET is predicated on strong multi-level links with industries, including workplace learning and training with industry supervisors. Industry is intended to have a strong voice in VET through the national system of industry advisory arrangements, including the establishment of Industry Skills Councils. These have the key roles of:

- providing accurate industry intelligence to the VET sector about current and future skill needs and training requirements, and
- supporting the development, implementation and continuous improvement of quality nationally recognised training products and services, including Training Packages (Industry Skills Council 2006), sets of nationally endorsed standards and qualifications for recognising and assessing people's skills. (DEST 2005)

VET providers operate within the Australian Qualifications Framework (AQF 2005), a single, coherent, national structure. Management skill level qualifications such as Certificate IV in Agriculture (Production Horticulture) Diploma of Agriculture (Sheep and Wool) and Advanced Diploma of Agriculture are each made up of a number of competencies, which are set out in national training packages, particularly the Rural Production Training Package. Competency based assessment is thus an integral part of the system. Learners who complete some, but not all, standards for a qualification are awarded a statement of attainment. When they are assessed as competent in the remaining standards, they get the qualification. The advantages of obtaining a VET qualification include:

- national recognition, carrying the status of being part of the AQF and underwritten by a National Quality system
- training is comprehensive
- skills acquisition is relevant because it is integrated with on and off-the-job training
- creation of confidence in participants themselves and public image of industry within the wider community (Primary Skills Victoria 2005).

A diversity of assessment methods is available for use across the VET sector (Hyde, Clayton & Booth 2004). But for many learners, the qualification is less important than the specific parts of the qualification that can be used to update or supplement skills (Dunn & Joseph 2004). It would appear that this is particularly true of primary producers. Primary Skills Victoria (2005, p. 26) states that 'assessment is not needed or wanted by farmers. Among other things it is seen as taking too long'.

Participation in VET training increased by 54 per cent during the ten years to 2003 (Karmel 2004). On the other hand, there has been a relatively low uptake of training in the primary industries sector overall (ABS 2001). When producers do undertake accredited training, outcomes can be very positive. The Professional Dairy Farmer project, enabling 120 dairy farmers to complete level 5 and 6 qualifications in agriculture with emphasis on dairy, had 'extremely positive' outcomes for participants, 'particularly in terms of self-image and in being a catalyst for participation in greater industry-wide involvement in farming issues' (Primary Skills Victoria 2005, p. 35)—in other words, rural capacity building. But a recent report (Phillips KPA 2005, p. 16) says that student enrolments in agriculture/related VET in Victoria fell by 24% between 2000 and 2004. Kilpatrick and Millar (2006) also found that numbers of people in the livestock industry sub sector doing VET-provided training at management skills level have declined. While VET appears to be meeting the needs of career establishers and new entrants in the livestock industry, only a small number of RTOs are attracting ongoing market share from farmers already running businesses.

It would appear, however, that decline in VET delivery has not been matched by a decline in attendance at extension short courses (Kilpatrick & Millar 2006). The Solutions Survey (DAFF 2004, p. 20) shows that in the last four years there has been a significant increase in the adoption of a 'culture of continuous learning' in the farm sector. This includes both participation in training, and willingness to consult (and pay for) expert advice.

Much VET training is based on a programmed learning model (see Table 1, p. 5). Primary producers' preferences in relation to training delivery, documented by Johnson, Bone and Knight (1996), Bamberry et al. (1997) and Kilpatrick (1997, 1999), include flexibility and project-based or action learning. A significant number of producers may actually feel threatened by formal and classroom education and training (Kilpatrick 1999; Black 2000; Primary Skills Victoria 2005). A number of authors have raised questions, therefore, about the roles of formal education sectors in supporting learning for change in industrialised agricultures (Hubert, Ison & Röling 2000). On the other hand, VET has an important facility in accreditation which has proved appealing to farmers (Kilpatrick & Millar 2006):

- recognition of current competencies (or RCC) the acknowledgement of competencies currently held by a person,

acquired through training, work or life experience; and

- recognition of prior learning (or RPL) the acknowledgement of a person's skills and knowledge acquired through previous training, work or life experience, which may be used to grant status or credit in a subject or module. (DEST 2006)

RCC is a term that industry people mainly use to cover reassessments of competency at varying intervals after the original qualification has been obtained (Hargreaves 2006, p 4), but in practice the terms RCC and RPL are often used interchangeably (e.g., see Rural Production—A Best Practices Manual, n.d.). The agricultural industry strongly supports this facility for recognition of existing skills and knowledge held by its learners (Phillips KPA 2005). Kilpatrick and Millar (2006) present case studies which include examples of producers acquiring qualifications through a skills recognition process.

