The University and Vocational Training in Rural Areas: a Case Study

by Dr. Kim Tan, Antoine Barnaart and Mick Donnelly
Northern Territory University
Australia

Abstract

This paper emphasises the University's contributions to research in agriculture and horticulture, to the development and upgrading of skills through training and to changing attitudes through raising awareness of the values of new technologies. R & D aims include that of developing appropriate and efficient production systems, developing a policy framework and management practices that encourage innovation, and providing flexibility to meet differing and emerging needs.

The Northern Territory Rural College has been selected as a case study to demonstrate how the University can serve to add the impetus to expanded training for both the agricultural and pastoral industries. The College offers a wide range of TAFE courses in secondary schools, apprenticeship training and short courses in agriculture and horticulture. Flexible training programs include on-site learning at the cattle station, face-to-face delivery at the three campuses as well as mixed mode delivery whereby students attend training workshops and also study externally.

Introduction

With the rapidly increasing pace of technological and economic change, the concomitant demand for technical, sub-professional and professional training has been experienced in both urban and rural areas. To meet this demand, changes in the structures of universities and institutes of technical and further education (TAFE) as well as the need for collaboration were clearly necessary. Several collaborative models between higher education and TAFE have emerged ranging from dual-sector universities to avenues established to facilitate articulation and credit transfer. This paper aims to explain the input that universities can make to vocational training in rural areas. Through the use of the Northern Territory Rural College (NTRC) as a case study, attempts will be made to demonstrate how collaboration between higher education and TAFE in a dual-sector university like the Northern Territory University (NTU) has ensured not only gains for students but for farmers, pastoralists and the rural community at large.

Dual-Sector Universities

In recent years, cross-sectoral education and training in dual-sector universities in Australia has brought about effective outcomes and practices. The integration of higher education and the TAFE sectors is represented by the five main dual-sector universities:

Victoria University of Technology
Northern Territory University
Royal Melbourne Institute of Technology

Learning Resource Centre
Adelaide Institute of TAFE
GPO Box 872
120 Currie Street
Adelaide SA 5000
These universities characterise what Sommerlad, Duke and McDonald (1998) call the **amalgamated approach** whereby the TAFE and higher education sectors co-exist within one institution but possess different internal structures. Clearly, with collaboration of this nature, both sectors have experienced ease in the articulation of units, in credit transfer and in the dissemination of new knowledge.

Links between the two sectors can be illustrated in Figure 1.

**FIGURE 1**: Cross-sectoral collaboration

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TAFE  <===>  HIGHER EDUCATION

TRAINING  <===>  RESEARCH

→ Horticulture
   → Agriculture

→ Prof. Development

→ Environmental
   → Management

→ Literacy Skills

→ Policies
→ Strategic
   → Planning

→ Projects
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Research in the University is one way of supplying TAFE programs with new knowledge as well as applying knowledge in new ways. By working collaboratively, technical skills can be improved in horticulture, agriculture, numeracy and literacy in rural areas. Appropriate and efficient production systems can be developed, technologies developed and integrated, and agricultural productivity sustained and enhanced over the long term.

For example, completed research projects at the Tropical Savannas CRC at the NTU have enabled the results to be used for training packages in TAFE or in many instances, improved training programs. Further, research results from the Centre for Tropical Wetlands Management have led to the development of a suite of training courses ranging from management planning for wetlands to hands-on weed control. Some examples of projects include:

- Collaboration for better Aboriginal land management
- Overview of weeds in Aboriginal land in NLC area
- North Kimberley traditional owners’ land and sea management planning project, and
- Guidelines, decision tools and education programs for sustainable grazing management of savanna woodlands in the Burdekin River catchment.

Other learning packages being developed include:

- Grazing Land Management which will be available in various forms including VET (through EDGE Network)
- Biodiversity in Pastoral Lands to be available for delivery in workshops through TS-CRC.

The links between research and vocational training in rural areas can be revealed in other forms. Figure 2 shows how with a variation of the Australian model, the model adopted by Hebei Agricultural University (HAU) and UNESCO INRULED, demonstrates cross-sectoral collaboration at work.

**FIGURE 2:**
Dual-sector models: Research and Vocational Training

**AUSTRALIA: NORTHERN TERRITORY UNIVERSITY**
In the model from China, TAFE-like courses are administered in the villages as well as at UNESCO INRULED’s Headquarters in Baoding. In fact, UNESCO INRULED is the research arm of HAU – with the focus on research to alleviate poverty in rural areas.

Modes of delivery for both models differ because whilst needs of the rural communities may be similar, the infrastructure, degree of social and economic development of the communities differ. In China, for example, face-to-face delivery coupled with demonstrations and workshops are more popular. The NTU model favors a flexible, mixed mode of delivery. In both cases, involvement from the community and industry and relevance of the courses are determinators of the success of the training program.

Some delivery models for literacy (Tan, 2000a) numeracy, professional development (Tan, 2000b), horticulture and agriculture programs in the Northern Territory include:

- Block sessions with face-to-face delivery and workshops plus home study using external materials. Students will be able to contact the lecturer via telephone or e-mail.
- Correspondence/home study using external materials supplied plus tutorial support from visits made by tutors. Tutors can be reached via telephone or e-mail. Practical training is derived from work experience with local enterprises.
- Practical five or six weekend block sessions in a training centre plus work experience.
- Short courses for specific purposes delivered in a training centre.

