

## Implementing flexible learning in the workplace:

Strategies, models and barriers in the meat and food processing industries in regional Australia



**John Mitchell**

**5 November 2004, Version 1**

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ISBN 1 921045 10 8 web edition

*Part of the Australian Flexible Learning Framework*

*Managed by the Flexible Learning Advisory Group on behalf of the Australian Government, all States and Territories in conjunction with ANTA*

**Photo:** *The photo on the front cover shows Ray Stapley, OH&S and Environmental Manager, Simplot Australia, in the Simplot plant in Bathurst, talking with Central West Community College's food industry training specialist Judy Doulman about Simplot's well-known product, the Chiko Roll.*



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## Abbreviations

For brevity, the following abbreviations are used in this report:

ACE	Adult and Community Education NSW
ANTA	Australian National Training Authority
BACE	Board of Adult and Community Education NSW
CWCC	Central West Community College
DET	Department of Education and Training NSW
EEO	Equal Employment Opportunity
FILO	Food Industry Learning Online
FITC	NSW Food Industry Training Council
IT	Information Technology
MINTRAC	National Meat Industry Training Advisory Council Ltd
OH&S	Occupational Health and Safety
RTO	Recognised Training Organisation
VET	Vocational Education and Training

Additionally, and also for brevity, Cargill Beef Australia is regularly shortened to Cargill Beef or Cargill and Simplot Australia to Simplot.

## Executive Summary

This research project had three goals:

- to identify the strategies used by a registered training organisation (RTO), the Central West Community College (CWCC), to implement flexible learning in the workplaces of two regional NSW enterprises, Simplot Australia in Bathurst and Cargill Australia Limited in Wagga Wagga
- to identify the collaborative partnership model between the RTO and the enterprises and how that model assisted the implementation of flexible learning
- to identify any barriers to the implementation of flexible learning.

The project was undertaken from June-October 2004 by John Mitchell from John Mitchell & Associates. Assistance was provided by Sandra Gray, Senior Manager, Central West Community College and other college staff.

A pragmatic 'mixed methods' approach based on Creswell (2003) was used for the research, involving both qualitative and quantitative methods, which suited the diverse aims of the project cited above.

The research shows that food and meat processing enterprises in Australia need to meet stringent quality and safety requirements, while also demonstrating advanced capacity to be customer-focused and innovative in product design and marketing. In these enterprises, staff skills are a key to business survival and e-learning is now viewed as a new way to provide timely, efficient training for such progressive enterprises. However, implementing flexible learning in such enterprises requires collaboration between all stakeholders and advanced skills on the part of the training provider.

Readers from other training providers and enterprises may be able to transfer to their own settings many of the key messages set out below, provided they first clarify the differences between their own contexts and those described in this report.

### **Key messages about strategies for implementing flexible learning**

A range of educational, business and technological strategies can be used by training providers to implement flexible learning in regional enterprises.

*Educational strategies include:*

- determining user readiness for flexible learning in terms of computer literacy, for instance through the use of the Australian Flexible Learning Framework's (Framework) product, Skills Assessment for Computer Based Learning, a tool for self-assessment of computer literacy
- determining user readiness for flexible learning in terms of learning styles and preferences or, if this is impractical, then catering for a variety of learning styles by offering learners a range of ways to access learning in addition to the online medium including face-to-face sessions and learning materials in a variety of forms
- identifying existing learning materials that are in electronic format that can be modified for a specific program and enterprise, for instance existing materials on CD-ROM that can be customised for an enterprise and used online

- clarifying what additional materials and learning activities are required to supplement pre-packaged e-learning courses
- providing staff development for all staff who will be involved in supporting the flexible learning, including trainers, administrative and management staff from the training organisation and management staff from the enterprise
- including in the staff development not just familiarity with the technology and the instructional design, but an understanding of equity and access issues from a learners' perspective
- ensuring the e-learning is educationally sound: that is, relevant, engaging and not just text online, accommodating a range of learning activities
- creating an environment in the workplace which is conducive to learning and cultivates learner self-directedness, for instance by providing easy access to Internet-capable computers in private locations that are easily accessible in the workplace.

*Business strategies for the provider include:*

- analysing the specific nature of the enterprise, including factors such as difficulties in staff leaving production lines, the educational backgrounds of the staff and the proportion of casual staff
- clarifying whether the enterprise has any previous experience with e-learning and if so, what understanding exists within the enterprise about managing and supporting e-learning
- identifying training needs in conjunction with the enterprise and then identifying likely high demand e-learning programs that match these needs
- identifying compliance-related areas where e-learning may be an effective response
- identifying different cohorts of staff who might be early adopters of e-learning
- highlighting for the enterprise how the provider can add value to e-learning courses prepared by a third party
- marketing the flexible learning as providing value to the enterprise, particularly in enabling staff to acquire new skills and knowledge in a timely, efficient manner
- assessing the usability of pre-packaged e-learning programs and whether and how they could be customised to suit a specific enterprise
- determining where computer workstations or learning centres might be set up in the workplace
- undertaking risk management analysis to anticipate and avert problems
- conducting a commonsense cost benefit analysis to determine whether the benefits outweigh the costs, taking into account that the benefits might not be realised till some time after the initial expenditure
- developing pricing structures for different markets, taking into account different degrees of customisation of courseware and different levels of support to be provided
- using e-business processes where possible to support the e-learning, for example by enabling the end-user to undertake a range of online activities such as enrolling, contacting a range of staff and finding out more information about courses, especially from an informative provider website

- using e-business processes to provide additional support for the learner, such as tracking the progress of learners, issuing automatic reminder emails and issuing completion certificates online.

*Technological strategies include:*

- developing criteria for selecting a learning management system, which might include affordability, ease of use and reliability
- determining whether advanced features of learning management systems, such as online payment and links to the human resources systems, are affordable and necessary in the first instance
- requiring online providers to issue easy to use templates for converting existing digital information into an online format
- ensuring the learning management system can operated at low bandwidths by users at home.

### **Key messages about partnership models between providers and enterprises for implementing flexible learning**

The findings also reveal components of partnership models between a training provider and enterprises that facilitate the implementation of flexible learning.

*Components include:*

- the existence of a business relationship between the provider and the enterprise before complex flexible learning approaches are introduced
- an understanding by the provider of each enterprise's unique history, structure, workforce, partnership expectations and business goals that can be assisted by flexible learning
- a high level of trust and mutual respect between the provider and the enterprise
- a collaborative approach to planning the implementation of flexible learning
- a mechanism for monitoring the impact of flexible learning
- a shared understanding between the provider and the enterprise about the key training needs that can be addressed by e-learning
- the ability of the provider to use a range of delivery methods, including conventional face-to-face delivery and flexible learning
- a willingness to use training delivery methods that suit the individual enterprise, including the timing and structure of training
- a willingness to customise training to suit the enterprise, including the inclusion of enterprise-specific content
- support for the partnership from senior management within both the provider and the enterprise
- a commitment to a long-term relationship by all parties
- a willingness by all parties to postpone immediate financial gains in lieu of a longer-term, stable relationship
- the allocation of specific provider staff to work with a particular enterprise

- the joint creation of a learning environment where individuals feel their specific needs are being catered for
- the development by provider staff of skills in partnering enterprises
- the ability of the partnership members to jointly resolve difficulties and overcome obstacles
- the ability of the partnership members to sustain the commitment to flexible learning.