Sustainability of the VET system 'is ultimately dependent on the competence of the … workforce. It is the core asset of staff competence that will remain the single most valuable source of future value' (Schofield 2002, p. 4). VET trainers have something of a unique role in education:

> The VET practitioner must in some senses not only be capable of spanning the cultural divide which distinguishes the world of work from the world of education but also that which distinguishes the world of private enterprise from the world of public service. (Chappell & Johnston 2003, p. 11)

However, the literature has been reporting on deficiencies in VET teacher/trainer quality for some years. In 2001, Harris et al. wrote:

> Slightly less than half the current VET teachers/trainers were considered to possess the attributes, skills and knowledge required to improve the quality of VET provision (p. vii) . . . Staff development provisions appear to be inadequate to meet demands at the present time. This is especially true for non-permanent staff who deliver the majority of training programs in many training providers (p. ix).

A key message of an NCVER (2004, p. 1) report was that, although 'significant professional development' had taken place, this had not met all individual or organisational needs. Funding models were identified as one of the barriers to new approaches to work, 'because they have not kept pace with the new ways practitioners are working, particularly in public VET providers'. When funding is available for staff development, a 2003 study found that managers were likely to give permanent and full-time staff priority over the casual staff who are increasingly delivering much of the training (Stehlik et al 2003).

Kilpatrick and Millar (2006) report that general criticism of trainers includes inadequacy of technical expertise, lack of industry background, lack of

professional development, lack of empathy and ability to communicate with producers, and being uncomfortable with the workplace training and assessment model.

The minimum AQTF requirement for teachers and trainers employed by RTOs to deliver and assess training within the VET sector consists of competencies in the Certificate IV in Assessors and Workplace Training. Other than this, qualifications among VET trainers are diverse as to type, level and date at which they were gained.

Capacity building

Macadam et al.'s comment (2004, p. 29):

> Organisations and people could be encouraged to identify and reflect on the mind-sets and institutional arrangements that impinge on their work with rural communities, and how they might be modified to promote better capacity building,

has clear relevance for the role of education and training sectors. Modification to enhance capacity building needs to take into consideration the importance of the interplay and interdependency between models of capacity building (Coutts & Roberts 2003). The Programmed Learning Model on which much training is constructed needs to be backed up with supporting information in an ongoing process or cycle of support.

Education and training, both VET and extension sectors, are seen as vital tools in capacity building in industries and in communities (CRLRA 2001; Coutts & Roberts 2003; Macadam et al. 2004; Coutts n.d.; Allison, Gorringe & Lacey 2006). However, for effective capacity building to occur, there needs to be 'alignment between the goals and actions of those involved' (Macadam et al., 2004, p. iii).

Better aligning extension and the VET sector—consolidating and improving existing links and partnerships—would appear to be an appropriate and useful strategy. The two sectors have much to offer each other.

Aligning extension and VET in the literature

Research on extension and VET tends to be separate and rarely draws links between the two. They have evolved as and remained separate domains or segments of training, to the extent that their separateness 'has long been taken for granted by all the industry parties involved' (Primary Skills Victoria 2005, p. 3). The impact of this separateness on credit and pathways is 'dramatic for the

sector [but] the significance of such an effect is not always registered' (Primary Skills Victoria 2005, p. 3)—which may be a large part of the reason the question of better aligning extension and VET does not arise frequently in the literature. In 1998 Agtrans Research recommended that 'short courses' should be designed so that they may be articulated into an undergraduate diploma qualification (p. 36). But Macadam et al. (2004) barely mention the vocational education and training sector in their 2004 report on capacity building in rural Australia, except sometimes to refer to 'TAFE' as a generic term for VET:

> TAFE is not currently relevant in dialogue about rural capacity building, despite its apparently conducive mandate and widespread distribution in rural areas. (p. 61)

They also refer to 'TAFE' as having an under-exploited potential as providers and facilitators of capacity building, along with adult and community education, universities, and professional bodies such as the Australasia Pacific Extension Network.