Admittedly, the basic infrastructure for a learning centre in rural areas is necessary for the delivery of formal and informal TVET programs. Such a learning centre can be found in the satellite campus of NTU. At this juncture, we are pleased to present the Northern Territory Rural College (NTRC) as our case study.
Case Study:  
The Northern Territory Rural College

The Northern Territory (NT) represents approximately one sixth of the Australian continent but has a population of 180,000. Darwin is the most cosmopolitan city in Australia with some 60 ethnic groups in a population of around 85,000. The Aboriginal and Torres Strait Islander population represent 27% of the NT population, most of whom live in rural areas. NTU, the main tertiary institution in the NT, was founded in 1989 and was the first to adopt the dual-sector structure. By adopting the amalgamated approach, potential advantages include ‘savings in infrastructure, better utilisation of physical resources, a more diverse and multi-skilled human resource, opportunities for innovative course design and packaging of awards and increased opportunities for applied research’ (Barnaart et al 2000, 2).

Location

The NTRC, which came under the management of the NTU in January 2000, is located at Katherine, 300 km south of Darwin, in the heart of the north Australian beef cattle industry and an ever growing horticulture industry. The NTRC has excellent teaching facilities with well-equipped workshops, cattle handling facilities, stables, modern air-conditioned classrooms and a library/computing facility located on its 4000 hectare main campus. It also has its own 700 sq km cattle station situated 90 km south of Katherine at Mataranka Station.

Full residential facilities are provided for those attending the NTRC and the NTU Regional Centre in Katherine. The NTRC also provides a daily return bus service for students commuting between Katherine and the main campus which is 16 kilometres north of the town centre.

Programs

NTRC provides training programs tailored to the needs of the individuals, industries and communities of northern Australia. Its key functional responsibilities include:

- Developing, in conjunction with industry and community bodies, an annual training profile which meets identified training needs.
- Delivering quality training programs for people seeking careers in agriculture, horticulture, aquaculture and associated industries.
- Delivering appropriate training to clients located in areas remote from the NTRC, with emphasis on Aboriginal training.
- Maintaining facilities for the delivery of training and residential services.
- Providing training to school students enabling credit against the Northern Territory Certificate of Education (NTCE) program which meets the requirements of the NT Board of Studies. This is also commonly known as VET in Schools.

Programs developed and delivered by NTRC range from on-the-job and off-the-job training for disadvantaged youths, certificate level courses in agriculture,
horticulture, to diploma and advanced diploma level courses relevant to the overall management of beef cattle properties, horticultural enterprises and the aquaculture industry.

Short courses, available throughout the year, are designed to meet the needs of the localised community and including the Australian Defence Forces. Some examples are Car Care, Chainsaw Operations, Fencing, Four Wheel Driving, Horse riding, Horse shoeing, Motor Bike Operations, Record Keeping, Vehicle Maintenance, Welding and Communication in the Workplace.

TVET subjects are integrated into the secondary school curriculum. The program’s objective is to ensure that students wishing to complete Year 12 have access to a practical alternative to obtain the NTCE. Courses are designed to equip students for employment in the automotive, metal and rural industries, as well as providing credits towards a variety of TVET courses.

**New opportunities**

The incorporation of the Tropical Savannas CRC into the Katherine Regional Centre and the NTRC will open up avenues of opportunities for both training and funding for NTU, its students, industry and the community at large.

NTU will be running its first full-time horticulture course outside Darwin in 2001. The small established mango orchard on the NTRC’s 4000 hectare property at Katherine is used both as a training centre and a commercial venture: students are trained in pruning, picking, pest management and crop care and at the same time, the fruit is exported.

Potential areas of expansion include improving the flexibility of the National Apprenticeships to deliver on- and off-the-job training and assessment, with emphasis on networking with industry to assist developing partnerships. In addition, potential exists for the development of strong research and global links.

NTU in the Katherine region will aim to expand its course delivery in the areas of Business Development to include Business, Farm and Pastoral Management to meet the diverse needs of our rural community and regional industries.

**Discussion and Conclusion**

The case study selected exemplifies how cross-sectoral collaboration in a dual-sector university have produced significant outcomes, documented as follows:

- TVET courses are effectively administered with an integration of formal with practice-based learning.
- The introduction of TVET in schools has enabled a wide range of offerings to be made available through NTRC.
- The programs are relevant to primary industry production, processing and to the needs of rural communities.
- The flexible course structures and avenues for articulation to Higher Education awards increase opportunities for students.
Arising from the items highlighted, it is recommended that a short course on New Enterprise Development be introduced to address the needs of budding entrepreneurs.

In summary, the focus of this paper has been to demonstrate how cross sectoral collaboration in a dual-sector university like the Northern Territory University can be a boon to rural areas.

The case study highlights TVET programs that are clearly relevant for rural communities and course structures as well as flexible delivery strategies to meet the needs of the community. Besides horticulture and agriculture, programs in professional development, literacy and numeracy have also been implemented. It is apparent that much learning occurs as “learning for life” when formal education can be connected to more informal and individualistic processes and when learning is applied to action.

References

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