### **Key messages about barriers to implementing flexible learning**

Common barriers to the implementation of flexible learning in enterprises can be sorted into different categories, as follows:

- current: lack of customised online content for each enterprise
- potential: staff given insufficient time off from production lines to access e-learning
- tangible: lack of computers with internet access available in the workplace
- intangible: users' lack of familiarity with e-learning
- deep-seated: some users' lack of experience as self-directed learners
- surface-level: some users' preference for only teacher-directed learning
- recent: lack of trainers with experience in assisting e-learning
- long-standing: lack of packaged e-learning programs
- systemic: lack of policy-level support from some stakeholders
- localised: some resistance from some stakeholders to all the requirements necessary to establish and support flexible learning.

Some other barriers are as follows.

#### *Systemic barriers*

Some systemic barriers to the adoption of flexible learning in the meat and food processing industries in regional Australia stem from features of the industry:

- a focus on keeping the production line operating at an even level of output means that supervisors may be reluctant to release staff during a shift
- a skill shortage in some areas of the industry means that some staff are unlikely to be granted time to engage in e-learning during working hours
- in some enterprises a high staff turnover disrupts orderly training programs
- a high level of casual staff could be a disincentive to some enterprises to invest in e-learning programs
- some staff can be expected to be resistant to learning through the use of computers
- industrial relations issues such as the sensitivities about which staff can access e-learning opportunities may affect e-learning initiatives.

### *Policy barriers*

Policies generally do not acknowledge the multiple factors involved in implementing flexible learning or the range of possible benefits, for instance at the enterprise level.

Policy barriers stem from:

- lack of information by policy makers of the many educational, business and technological strategies needed to implement flexible learning in the workplace
- lack of knowledge by policy makers of the components of partnerships needed between training providers and enterprises, to facilitate the implementation of flexible learning
- lack of familiarity with the barriers preventing the implementation of flexible learning in the workplace.

### *Legal barriers*

Some legal requirements could hinder the development of flexible learning, where enterprises interpret regulations as requiring large groups of staff to be able to demonstrate physical skills which they think can be taught more appropriately in face-to-face demonstration sessions. In some cases, some aspects of these skills could be developed through e-learning.

### *Technological barriers*

Common technological barriers include:

- access to a cost-effective learning management system
- the lack of a reasonable speed for internet access in the homes of many staff.

## Recommendations for stakeholders

### Training providers

*It is recommended that* training providers identify similarities and differences between their own contexts and their stakeholders with CWCC's contexts and stakeholders, before seeking to transfer any of the educational, business and technological strategies used by CWCC to implement flexible learning in the workplace.

*It is recommended that* training providers compare their existing partnerships with enterprises with the partnership between CWCC and Simplot Australia and Cargill Beef, before seeking to implement flexible learning in the workplace.

*It is recommended that* training providers use the barriers to implementing flexible learning experienced by CWCC as a useful checklist when seeking to identify potential or actual barriers.

### Enterprises

*It is recommended that* enterprises examine the educational, business and technological strategies used to implement flexible learning by CWCC with Simplot Australia and Cargill Beef, to determine the strategies that might suit the new setting.

*It is recommended that* enterprises compare their partnership relationship with training providers with the partnerships that both Simplot Australia and Cargill Beef developed with CWCC, before implementing flexible learning with a training provider.

### Industry training associations

*It is recommended that* industry training associations in the meat and food processing areas – particularly National Meat Industry Training Advisory Council Ltd (MINTRAC) and the new Agri-Food Industry Skills Council – promote nationally the good practice in implementing flexible learning in the workplace of CWCC, Simplot Australia and Cargill Beef.

*It is recommended that* industry training associations in industries characterised by intensive production methods or manufacturing in general revise existing policies or develop new policies in relation to flexible learning in the workplace, taking into account the effective strategies and partnership models used by CWCC with Simplot Australia and Cargill Beef

*It is recommended that* industry training associations supportive of implementing flexible learning in the workplace examine the needs identified by CWCC, Simplot Australia and Cargill Beef for generic digital learning materials that can be easily modified to suit specific enterprises.

### E-learning providers

*It is recommended that* e-learning providers in the VET sector seeking to support flexible learning in the workplace develop or partner with suppliers of learning management systems (LMS), ensuring the LMS are similar to that profiled in this report: easy to use, cost effective and easy for the user to brand as their own.

*It is recommended that* e-learning providers in the vocational education and training (VET) system seeking to support flexible learning in the workplace model the practices

demonstrated in this report, by providing online content that can be easily customised to suit specific enterprises

*It is recommended that* e-learning providers in the VET system seeking to support flexible learning in the workplace issue training providers with easy-to-follow guidelines and templates for converting existing learning materials into the online format, ensuring the resultant online course is interactive, engaging and visually interesting.

### **Regional development agencies**

*It is recommended that* regional development agencies such as the NSW Department of State and Regional Development promote the strategies and partnership models used by CWCC, Simplot Australia and Cargill Beef to implement flexible learning, in industries characterised by intensive production methods, skill shortages, high staff turnover and high levels of casual labour.

*It is recommended that* regional development agencies promote the strategies and partnership models used by CWCC, Simplot Australia and Cargill Beef to implement flexible learning, to stimulate the delivery of flexible, customised training in regional industries.

### **NSW Board of Adult and Community Education (BACE)**

*It is recommended that* the Board of Adult and Community Education (BACE) consider modifying its existing BACE Strategic Direction, 'Utilising Technology for the Future', and the change drivers for the E-business and E-learning Strategy for 2002-2004, in light of the findings from this research, incorporating an emphasis on the strategies and partnership models for implementing flexible learning in enterprise workplaces.

### **NSW Department of Education and Training (DET)**

*It is recommended that,* to stimulate further implementation of flexible learning in enterprise workplaces, NSW DET promote the range of strategies and partnership models used by CWCC with Simplot Australia and Cargill Beef.

*It is recommended that,* to stimulate further implementation of flexible learning in enterprise workplaces, NSW DET modify its existing 2005 Priorities Statement, particularly its objective 'delivering a dynamic and responsive system of public education and training' with the addition of words to the effect 'including skills training in the workplace that uses flexible learning'.

### **Australian Flexible Learning Framework (Framework)**

*It is recommended that* the Framework promotes the case studies of CWCC collaborating with both Simplot Australia and Cargill Beef as exemplars of a training provider developing innovative, customised strategies and sound partnerships in order to implement flexible learning in the workplace.

*It is recommended that* the Flexible Learning Advisory Group modify the 'client engagement' and 'provider flexibility and innovation' components of the draft Framework circulated for consultation in mid-2004, to include findings from this study.

## 1. Background

At its commencement, this project promised to deliver useful insights into a range of strategies used by the training provider CWCC, as the college previously had embarked on a program of introducing a wide range of different flexible learning strategies. The project also promised to reveal aspects of the partnership model used by CWCC with the two enterprises, because the college had developed sound relationships with both Simplot Australia in Bathurst and Cargill Beef in Wagga Wagga, in the previous years.

### 1.1 Focus of the research

The focus of research was:

- to identify strategies used to implement flexible learning in the workplace for the meat and food processing Industries, highlighting strategies that might be transferable to other settings
- to identify models of how RTOs can engage with industries and enterprises in the meat and food processing industries in regional Australia, to apply flexible learning solutions to business problems
- to identify barriers, especially policy barriers, to the take-up of flexible learning in the meat and food processing industries in regional Australia and how can they be overcome.