In recent years, however, the question has begun to appear in the literature. Coutts et al. (2005), noting that a key feature of Meat and Livestock Australia's (MLA) EDGEnetwork has been alignment of their workshops and courses to the VET accreditation system, say that such alignment 'should be a given for new projects under the Programmed Learning Model' (p. 43). Primary Skills Victoria (2005), reporting for the Victorian Qualifications Authority, responds to the question of credit and articulation considerations between extension and VET in the Victorian context. Their report finds that there is little articulation between extension's structured but largely unaccredited training and the accredited training of VET, 'even though the rural industry has a reasonable understanding and acceptance of competency based training' (p. 4).

Cross-sectoral linkages are a consistent theme in recent studies of education and training generally, and the concept of collaboration is a consistent thread through much of the literature on VET in regional, rural and remote Australia (Clayton et al. 2004; Macadam et al. 2004). The outcomes of effective collaborations have been shown to include savings from shared resources (CRLRA 2001); increased and better informed demand from all training clients (individuals, enterprises and communities) (Kilpatrick, Fulton & Bell 2001); opportunities to improve the quality of programs and develop innovative learning strategies (Kearns et al. 1996; Ferrier et al. 2000); improved social, economic and environmental outcomes (Taylor 1997). But while the literature suggests that collaboration is an effective way to deliver education and training, Kilpatrick et al. (2002) find that there is little evidence that this is occurring to any large extent in Australian agriculture.

There is, however, reason to believe that better alignment of extension and VET would improve rural capacity building. Coutts and Roberts (2003),

discussing best practice in extension, state that outcomes should be linked with competency standards from the Vocational Education System (VET) from the outset. Macadam et al. say in their 2004 report:

> Continuous improvement in the alignment within and between capacity-building initiatives, institutional arrangements and mind-sets is the key to ongoing improvement in the stock of human, social, financial, physical and natural capital. (p. 2)

In the VET sector, the process of skills recognition—RPL/RCC *(see p. 9)*—is a mechanism which VET has developed to align with outcomes of other training. RPL/RCC is a widely supported concept (Hargreaves 2006; Kilpatrick & Millar 2006), but is not without critics (Coutts & Roberts 2005; Hargreaves 2006). The question of rigour is at the heart of the criticism, and the system is moving towards better standardisation.

There are some existing links between extension and VET in delivery of training. Short extension courses designed for professional and part-time farmers play a key role in the adult education outputs of some agricultural colleges. Training brokers, working with providers to identify courses that would be appropriate for producers and recommending and referring clients to appropriate courses, are another important link between extension and the VET sector. For example, the Grains Industry Training Network (GITN) in Victoria brokers between ten and twenty courses per year, involving up to 400 participants. GITN uses both extension providers and TAFE (Kilpatrick et al. 2006).

The training itself, however, may be the most important link. FarmBis training programs in many states have favoured or required training that is aligned to the formal VET system, either by subsidising only Registered Training Organisation (RTO)-provided training (e.g. FarmBis 1 and 2 in NSW), or by asking for evidence of alignment with VET competencies (e.g. FarmBis 1 and 2 in Tasmania). The Australian government's guidelines for the new FarmBis program favour VET-system RTOs. These require training providers registered under the FarmBis program, as a minimum, to:

- have obtained a Certificate Level IV in Assessment and Workplace Training1 under the Australian Qualifications Framework (AQF) or specified competencies from that certificate; or
- have obtained a current AQF Certificate Level IV in Training and Assessment2; or
- be a Registered Training Organisation (RTO) or;
- be auspiced through a RTO.

Under FarmBis 3, in Queensland, Western Australia and South Australia all learning outcomes must be mapped against units of competence, or elements of these. In Victoria, Tasmania and the Northern Territory mapping is desirable,

but not compulsory. In New South Wales, FarmBis has been discontinued. There the PROfarm program prefers mapping to competencies, but does not make this compulsory.