### 1.2 Flexible learning methods examined

The flexible learning methods evaluated in the project included the following:

- the use of the Framework product, the Skills Assessment for Computer Based Learning
- the use of a commercial provider of e-learning for VET programs – Learning Seat – in VET programs such as occupational health and safety, hygiene and sanitation, food safety, quality assurance and frontline management
- the use of the MINTRAC meat processing online system for developing and storing training and assessment materials
- collaboration between the RTO, the e-learning vendor Learning Seat, MINTRAC and NSW Food Industry Training Council (FITC) to move current printed content into an online environment
- the use of the Food Industry Learning Online (FILO) system.

The research centred the use of the flexible learning methods with employees and managers at both Simplot Australia (Bathurst) and Cargill Beef (Wagga Wagga).

### 1.3 Potential implications of the research

The potential implications of this research for the industries and enterprises include:

- enhanced flexible learning opportunities for the meat and food industries through the development of models for accessing flexible learning in collaboration with external providers
- new, practical and achievable solutions for industry to address problems in training and assessment
- increased participation of industry in the Australian flexible learning community
- improved training and hence improved productivity for rural and regional industries
- improved partnerships between industry, RTO and industry advisory bodies
- innovative models of industry-based flexible learning transferable to other enterprises and other industries in regional Australia

- revised policies about flexible learning of NSW ACE, NSW DET and industry advisory boards – initially through MINTRAC and the NSW FITC and later through the proposed Industry Skills Council for Primary Industries.

## 2. Multiple contexts

This chapter explains the multiple contexts for this study, including the regional context, the industry context, the enterprise context and the training provider context. The following descriptions indicate that the different bodies involved in these contexts – such as regional industries, local enterprises, local training providers and regional development organisations – are inter-dependent: that is, if learning is to contribute to a stronger regional economy, these different parties need to work together. A potential benefit of such collaboration is the design and support of learning activities that address industry skill needs and can be provided at times and in locations that suit local enterprises.

### 2.1 Regional context

Australia needs to grow its economy, partly through a measured increase in its population, but the infrastructure of some of Australia's most heavily populated capital cities, particularly Sydney, cannot cope with increasing migration, as indicated regularly by the Premier of NSW, Mr Bob Carr. Hence, Australia needs vibrant regional and rural communities and economies that are attractive to new migrants and to other Australians.

To attract new residents to regional and rural communities, these communities ideally need world-competitive industries providing sustainable jobs and long-term security for their populations. It is generally accepted that cost-effective, flexible training in regional industries is one of the keys to realising this vision of vibrant regional development in Australia.

Simplot Australia's Bathurst operation is located in the Central West region of NSW, which is described by the NSW Department of State and Regional Development (<http://www.business.nsw.gov.au/regions.asp?cid=208>) as 'The agricultural heart of NSW'. The region has a population of 172,790 and a land area of 63,262 sq km and includes the major towns of Bathurst and Orange. The Department provides this overview of the Central West region which lists food processing as a major industry:

- major industries: agriculture; mining; food processing; manufacturing; tourism; retail
- home to an expanding mining sector involving coal, gold and copper
- significant natural resources including the Lachlan and Macquarie Rivers, hardwood and softwood forest resources and rich mineral deposits.

Major competitive advantages of the region, which provide hope of a positive economic future, are as follows:

- extensive freight and commuter road and rail infrastructure
- rich in natural resources including gold, copper, timber and water supplies
- close to the major population and market centres of Sydney, Newcastle and Wollongong
- one of the most diverse regional economies
- strong education and service sectors.

Simplot Australia, a food processing company which is a focus of this study, is part of two significant industries within the Central West region, the agricultural and manufacturing industries. The agricultural sector is worth over AUD\$600 million

annually and the manufacturing sector AUD\$1.421 billion annually. Wool, cattle and wheat form the core of the agricultural industry, with significant growth occurring in areas such as horticulture, dairy farming and viticulture. The region builds on its strong agricultural base with a large food and beverage processing sector worth around AUD\$690 million. Machinery and equipment manufacturing are also important, worth AUD\$245 million and AUD\$165 million respectively to the Central West economy.

Cargill Beef Australia, a meat processing company which is the other enterprise examined in this study, is one of its largest Australian complexes at Wagga Wagga in the Riverina region of NSW. Wagga Wagga is 462km from Sydney and has a population of 56,303. According to the NSW Department of State and Regional Development (<http://www.business.nsw.gov.au/regions.asp?cid=227&subCid=218>), the major industries are tourism, agribusiness, wholesale and retail trade, construction, transport and storage and health and community services. The city has progressed beyond its traditional role as a regional service centre and is now known for excellence in industry sectors such as transport, defence and tertiary education. Value adding industries, especially food processing and research, also contribute significantly to Wagga Wagga's economy. The current population of Wagga Wagga and surrounding areas is estimated at 86,000 people. Its young demographic profile reflects the area's high proportion of young families, with 62 per cent of people aged under 40 years.

The above descriptions indicate the importance of regions such as the Central West of NSW and the Riverina in NSW to not only NSW but also to Australia's well-being.

## 2.2 Industry context

The food and meat processing industries are prominent industries in regional Australia. Some descriptions and broad statistics for the NSW processed food industry (<http://www.business.nsw.gov.au/key.asp?cid=157>) are as follows:

- employment 48,000
- turnover AUD\$14.8 billion
- value added AUD\$4.2 billion
- exports AUD\$3.69 billion
- number of enterprises 1,200.

The State's quality produce, combined with world-leading research and development, form the basis of a successful food processing industry. Many of the State's food processing companies win international customers on the basis of their innovative, high quality products. Apart from Simplot and Cargill, other major international food companies operating, or with headquarters, in NSW are Nestle, Coca-Cola, Kellogg's, Arnott's/Campbell's, Cargill, Masterfoods, Wrigleys and Mars, Sara Lee, Lion Nathan, George Weston and Smiths Snackfoods.

Food processing is the State's largest manufacturing industry, according to the NSW Department for State and Regional Development (<http://www.business.gov.au>). It has a highly diversified base with particular strengths including cereal and bakery products, edible oils, confectionery, meat, dairy, horticultural products and wine. NSW food processing companies have access to cheap, reliable water, electricity, gas, waste management services and transport facilities, including air and sea freight. Major food export markets include Japan, the United States, the United Kingdom, Hong Kong, New Zealand, Taiwan, the Philippines, China, Malaysia, Singapore, Korea and

Indonesia. There are opportunities for further growth in the export of processed and unprocessed food exports in these and many other countries. Leading exports of the NSW food industry include processed meat and meat products, grains, cereal foods, wines, oilseeds, horticultural products and dairy products.

Meat and food processing industries are focused on production outcomes and difficulties arise for employees in accessing consistent training due to the difficulties of taking large numbers of employees away from the production-line at any one time. Additionally, costs for the delivery of training for the industry are high due to the need to work with small groups or the need to pay for casual relief labour to keep production lines moving. The findings from this project will substantially benefit the meat and food processing industries – beyond Simplot Australia and Cargill Beef – by determining whether the flexible learning strategies implemented by Central West Community College address these core industry issues.

Specifically, this research project addresses a range of critical issues for industries in regional Australia:

- intensive production: effective flexible learning may mean that the production line can keep moving but training can still occur for selected staff
- skills shortages: effective flexible learning may enable unemployed clients to gain the necessary pre-vocational skills necessary to gain employment
- high staff turnover: effective flexible learning may address some causes of staff turnover such as lack of skill development leading to a reduced career path
- employment of casual labour: effective flexible learning may included the provision of a structured approach to induction and initial skills training.

This research project will benefit not only the two major enterprises involved in the project, but will also impact more widely on industry through the involvement of two key industry bodies:

- MINTRAC, a company owned by the Meat Industry, which represents the industry on training matters. MINTRAC's role is to improve the skills of workers in the industry through the provision of recognised and accredited training from entry level through to senior management.
- NSW FITC, the Board of which is represented in this project by its chairperson Ray Stapley from Simplot. While the Council's future role will be influenced by the impending formation of a new Skills Council, the Board of the Council continues to represent industry training needs.

The involvement of these industry bodies ensures that good practices and models arising from this research can be disseminated, so that jurisdictional barriers within the State and across the nation are minimised.

### **2.3 Enterprise context**

A brief profile of the two industry sponsoring organisations is provided below. Both are leading and large companies in Australia:

- Simplot Australia manufactures and sells frozen and canned products. Distribution is through an extensive network of major supermarkets, convenience stores and food service outlets such as restaurants, cafes and caterers. In undertaking these activities, Simplot Australia has total sales of AUD\$740 million; is one of the top ten food and beverage companies in Australia; produces products covering 53 categories; and is a market leader in eight categories. Simplot is the home of some of the top food brands in Australia, including Birds Eye, Chiko, Edgell, John West and Leggo's. The Bathurst site – which will be a focus of this research – is the largest processor of Sweet Corn in Australia and all production facilities have

recently been upgraded to be world class and globally competitive.  
(<http://www.simplot.com.au> )

- Cargill Australia Limited established a presence in Australia in 1967 to service the country's large grain exports and has since extended its involvement into several other agricultural industries including oilseed and beef processing and flour milling, as well as grain and cotton trading and grain storage. Currently Cargill sells protein meals and vegetable oils as well as importing commodities such as fertilizer and food ingredients. Total investments in Australia total AUD\$325 million with an annual turnover of approximately AUD\$650 million. Cargill Beef Australia announced in November 2003 that it will expand its beef processing facility in Wagga Wagga – which will be another key focus of this research project – to better serve key customers, creating 125 additional jobs.  
(<http://www.cargill.com.au> )

Managers from these companies indicated in writing at the commencement of this research project that they believe they will benefit from this project, as models and strategies identified in this research project could be transferable to their other sites in Australia.

## 2.4 RTO context

The RTO in this project, Central West Community College (CWCC), is a leading provider of Adult and Community Education (ACE), Job Network Employment Services and accredited training in the central west of NSW. The college is an independent not-for-profit organisation providing adult and community education and employment and training services to a population of some 130,000 adults spread across 68,000km of NSW. In addition to the Regional office in Bathurst, the College has 14 other administrative centres from which staff deliver diversified programs and services to 36 communities, many of which are small and isolated. The College is managed by a College Board consisting of elected community representatives. The college aims to contribute to community development through the delivery of adult and community education, employment, training and advocacy services.

The college designs and delivers innovative flexible programs and services in response to the identified needs of individuals, communities, business, industry and government. The College has grown enormously in recent years to become the largest education and employment services provider in the central west of New South Wales. In 2003 nearly 30,000 people accessed a program or service offered by the College, representing about 20% of the adult population of the area it serves.

The College Board and staff believe that what sets it apart are its organisational principles of social benefit, valuing the creativity and contribution of staff, striving for excellence, collaborative management and our commitment to build effective partnerships new flexible way for you to learn at home or at work. In line with this philosophy, the CWCC has expanded its range of learning opportunities to include a selection of on line courses. These courses are designed to assist learners to gain new skills in the comfort of their home or at work. The courses have been designed to be engaging, highly interactive and to provide quality learning experiences.

The College believes that the benefits of learning online are as follows:

You can access the course at a time and place that suits you

There are a great range of courses available

We can provide tailored support

If you live in a small community you no longer have to travel to access our courses

Time away from work is minimised

Courses are available 24 hours per day

Some courses are nationally accredited

Courses can be customised for business and industry to allow you to provide training to your employees. ([www.cwcc.nsw.edu.au](http://www.cwcc.nsw.edu.au))

The College announced via its website in early 2004 that there are two ways that students can learn online with the College: self-directed or supported. In the 'self-directed' mode, the student is a competent computer user and comfortable in an online environment, and can enrol and progress at his or her own speed. In the 'supported' mode, the student needs some assistance to complete the accredited courses online, and he or she can select an additional tutorial support unit that provides a mentor who will guide the student through the process.

The range of online courses offered to the college's community as of 2004 included the following:

- Legislative and Compliance Courses: OH&S; Privacy; Financial Services; EEO
- Courses to build skills for work: Project Management; Front Line Management; Risk Management
- Course to build your communication skills: Business writing Meetings Group Problem Solving Stress Management Conflict Management
- Courses to build your IT skills: Microsoft Office Specialist IT programs.

## **2.5 Beyond interdependence to innovation**

The above descriptions indicate that a range of different stakeholders, from government advocates of regional development to industry spokespeople to enterprise leaders and training, need and want to work together to support regional development. The descriptions also indicate that learning which leads to skill development plays an important role in helping enterprises prosper and industries grow. However, the descriptions also show that all stakeholders are willing to collaborate further, to ensure that opportunities for learning are timely, convenient and efficacious. CWCC as a progressive RTO is determined to leverage off the interdependent relationship it has with the other stakeholders, to develop improved strategies and models for supporting flexible learning within local workplaces.

### 3. Research questions, design and methodology

The research questions, research design and methodology for this project were developed after considering the background and contexts for this project, as set out in the previous two chapters, and were refined following the undertaking of the literature review set out in chapter four.

#### 3.1 Research questions

The three major research questions, with explanatory comments, are set out below:

1. How effective is a range of transferable strategies in planning and implementing flexible learning and e-learning initiatives that provide innovative, cost-effective learning for industries and enterprises in the meat and food processing industries in regional Australia, based on the experiences of Central West Community College collaborating with Simplot Australia (Bathurst) and Cargill Australia Ltd (Wagga Wagga) in 2004?

The strategies might include decisions and actions taken at the stages of planning, preparation, delivery, support and evaluation. For example, at the planning stage, decisions might be needed about learner readiness, enterprise readiness, the appropriateness of learning materials, the availability and reliability of the technology, risks, costs and staff skills. These strategies emerge from the literature review and key reports by Mitchell and Bluer (1997), Misko (2000), ANTA (2001), Brennan (2001), Cashion and Palmieri (2002) and others.

2. What transferable models can be identified for how RTOs can engage with industries and enterprises in the meat and food processing industries in regional Australia, to apply flexible learning solutions to business problems?

In relation to flexible learning and e-learning, the models might include good practice principles about how RTOs can form and enhance a business partnership with an enterprise, analyse clients' business models and training needs, facilitate innovative projects, access resources and information, share ideas, develop joint knowledge, increase the level of collaboration, generate mutual benefits, overcome challenges and sustain the partnership. These strategies emerge from the literature review, especially from key reports by Harper, Hedberg, Bennett and Lockyer (2000), Mitchell (2001, 2003, 2004), FLAG (2004), Callon and Ashworth (2004).

3. What are the systemic, policy, legal, technological, business, educational and any other barriers – particularly policy barriers – to the take-up of flexible learning in the meat and food processing industries in regional Australia – based on the experiences of Central West Community College collaborating with Simplot Australia (Bathurst) and Cargill Australia Ltd (Wagga Wagga) in 2004 – and how can they be overcome?