FarmBis and PROfarm eligible training products focused on specific competencies allow participants to build towards a qualification. However, there is still a long way to go in facilitating articulation between the extension and accredited training segments of programs (Primary Skills Victoria 2005).

Financial incentives are promoting a degree of alignment between extension and VET. Subsidised FarmBis courses are increasingly mapped to training package competencies. There is also no GST on mapped programs delivered under the National Training Framework, including extension activities. This makes courses cheaper to offer and to pay for.

However, if extension is to be better aligned with VET, there will need to be an increase and improvement in collaborative organisational functioning. Elements of competencies 'on their own are not the currency of accredited training' (Primary Skills Victoria 2005, p. 4). Based on findings in the National Extension/Education review, Coutts and Roberts (2005, p. 10) conclude that making the practical link between training offered in extension and training programs and the VET system is complex, 'full of confusing paperwork'. Primary Skills Victoria (2005, p. 4) say that the Rural Production Training Package itself is an inhibitor to aligning unaccredited extension and accreditation:

> The national policy of developing cross industry generic competencies, and its reflection in the Rural Production Training Package, is not widely accepted by the industry and could militate against the ability to recognise short-course programs developed to meet specific industry needs.

The report explains further:

> One of the reasons for the growth in unaccredited training is that providers have difficulty designing accredited courses that meet training package criteria . . . The single most difficult problem encountered by industry staff and designers when constructing short courses using competencies within the training package, relates to its lack of flexibility. The competencies are, as a rule, complex and overly extensive in content. (p. 29)

The extension sector has its own complexities. Roberts et al. (2005) report that the greatest inhibitor encountered by extension service providers in their professional development is the organisational and external environment in which they operate. There is wide range of organisations involved in extension,

and insufficient cooperation between them (Nettle 2003; Kilpatrick & Millar 2006).

Education and training will be increasingly important for sustainable and profitable futures of farm businesses. Both VET and extension sectors will be vital tools in capacity building in rural industries and communities. But the sectors have limited linkages.

Recent literature suggests that VET and the extension sector have much to offer each other and that better alignment of extension and VET would increase rural capacity building. There are some links already. The FarmBis training programs in many states have favoured or required training that is aligned to the formal VET system. There is a considerable financial incentive to align extension training with VET competencies. VET already has a mechanism for alignment in the process of recognition of current competencies (RPL/RCC), where competencies completed in the extension sector can be recognised and accredited. There are existing links in delivery of training between VET providers and the extension sector. Training brokers are another important link between extension and the VET sector.

However, making the practical links between training offered in extension and in the VET system will not be simple. The VET sector includes a considerable bureaucracy. Extension involves a wide range of organisations, with limited cooperation between them. The Rural Production Training Package itself is seen by some as an inhibitor to aligning extension and VET.

The question of aligning extension and VET is therefore new ground in many ways.

Methodology

The project used a two-level approach: the first sample included 77 extension products which came to our attention through our recent research into management skill training in the livestock industry (Kilpatrick & Millar 2006), and training brokers (Kilpatrick et al. 2006). This was an appropriate source of data, as there is little available other recent relevant research on extension courses. We supplemented our data by reference to Coutts' Capacity Building Projects Database (Coutts n.d.). The second sample broadened our scope of extension products by sampling from offerings on a FarmBis website. As mapping to training package competencies is not compulsory in Victoria, we chose FarmBis Victoria to optimise the range of extension courses sampled. Ten per cent of extension products on that website were examined, a sample of 57, followed by telephone calls and emails to obtain relevant information not supplied on the website.