Barriers could be sorted using a range of different categories, such as current or potential; tangible or intangible; deep-seated or surface-level; recent or long-standing; systemic or localised.

### 3.2 Research design and methodology

Before research design commenced, a number of other tasks need were undertaken, including identifying the constraints under which the research would take place and then planning within those constraints (Cohen, Manion & Morrison 2000, p.89). Constraints in the case of this project included the specific timeframe from June-October 2004; the distances between the key sites; the involvement of a number of different enterprises; the different structures and composition of the two industries involved; the normal pressures of time of staff from these enterprises; and the disparate group of stakeholders. These constraints were not expected to disrupt or impair the research.

Taking these constraints into account, the next planning task was to determine the methodology which would deliver the expected outputs and outcomes from the project. The main output from the project would be the final report, which would include identified strategies and models and recommendations about policy changes. The final report would include clear and valuable 'take-away' messages about strategies, models and overcoming barriers that could be used to guide initiatives in other settings. The major outcomes of the project are expected to be an increased understanding of flexible learning strategies and models for the meat and food processing industries – for priority areas such as rural and remote and casual staff – and how the implementation of these models can be facilitated by any changes to existing policy.

Given these expected outputs and outcomes, and to capture the expected richness and breadth of the data, it was decided that the project would employ a deliberate mix of quantitative and qualitative research strategies that can be described as mixed methods research (Creswell 2003). This use of a mixture of qualitative and quantitative methods matches the position described by Creswell (2003) as pragmatism; and pragmatism is the philosophical underpinning for mixed method studies. According to Creswell (2003, pp.11-12), pragmatists use pluralistic approaches to derive knowledge about a problem and draw liberally from both quantitative and qualitative assumptions when they engage in their research. This pragmatic approach was expected to suit the examination of the multi-faceted nature of CWCC's partnerships with enterprises and the other stakeholders. It was also expected to suit the examination of the complex issues raised by of two different industries operating in two different regional areas of New South Wales.

### 3.3 Research methods

The three research questions above firstly suit the use of quantitative methods, to gather data in response to three concrete questions 'How effective...?', 'What...models...?' and 'What...barriers..?'. To answer these types of questions, the data needs to assist the researcher to find regularities in order to make generalisations. However, these same research questions do not preclude the use of qualitative methods, to gather data that will capture the uniqueness or complexity of a situation. For instance, there may be some idiosyncratic reasons why strategies that are effective at Cargill's abattoirs in Wagga Wagga may not be transferable to other settings.

Hence, to suit the research questions and the expected outputs and outcomes, the decision was taken to use a mixed methods approach (Cresswell 2003), involving both quantitative and qualitative approaches. The research methods used in the project were a review of literature; observations; structured and unstructured interviews; surveys containing both ratings and open-ended questions; and the case study approach. Appendix 3 describes the background to the development of the research instruments for the project

In addition to the above mixed methods research approach, policy analysis was conducted, examining the contexts, assumptions and theories underpinning those

current policies that might act as a barrier to the take-up of flexible learning. One needs to be mindful about the sensitive and often tenuous connections between this type of research and policy makers. Cohen and others (2000) note that a piece of research does not feed simplistically or directly into a specific field of policy-making:

Rather, research generates a range of different types of knowledge – concepts, propositions, explanations, theories, strategies, evidence, methodologies (Caplan 1991). These feed subtly and often indirectly into the decision-making process, providing, for example, direct inputs, general guidance, a scientific gloss, orienting perspectives, generalisations and new perspectives. (p.43)

Cohen and others also note that 'basic and applied research have significant parts to play in this process' (p.43).

### **3.4 Sample**

The sample of people interviewed and/or surveyed included:

1. end-users, that is, employees at Cargill and Simplot (interviews and survey)
2. CWCC project management staff (interviews and survey)
3. staff supporting the end-users, including management staff at Simplot and Cargill and project team members from CWCC (interviews)
4. other stakeholders, e.g. from industry advisory bodies; government (interviews); providers of e-learning content and technology. The key stakeholders are cited in Appendix 2.

It is understood that there will be limited access to end-users of the e-learning programs – the employees at Simplot and Cargill – given the costs for the two companies to have employees irregularly leave the production lines. This will be compensated for in a number of ways:

- members of the project team from CWCC will conduct informal interviews with employees when visiting the enterprises
- and the CWCC staff will also administer the dissemination and collection of survey forms among the end-users.

These arrangements will minimise disruption to the enterprises.

### **3.5 Additional site**

A third enterprise site, in addition to Simplot Australia (Bathurst) and Cargill Australia Ltd (Wagga Wagga), will be used as a secondary reference site. The site is the Burrangong Meat Processors at Young.

## Literature review

A number of VET reports investigate the implementation of flexible learning and the topics of strategies, models and barriers, but few of the VET reports relate specifically to implementing flexible learning in regional enterprises. Hence the following literature review discusses some reports on generic issues involved with implementing flexible learning, as well as a small number of reports that specifically address issues about implementing flexible learning in industry.

### 4.1 Brief definitions

As the following terms are used throughout the report, it is useful to briefly comment on the relationships between online learning, e-learning, blended learning and flexible learning. Instead of solely seeking online learning, the student market in VET is responding more favourably to the concept of e-learning, that is technology-based learning including online delivery and CD-ROM and other technologies, supplemented by face-to-face support as appropriate (Mitchell 2001; TAFE frontiers 2001). The Australian Flexible Learning Framework (Framework) defined e-learning similarly as a wide set of applications and processes which use all available electronic media to deliver vocational education and training. It includes computer-based learning, web-based learning, virtual classrooms and digital collaboration and uses (2001b). Blended learning is taken to mean a combination of e-learning and other learning modes, particularly face-to-face support.

Research by Mitchell and Wood (2001) suggests that online learning (which is learning delivered via computer networks) has a more secure future if it is located within an e-learning framework (offering a variety of electronic technologies) and nested within a broader flexible learning framework (offering a variety of support mechanisms).

### 4.2 Literature on strategies

There is literature within VET on strategies for implementing flexible learning, but only a small proportion of this literature addresses strategies for implementing flexible learning within industry. Similarly, there is a range of reports on implementing flexible learning in regional areas, but mostly these reports address the needs of providers or of individual learners, not how to implement flexible learning in regional enterprises or in the workplace. On the other hand, findings from these broader studies are still relevant and provide useful insights that can be brought to an examination of implementing flexible learning in the workplaces of regional enterprises.

#### 4.2.1 Strategies for providing students with extra support

Educational issues surrounding online learning in Australia such as quality, instructional design and teacher support systems are summarised by researchers such as Harper et al (2000), Brennan (2001) and Cashion and Palmieri (2002). Much of the VET literature (for example, Harper and others 2000; Misko 2000; and Brennan, McFadden and Law 2001) indicates that learners participating in online courses will increasingly require considerable support and guidance from training providers supplying online products and services. For instance, Misko (2000) identifies the following forms of support and guidance, believing them to be essential to the success of student participation in any form of learning: the need for supportive instructional activities; clear instructional materials; opportunities to discuss problems or issues with teachers and peers; availability of teacher support; timely feedback; practical examples; and enough time and willingness to practise skills and meet requirements.

Similarly, Brennan and others (2001) believe that a number of preconditions are necessary if the main goal of improved learning outcomes for students in an online environment is to be achieved. The preconditions include acknowledging and taking into account differences in student backgrounds in every phase of the design and delivery of online materials and support and catering for the differences in learning styles and preferences of students. Other preconditions are focusing on the communicative and interactive dimensions of the new environments and not expecting technology to solve all the hard problems. Brennan and others (2001) suggest that teachers and trainers can be prepared to use new technologies flexibly and beyond minimum levels of competence and that teachers can focus on explicitly enhancing information literacy skills in students.

#### **4.2.2 Strategies for encouraging self-directed learners**

Proponents of VET online products and services need to target self-directed and verbal learners, not non-verbal learners who prefer instructors and demonstrations. For instance, Smith (2000, 2001) showed that apprentices prefer learning in structured environments that provide opportunity for direct social interaction with their fellow learners and with their instructors. These learners also exhibited a low preference for learning that is presented through verbal means such as reading or listening. Verbal learners are those who prefer learning through the spoken or written word. The strong preference of the apprentices, as non-verbal learners, was for learning through hands-on experience, demonstrations and practice.

Mitchell, Latchem, Bates and Smith (2001) point out that teachers are normally able to identify those students who are self-directed and those who are not. Self-directed students ask challenging questions, not just about program structure and what is expected of them, but about the content, what it means, and how it can be applied. They tend to go beyond what is delivered in instruction; and show greater willingness to work independently, and to access resources beyond those the instructor provides. Providers need to market e-learning to self-directed learners and to be able to identify self-directed learners.

Fortunately self-directed learning can be nurtured. Smith (2001) has suggested a wide range of strategies for the development of self-directedness in VET learners, focusing largely on assisting them to:

- use their experience and prior knowledge to develop new knowledge
- set their own learning goals and monitor achievement
- adopt a problem solving approach to new learning and its applications
- broaden the range of learning resources they make use of
- use other people to assist them where necessary to understand new learning.

#### **4.3 Literature on models**

There is a number of models cited in the VET literature for how RTOs can engage with industries and enterprises to provide training in general (e.g Gientzotis 2003; Callon & Ashworth 2004; Mitchell 2004), but there are fewer models for how RTOs can collaborate with enterprises to implement flexible learning in enterprises. Possibly the most directly relevant to the latter issue are the report by Mildon (2003) and the planning model provided by the Framework (2001, 2003).

Callon and Ashworth (2004) provide generic, practical guidelines that VET and other professionals can use in setting up and managing successful industry–provider training

partnerships. Based upon the findings of the research, the following general guidelines emerge for training providers:

Recognise the competitive realities businesses are facing as they try to build training and ongoing skills development into their organisations or industries.

Build as much flexibility and customisation into the training as is feasible and manageable within the allocated budget.

Given the time involved in establishing a larger training partnership, support the establishment of longer-term partnerships.

Accept that a 'break-even' outcome initially may be the best financial result that a training provider may achieve, particularly since some outcomes may not be realised in financial terms.

Find and then develop staff who have special responsibilities for initiating and managing the start-up stages of larger training partnerships.

Assemble a core of individuals who want to be responsible for the successful management of the partnership and the achievement of its training objectives. (pp.9-10).

Complementing the findings of Callon and Ashworth, Mitchell (2004) examined networks developed between VET training providers and enterprises. A simple but useful definition of a network is that it is an interlocking web of connections (Cohen and Prusak 2001). From a positive perspective, networks are based on collaboration and can provide access to power, information, knowledge and to other networks (Cohen and Prusak). However, networks are complex and difficult to manage, as participants' needs and ambitions can constantly change (Ford et al 2003). Mitchell's report on networks in the VET system expands on all of the above features of networks. The networks described in the report provide the VET system with models of how to effectively initiate and support networks that impact positively on the individuals and organisations involved, as well as assisting with the implementation of the national training system. The networks described in the report also attempt to meet challenges that are commonly faced by networks, such as continuously providing value for all members.

Callon and Ashworth (2004) also note that providers use a range of different delivery modes for industry training:

Training involved substantial levels of flexibility and the use of a variety of modes of delivery. Methods of delivery included the use of in-class material, self-paced material, (which was predominantly computer-based and website learning), 'chalk-and-talk' classroom teaching, and intensive blocks or staggered attendance programs. Other modes included multiple offerings to allow for shift workers, or 'tag-team teaching' with a theory-based technical and further education (TAFE) lecturer and practice-oriented business worker both delivering the same course. (p.8)

Mildon (2003) investigated reasons why enterprises introduced flexible learning. She found that the main reasons for enterprises to introduce flexible learning include reduced training costs, though it is acknowledged that this will not be realised in the short term because of the high entry costs; and reduced time to achieve competence, particularly in product knowledge and compliance training for those organisations with geographically remote workforces (p.4). She continued:

The other key reasons for introducing flexible learning included improving access and equity to training (particularly for geographically remote staff and shift workers), improving the quality and consistency of training delivered, and enhanced record keeping and training administration. Improving staff morale and 'creating a learning culture' were also cited as key drivers by several organisations. (p.4)

The field of flexible learning in general and e-learning in particular is still new and contains a number of risks. The Framework publication *Flexible Delivery Business Planning Framework* (2001; 2003) notes that the market may associate the following risks with the provider: product performance, reliability, access and costs. In a section of the Framework business model called 'Collaboration – Benefits & Risk Assessment' the following checklist of questions is provided:

- Can we consistently deliver the desired benefits?
- How might collaboration enable us to harness the desired benefits?
- Can we manage the risks ourselves?
- How might collaboration mitigate the potential risks?
- Who might we collaborate with to secure the benefits and/or mitigate the risks? Internal functions? External parties/agencies?
- How could collaboration operate? How will benefits/risks be shared? (Framework 2001)

The Framework business planning model describes a case study where the anticipated benefits for the provider organisation are market and revenue growth, improved staff capability and improved market presence and reputation. In this case study, the risks are associated with gaining the following benefits:

a greater degree of staff commitment and securing a sizeable share of the market. These risks are seen to be manageable as the solution can be developed and implemented in stages that would mean that the Institute does not have to commit itself to an "all or nothing" development project. (FLAG, 2001)

In the Framework case study, the key area of collaboration required to manage the risk is with the provider's marketing function. The provider may wish to consider collaborating with the market's major suppliers of IT hardware or applications (Framework 2001). This advice about risks deserves consideration by a provider before making any significant investment in e-learning.

#### **4.4 Literature in relation to barriers**

A number of VET research reports address the issue of barriers to the implementation of flexible learning, including Harper and others (2000), while some consider barriers to implementation of flexible learning in enterprises, including Mitchell (2001) and Mildon (2003).

##### **4.4.1 Organisational barriers**

Harper and others (2000, pp.48-49) identify organisational impediments, pitfalls and challenges to implementing online learning in VET. Harper and others (2000) find that the Australian VET system is characterised by the following features: development of in-house expertise as an initial response to the demand; the real costs of developing online programs are rarely fully examined before embarking on projects; addressing the resource implications for infrastructure, personnel, professional development and administration tends to be *ad hoc* unless the systems are centralised; many institutions have published policies on delivery of training, but few have taken the next step to formalise their approach to online delivery; and constant change in the capability of the technology and user access works against comprehensive policy development.