Findings and discussion

Pathways between the sectors are generally present for those wanting to move from extension training to VET. Overall, our two-level sample of 128 extension deliverers showed that the vast majority of courses were mapped to VET competencies. Results are shown in Figure 1:

Figure 1: Overall results of sample of 128 extension courses

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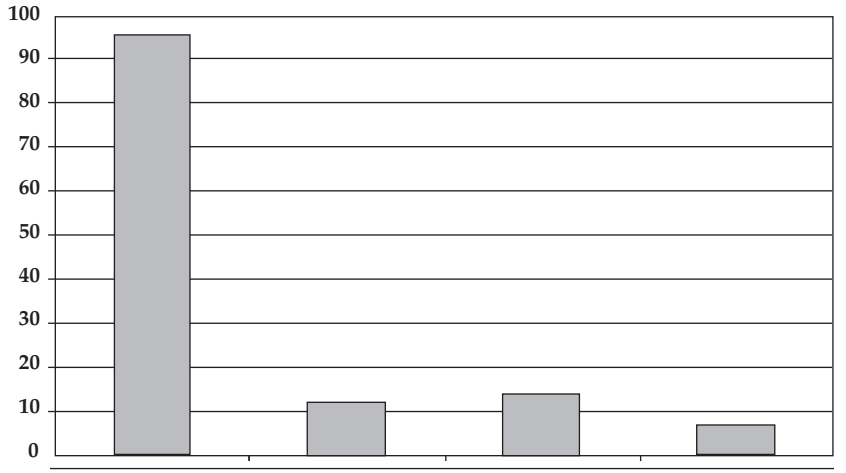

107 of these 128 extension courses (84%) are aligned with VET by being aligned with training package competencies, and 95 of the 107 aligned courses issue a certificate which can be used if required as evidence in a skills recognition process. By having courses mapped to competencies, the extension sector facilitates the process of opening pathways into VET.

Attitudes to VET among extension providers were mixed. Some of the extension providers made a marketing feature of the fact that courses are aligned to national training package competencies and encourage clients to complete the assessment associated with their extension training. Other providers do not focus on the alignment of their courses because they believe their clients are not interested in qualifications. Further, the sample revealed no formal links between extension and VET at the levels of Boards and Advisory Groups.

The potential is there for VET to capture new enrolees for its diploma and advanced diploma courses. As the literature review showed, advantages of obtaining a VET qualification include that it is underwritten by a national quality system, that it represents comprehensive, integrated on and off-the-job training, and that it enhances confidence in those that achieve the qualification and in the public image of the industry. Consequently, qualifications achieved

make a contribution to rural capacity building through enhancement of human and social capital, increased motivation or commitment to act, and to greater adoption of the innovative business practices necessary for sustainable futures. It would therefore appear to be in the best interests of the industry and individuals if more primary producers undertook VET training at level 5 or 6. The question is, how does VET capture more of these extension participants into its diploma and advanced diploma courses? How could closer alignment between sectors facilitate this process?

One existing mechanism to bridge the sectors is VET's skills recognition process, RPL/RCC *(see p. 10)*, which allows VET to recognise the evidence of training in extension activities on a case by case basis. Learning pathways between extension and VET depend on this process, but there remain certain issues with regard to the degree or nature of competency achieved through the extension training, and whether it is equivalent to that indicated by the AQF level. Quality of trainers, in both sectors, is vital in the process. Training needs to be delivered and assessed by people who have up-to-date agricultural expertise and standards. Both VET and extension need to look at professional development for their trainers and at closer professional linkages, so that the sectors talk to each other.

Primary producers contemplating enrolling in VET face a complex system. Applicants for RPL/RCC may require support in supplying adequate evidence. Training brokers could have an important role here. Brokers consider the whole suite of present and potential training opportunities and actively match needs to training. They would facilitate better coordination between extension and the VET sector at a regional level (Kilpatrick et al 2006), assisting producers to work through the range of available training and negotiate the learning pathway best suited to their individual needs. Industry organisations and groups such as the Birchip Cropping Group (Allison, Gorringe & Lacey 2006) are well placed to take a broker role.

VET needs to look to its image with regard to the agriculture industry. Producers have shown their preference for the qualities extension has been able to offer: short course training, flexible or work-place based delivery, industry credibility of trainers/assessors, and a commercial orientation (Phillips KPA 2005). VET needs to explore ways of improving its competitiveness. Notwithstanding this, financial incentives such as FarmBis and new career pathways involving younger people are gradually favouring the formal education and training sector, including VET, which already is an important provider of career-establishing training (for example, in agricultural colleges and TAFEs). Management level VET may be more attractive to the new generation of primary producers.

The extension sector needs to be aware of these younger people coming through with VET qualifications, and prepare to build on these by offering courses that continuously upgrade the cohort's skills.