Mildon (2003) identified a number of barriers to the implementation of flexible learning in enterprises, besides the high entry costs:

- resistance to change, particularly from senior management (cost), individual learners (training is an event and an opportunity to be away from the workplace), learning and development professionals (fear of lost jobs or a diminution of their role) and managers (it should be taught in a classroom)
- technology and bandwidth issues (particularly access to PCs and multiple platforms within organisations)
- the skills levels of learning and development staff (both from a technical, change management and project management perspective)
- the PC literacy and skills of learners (particularly older learners) and,
- poor instructional design (online publishing rather than online learning) leading to high levels of dissatisfaction from learners. (pp.4-5)

Another set of organisational factors that need to be managed relate to staff capability in developing and delivering online learning. Mitchell (2001) noted that the 'marketspace' for online learning is becoming more demanding, so that developers of VET online products and services need more than just instructional design skills and student support services. New capabilities required of developers of VET online products and services include advanced project management skills; quality management systems; the ability to be 'fast, flexible, fluid'; a mix of technical, educational and organisational skills; the ability to develop learning systems that can cope with increasing scales of production; and skills in outsourcing development. Mitchell (2001) also found that deliverers of VET online products and services need skills in relationship marketing, customer relationship management, facilitation and teaching, partnership and alliance management. Deliverers need an understanding of enterprise's business goal, after sales service and long-term maintenance of products.

#### **4.4.2 Technological barriers**

Technology creates opportunity, but the desired technology may keep changing and offering more functionalities, increasing the demands on managers. LMS are one such technology discussed in Mitchell (2003, p.65). LMS were originally designed to store and make available online learning content, while also recording usage, but their functionality is now being expanded in some cases to include other human resource management functions such as induction, leave and pay records and career planning. LMS have been progressively improved in recent years and will probably undergo constant improvements to their functionality and performance, with impacts on their price. This constant change in technology needs active analysis and management.

Technology creates the opportunity for the use of e-business practices with online learning, but the desired or affordable technology is not always available or ubiquitous. In a study on the marketing of VET online products and services, Mitchell (2001) found that students' access to technology is considered a barrier for half of the VET providers surveyed: 50% of providers consider that their organisation's access to the online learning market is restricted by the students' lack of necessary technology. However, Mitchell (2001) also found that 36.6% of the students surveyed in the study use the internet at work, which is a surprisingly high level; 71% use the internet at home, which provides VET providers with incentives to provide online learning; and, on average, the respondents use the internet for two hours per day, which also is a surprisingly high level. This high level of internet usage provides some hope that the barrier of access to technology may be reduced in future.

#### **4.5 Summary**

The VET literature is strong in identifying generic strategies, models and barriers in

relation to the implementation of flexible learning, but there is only a small body of work on implementation of flexible learning within enterprises. These generic strategies are still relevant to the enterprise context and provide a foundation for considering the implementation of flexible learning within enterprises. Potentially this study will add to the literature which directly addresses implementation of flexible learning within enterprises.

## 1. Findings from the field research

This chapter presents the findings from the field research, including from observations, interviews, case study analysis and surveys. The findings reveal a range of educational, business and technological strategies that can be used by training providers to implement flexible learning in regional enterprises. The findings also reveal elements of partnership models between a training provider and enterprises that facilitate the implementation of flexible learning. Finally, the findings include barriers to the implementation of flexible learning.

### 5.1 Findings from the observations and interviews

Observations and/or interviews were conducted at the following locations: in Sydney; at the Bathurst and Orange campuses of CWCC; at the Bathurst plant of Simplot Australia; at the Wagga Wagga abattoir of Cargill Beef; and at the Young plant of Burrangong Meat Processors.

#### 5.1.1 Findings about strategies in flexible learning and e-learning

CWCC actively investigated and developed a range of new strategies for implementing flexible learning and e-learning strategies from 2003-2004, and particularly during the period of this project from June-October 2004, as described in Figure 1.

#### **Figure1: Snapshot of CWCC – a leader in e-business and e-learning in ACE NSW**

CWCC is an acknowledged leader among the network of 65 ACE community colleges in NSW, in terms of its approaches to both e-business and e-learning. This simultaneous implementation of e-business and e-learning is a feature of the College.

##### **E-business leadership**

In the field of e-business, CWCC developed a comprehensive plan in 2003 and has taken a number of strategic initiatives more recently:

- first, it developed an Information Management system which included Customer Relationship Management (CRM) system, which provides the College with an extensive database of its customers and their preferences regarding what information they may be seeking and about which courses they are interested in.
- second, it embraced e-marketing in 2004, implementing advanced methods for email marketing, by customising emails to suit the different communities it services.
- third, as a result of its success in piloting targeted emails of course information, with the aim of halving its annual expenditure on printed brochures.
- fourth, it established a call centre, to provide phone callers with up-to-date information about all of its programs.

##### **E-learning leadership**

CWCC's leadership in ACE NSW in e-learning is based on sound research undertaken in 2003 by Senior Manager Sandra Gray as a Framework Flexible Learning Leader. Sandra's 2003 research focused on identifying a cost effective, reliable and user-friendly system for providing e-learning. Her exhaustive examination of various options resulted in the College's selection of Melbourne-based e-learning provider LearningSeat to provide a LMS and a range of courses for the College.

One attraction of the LearningSeat platform is that the College is able to brand the website as its own, and local students do not need to be concerned about who is providing the technical platform. The College's website <http://www.cwcc.nsw.gov.au> provides extensive explanations for local students about how the online system works and what programs are available.

Sandra Gray provides leadership across the ACE NSW network of community colleges, resulting in a range of other regional, rural and metropolitan providers now adopting the Learning Seat platform.

A number of strategies for implementing and supporting flexible learning that CWCC used in mid-2004 included:

- enrolling all CWCC staff in a Learning Seat online module, so that staff would have first-hand experience with the medium
- five different sections of college staff undertaking a LearnScope project in 2004, to introduce them to flexible learning in general and to the online medium in particular
- actively marketing the flexible learning options not just in the printed brochure but also through a marketing campaign involving a visit by a CWCC staff member to enterprise workplaces.

#### ***How did CWCC determine which students might be involved?***

For this Framework research project, CWCC, in conjunction with Simplot and Cargill, identified two target groups of enterprise staff for whom e-learning might be appropriate: supervisors and entry-level staff requiring induction. Regarding enterprise staff undertaking an induction program, a CWCC manager commented:

We saw an opportunity to provide e-learning for new staff. They could supplement the face-to-face induction sessions with working on their own, through basic modules say on occupational health and safety.

Using e-learning with new staff appealed for a number of reasons: the e-learning materials would give each new staff member time to work at a pace that suited them instead of needing to move at the pace of the learners responding the slowest within the whole group of inductees; and the e-learning materials could be designed to ensure that each user clearly understood mandatory requirements about compliance areas such as health and safety. One enterprise manager also saw an advantage in new staff using e-learning to graphically view the work environment within an abattoir.

Regarding supervisors, a CWCC manager observed:

A supervisor might be reasonably good at his or her original job but if they want to develop new skills such as helping to build team skills they could benefit from e-learning in, say, aspects of the Frontline Management program.

#### ***How did CWCC select the e-learning technology?***

A CWCC manager explained the criteria used to select e-learning technology:

We used the following criteria to select the technology: affordable; no hardware required; referees could provide positive comments; educationally sound, for example not just text online; and provided a series of learning activities such as reading, answering questions, consideration of scenarios and quizzes. It was important that the technology could work at low bandwidths. It was also important that any courseware could be easily modified to suit different clients.

Using this criteria, CWCC selected the Melbourne-based e-learning provider Learning Seat to supply a learning management system and a set of existing online courses. Learning Seat also provided a service of customising CWCC's content to suit the online format. Using the same criteria, CWCC also decided to take the following steps:

- use the Framework product, Skills Assessment for Computer Based Learning, to enable students to analyse their own computer skills

- some of MINTRAC's existing CD-ROM learning materials were incorporated into the online modules CWCC proposed to develop
- investigate the use of the Food Industry Learning Online system FILO.