Conclusion

Closer alignment between extension and VET will be achieved by continuing extension's progress in mapping courses to training package competencies, improving the RCC/RPL process, and facilitating pathways between the sectors by providing clients with guidance from a communicating network of expert and up-to-date trainers, and through training brokers. Improvement in VET delivery options will make its courses more attractive to producers. Closer alignment could include major outcomes: savings from shared resources, increased and better informed demand from all training clients, opportunities to improve the quality of programs and develop innovative learning strategies, and ultimately improved social, economic and environmental outcomes. With productivity and sustainability in the industry ever dependent on effective response to a world in change, the time for closer alignment may be now. It is up to industry, the VET sector and extension to act.

This project raises some issues that require further research. It is possible that extension officers may better meet the needs of their clients as they are more aware of their clients approach to learning and their learning contexts, while VET may take a more institutional view of learning and learning needs, not meeting the contextual needs of particular clients. This suggests a closer look at VET providers and the factors that enhance and hinder their ability to match primary producer clients' learning and assessment preferences is warranted.

References

ABARE (Australian Bureau of Agricultural and Resource Economics) 2006, MLA Supplementary 2004-2005, survey commissioned by MLA.

ABS (Australian Bureau of Statistics) 2001, Census of Population and Housing, Canberra.

Agtrans Research 1998, Education and training to support sustainable management of Australia's pastoral industries, report for the Australian Meat & Livestock Industry, Toowong, Brisbane.

Allison, J, Gorringe, S & Lacey, J 2006, *Building learning communities: Partnerships, social capital and VET performance*, NCVER, Adelaide.

ANTA n.d., ABC of VET, online document, http://antapubs.dest.gov.au/publications/images/publications/abc_of_vet.pdf [Accessed October 2005]

AQF (Australian Qualifications Framework) 2005, Website: http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/tpk/qualifications.htm [Accessed March 2006].

Australasia Pacific Extension Network 2006, About Australasia Pacific Extension Network (Inc), http://life.csu.edu.au/apen/about.html [Accessed March 2006].

Bamberry, G, Dunn, T & Lamont, A 1997, A pilot study of the relationship between farmer education and good farm management, RIRDC Research Paper no 97/30. Rural Industries Research and Development Corporation, Canberra.

Bartel, A & Lichtenberg, F 1987, 'The comparative advantage of educated workers in implementing new technology', *The Review of Economics and Statistics,* vol. 69, no.1, pp.1-11.

Black, A 2000, 'Extension theory and practice: a review', *Australian Journal of Experimental Agriculture,* vol. 40, no. 4, pp. 493–502.

Chappell, C & Johnston, R 2003, *Changing work: changing roles for vocational education and training teachers and trainers*, NCVER, Leabrook.

Clayton, B, Blom, K, Bateman, A & Carden, P 2004, *What works where you are? The implementation of training packages in rural Australia.* NCVER, Adelaide, http://www.ncver.edu.au/research/proj/nr2003.pdf [Accessed March 2006].

Coutts, J & R n.d, Capacity Building Projects Database. http://www.couttsjr.com.au/pd/[Accessed April 2006].

Coutts, J & Roberts, K 2003, Models and Best Practice in Extension, paper presented at the 2003 APEN National Forum, 26 - 28 November 2003, Hobart, http://www.couttsjr.com.au/attachments/uploads/030504apen2003_couttsja.pdf [Accessed December 2005].

Coutts, J & Roberts, J. 2005, Capacity Building for Innovation: Better Aligning VET and Extension, Report for Cooperative Venture for Human Capacity Building for Innovation in Rural Industries.

Coutts, J, Roberts, K, Frost, F & Coutts, A 2005, The role of extension in building capacity—What works and why, A report for the Cooperative Venture for Capacity Building, RIRDC Publication No: 05/094.

CRLRA (Centre for Research and Learning in Regional Australia) 2001, Building dynamic learning communities: Ten regional case studies, CRLRA, University of Tasmania, Launceston.

CRLRA 2002, Learning communities in education and training, Vol 1 and 2, Report on the Role of VET in Regional Australia project for ANTA, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

DAFF (Department of Agriculture, Fisheries and Forestry) 2004, Review of the Agriculture—Advancing Australia Package 2000–04, Summary of Findings and Issues, http://www.daff.gov.au/corporate_docs/publications/word/innovation/aaa/aaareviewsummaryFeb2004.doc [accessed December 2005].

DEST (Department of Education, Science and Training) 2005, Website http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/tpk/what.htm [Accessed March 2006].

DEST (Department of Education, Science and Training) 2006, National training system—Glossary, http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/glo/rtot.htm [Accessed March 2006)].

Dunn, F & Joseph, A 2004, The Credit Matrix—Building bridges between qualifications, paper presented at 7th Australian VET Research Association Conference, 17-19 March 2004, Canberra, http://www.avetra.org.au/Conference_Archives/2004/documents/PA055Dunn.PDF [Accessed April 2006].

FarmBis 2006, Information for Training Providers, http://farmbis.dpiwe.tas.gov.au/0/CE63A537C00E2F5DCA257005001122CB?OpenDocument [Accessed April 2006].

Ferrier, F, Trood, C and Whittingham, K 2000, *Boldly going into the future: A VET journey into the National Innovation System*, NCVER, Adelaide.

Hargreaves, J 2006, Recognition of prior learning: At a glance, Australian Government and NCVER, Adelaide, http://www.ncver.edu.au/research/proj/nd2102g.pdf [Accessed April 2006].

Harris, R, et al. 2001, *The changing role of staff development for teachers and trainers in vocational education and training*, NCVER, Leabrook.

Hubert, B, Ison, R & Röling, N 2000, 'The "problematique" with respect to industrialised-country agricultures', in M Cerf et al. (LEARN Group), *Cow up a tree: Knowing and learning for change in agriculture. Case studies from industrialised countries*, pp.13–20, INRA, Paris.

Hyde, P, Clayton, B & Booth, R 2004, *Exploring assessment in flexible delivery of vocational education and training programs*, NCVER, Adelaide. www.ncver.edu.au/research/proj/nr0007.pdf?PHPSESSID=9b9eca72ede9c9933f50042e0a726bc6 [Accessed April 2006].

Industry Skills Councils 2006, Website: http://www.isc.org.au/ [Accessed March 2006].

Johnson, B, Bone, Z & Knight, C 1996, Farmers and learning: Attitudes to learning, tertiary education and recognition of prior learning, Orange Agricultural College, University of Sydney, Orange.

Karmel, T 2004, Current directions in Australia's vocational education and training system, Paper presented to the International Vocational Education Conference, October 2004, Tianjin, China.

Kearns, P, Murphy, M and Villiers, G 1996, Industry education partnership: Innovation and learning, the report, Australian National Training Authority, Melbourne.

Kilpatrick, S 1997, The Effectiveness of Delivery Methodologies for Education and Training to Rural Australia, Centre for Research and Learning, University of Tasmania, Launceston, reproduced by ERIC Document Reproduction Services as ED 407504.

Kilpatrick, S 1999, Learning to do the job: How do farm business managers get the skills and knowledge to manage their businesses? Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston, http://www.crlra.utas.edu.au/discussion/1999/D03-1999.pdf [Accessed March 2006].

Kilpatrick, S 2000, Education and training: Impacts on farm management practice. *Journal of Agricultural Education and Extension,* vol. 7, no. 2, pp. 105–116.

Kilpatrick, S, Fulton, A & Bell, R 2001, Providing client-focused education and training: a literature review, Report for Agriculture, Fisheries and Forestry Australia, http://www.netenergy.dpie.gov.au/corporate_docs/publications/pdf/industry_dev/aaa/farmbis/Appendix_1.pdf [Accessed October 2005].

Kilpatrick, S, Fulton, A & Geard, L 2002, Providing client-focused education and training, Report for Agriculture, Fisheries and Forestry Australia, Centre for Research and Learning in Regional Australia, Launceston.

Kilpatrick, S & Millar, P 2006, Management skill development and VET in the livestock industry, Report for Meat and Livestock Australia and Australian Wool Innovation, University of Tasmania Department of Rural Health, Launceston.

Kilpatrick, S, Fulton, A, Johns, S & Weatherley, J 2006, A responsive training market: The role of brokers, Canberra, RIRDC.

Macadam, R, Drinan, J, Inall, N & McKenzie, B 2004, Growing the capital of rural Australia: The task of capacity building, Report for the Co-operative Venture for Capacity Building for Innovation in Rural Industries, RIRDC Publication No 04-034. http://www.rirdc.gov.au/reports/HCC/04-034.pdf [Accessed December 2005].

Marsh S & Pannell D 1998, Agricultural extension policy in Australia: the good, the bad and the misguided, Paper presented at the 42nd Annual Conference of the Australian Agricultural and Resource Economics Society, University of New England, Armidale, NSW, January 19–21.

NCVER (National Centre for Vocational Education Research) 2004, The vocational education and training workforce: New roles and ways of working. NCVER, Adelaide, http://www.ncver.edu.au/research/proj/nd2102f.pdf [Accessed December 2005].

NCVER 2005, Vocational course completions in selected training packages by state/territory and sex for 2004, supplied by NCVER.

Nettle, R 2003, The Development of a National Dairy Extension Strategy—a Literature Review, Institute of Land and Food Resources, Innovation and Change Management Group, University of Melbourne.

OPCET (Office of Post-Compulsory Education and Training, Tasmania) 2004, Industry Training Demand Profile: Agriculture, http://www.opcet.tas.gov.au/iaa/traindemandprofiles04/Agriculture.rtf#B0000003 [Accessed August 2005].

Phillips KPA 2005, The University of Melbourne: Review of the delivery of VET programs in agriculture and related disciplines.

Primary Skills Victoria 2005, Report on credit and articulation issues in agricultural training in rural and regional Victoria, http://www.vqa.vic.gov.au/vqa/pdfs/Agr_%20credit_and_articulation_rpt_20050902.pdf [Accessed March 2006].

RIRDC (Rural Industries Research and Development Corporation) (Australia) 1998, The impact of farmers' participation in home study programs, local groups and wider information networks on the adoption of sustainable integrated management practices, Final report prepared for the Rural Industries R&D Corporation, Canberra.

Roberts, K, Paine, M, Nettle, R & Ho, E 2005, Mapping of rural industries service providers, A report for the Cooperative Venture for Capacity Building, http://www.rirdc.gov.au/reports/HCC/05-044.pdf [Accessed March 2006].

Rural Industry Working Group 2001, Skill needs now and in the future in the rural industry: Wool Production, Production Horticulture, Viticulture, Cotton Production, Commonwealth of Australia, Canberra. http://www.skillsinitiative.gov.au/documents/working_group/rural_report.pdf [Accessed August 2005]

Rural Production—A Best Practices Manual RTE03 n.d., Website: http://online.curriculum.edu.au/the_cms/tools/new-display.asp?f=9181&seq=8870 [Accessed April 2006].

Schofield, K 2002, A new balance: investing in public infrastructure to sustain Victoria's training and skills development system, Office of Training and Tertiary Education, Melbourne.

Sloan, J 1994, Costs and benefits of vocational education and training, in National Centre for Vocational Education Research, Research Priorities in Vocational Education and Training—A Discussion, pp. 129-167, Australian National Training Authority, Adelaide.

Stehlik, T, Simons, M, Kerkham, L, Pearce, R & Gronold, J 2003, Getting connected: Professional development of contract and casual staff providing flexible Learning, NCVER, Adelaide.

Stone, G 2005, Agribusiness role in extension, education and training: A case study, Report to the Cooperative Venture for Capacity Building, RIRDC Publication No: 05/086.

Taylor, P 1997, Curriculum development for agricultural education and training—Is real participation possible? Proceedings of the 13th European seminar on extension education, August 31 – September 6, University College, Dublin, Ireland.

Young, M 2005, An evaluation of the demand for a national accreditation scheme for professionals in the Natural Resources, Agriculture and Related Sectors, Report for the Cooperative Venture for Capacity Building, RIRDC Publication No. W05/042.

(Footnotes)

1 Endorsed by Australian National Training Authority (ANTA) 22 October 1998

2 Endorsed by Australian National Training Authority (ANTA) 1 October 2004