***In what ways did CWCC modify the e-learning content and activities?***

CWCC recognised that it would need to provide a mixture of programs: online programs, where existing and packaged online programs which meet the need, as well as customised online training where existing courseware is considered inadequate. During the course of this research, from June-October 2004, CWCC commenced the design and development of a number of online programs, using the Learning Seat template for course development. The online courses relate to the following competencies from the Certificate 11 in Food Processing: Implement Occupational Health and Safety Systems and Procedures and Implement Food Safety Programs and Procedures. Online courses are also being developed for the meat industry, for the Certificate 11 in Meat Processing (Abattoir) – Follow Safe Work Practices and Procedures and Overview of the Meat Industry – and for the Certificate IV Meat Processing (Leadership). With the support of MINTRAC, CWCC is using some existing MINTRAC material for some parts of the online courses in the meat area.

CWCC managers understand that the online component of programs would not cover every aspect of a program: "We see online learning providing much of the underpinning knowledge for a program but it will not assist with workplace practice or with supervised activities," noted a CWCC manager.

To develop the online programs, CWCC following a detailed 'Course Development Plan' providing by Learning Seat, which advised CWCC on how to convert CWCC learning materials into online learning content and activities. The guidelines include suggestions about constructing student learning activities such as using a 'drag and drop' function or answering true/false or multiple-choice questions. The guidelines also provide directions about graphics, assessment activities and the structure of modules.

The ease of use of the Learning Seat platform led to its adoption beyond CWCC, as described in the following figure.

**Figure 2: Overview of CWCC's use of Learning Seat (from *Flex e-News 2004*)**

Learning Seat is now offering the NSW ACE sector a bulk deal to access to their e-learning platform at a fraction of the cost an individual provider would face in developing their own LMS (learning management system).

(CWCC's) Sandra (Gray) says, "Training providers don't even need to have any hardware or software to be able to offer online training through Learning Seat's platform. But for those organisations with access to computers there is nothing to install and for providers with sufficient technological skill and knowledge, access to an administrative control function".

Through the Learning Seat e-learning platform ACE providers can achieve a web presence for the first time or can link seamlessly to existing websites. To date six large ACE organisations have developed a partnership with Learning Seat to provide online learning for their communities.

Learning Seat can work in partnership with each training provider to integrate the providers own learning materials, information and Learning Seat multimedia courseware if required, into an online environment using the provider's own corporate branding.

Users can download reference materials, carry out assessment online and training providers can track the progress of users, send automatic email reminders to users and managers and automatically issue completion certificates.

### ***How did CWCC research end-users' readiness for e-learning?***

It was difficult for CWCC staff to research the end-users' readiness for e-learning where the end-user was a casual staff member or a new staff member. However, with the existing staff, especially managers and supervisors, CWCC personnel placed some importance on the fact that one of the enterprises currently uses e-learning programs provided by their US headquarters. The e-learning trials conducted within this Framework research project provided the college with additional information about learner readiness.

### ***How did CWCC analyse the advantages and disadvantages of the e-learning offering?***

One CWCC manager considers that online learning offers the dual advantages of lower costs per student and a wider range of courses for enterprise clients:

We believe the advantages will outweigh the disadvantages. We spend a large amount of money each year providing programs to small numbers of employees, so we see e-learning as a way for us and our industry clients to access a wider range of courses.

To implement flexible learning, CWCC staff developed both educational and business perspectives. From an educational perspective, CWCC focused on flexible learning that is relevant, engaging and easily accessed by the learner. From a business perspective, CWCC staff focused on flexible learning that enables CWCC to meet increasing demands from industry, particularly demands for customised training. The next figure which describes the approach of a CWCC senior manager.

### **Figure 3: Portrait of Sandra Gray, Senior Manager, CWCC (from *Flex e-News* 2004)**

In 2003 Sandra Gray received funding and support from the Australian Flexible Learning Framework's (Framework) Flexible Learning Leaders project for professional development support to develop the skills and knowledge she needed to develop an e-business and e-learning platform for CWCC.

The Framework was established in 2000 to support the vocational and educational training (VET) system to meet the rapidly increasing demand for flexible learning, including e-learning, from industry, enterprise and clients.

As a result of her professional development, Sandra has played a key role in developing and implementing strategies to support sustainable e-learning not only within her own organisation but for other ACE providers.

Today CWCC offers 260 courses online in a range of areas including occupational health and safety, project management, information technology, risk management and business writing.

The College is also investigating developing new online courses with Learning Seat that are specifically designed for the meat and food processing industry.

"We are working to enhance our existing partnerships with industry by offering online learning," Sandra said. "There is a strong training need from industry in this area and we now have the capacity to offer them training options that are flexible and meet their particular needs."

This year Sandra and her CWCC colleagues are being funded and supported through LearnScope, the Framework's team-based professional development project, to further develop user-friendly online training for clients including large industry groups, local government and people with disadvantages.

"At CWCC we would have been lost without the Framework and the professional development and networking opportunities it has provided us with," Sandra said.

Sandra Gray is assisted in developing educational and business perspectives on flexible learning by CWCC's specialist training managers, including food industry trainer Judy Doultton, pictured below.

**Figure 4: CWCC food industry specialist trainer Judy Doulman and CWCC senior manager Sandra Gray**



***How did CWCC cost the e-learning activities?***

As part of the research conducted by CWCC's Sandra Gray in 2003, the costs of face-to-face courses were compared with the costs of online courses. CWCC then developed a pricing strategy that reflected the real costs of providing online learning, including the enrolment and other administration costs, but still found e-learning courses were cheaper. CWCC established a two-tiered pricing structure: one for corporate clients and one for students who were already enrolled with traineeships or similar programs under the care of college. Commonsense cost-benefit analyses were also undertaken to determine the return on investment if CWCC developed customised e-learning programs for clients such as Simplot Australia and Cargill Beef. These analyses indicated that the benefits would exceed the costs.

***How did CWCC help the training staff to prepare?***

CWCC has 130 regular staff and a further 250 casual trainers and assessors. A program to induct the 130 regular staff in the use of e-learning was undertaken in early-mid 2004. A range of other college staff across five staff teams – Food, Meat, Literacy, Business and Disability – participated in a LearnScope project in 2004, to engage with e-learning,. Those trainers and assessors involved with the Framework research project were specially trained in the use of the Learning Seat platform.

***How did CWCC identify any access or equity issues?***

CWCC staff are experienced in dealing with access and equity issues. For instance, all new trainees are routinely tested for literacy levels. The college developed a professional development program called 'Minimising Differences' which offers staff practical tips for addressing access and equity matters. An aim of CWCC managers in examining alternative e-learning platforms was to find one that suited learners with low literacy levels. One CWCC manager commented:

Much of the existing online material is too text-based for literacy students. We needed an approach that enabled the learner to click the mouse more often and to be active.

The 2004 LearnScope project conducted simultaneously with this Framework research project partly involved addressing access and equity issues. For example, all project members in the LearnScope 'Disability' team completed a survey to identify their

current knowledge and attitudes about the topic. A training day was conducted for specialist employment services trainers regarding implementation of online unit for disability clients. Additionally, each college centre made contact with a prospective client to organise the delivery of an online unit – usually the unit entitled Occupational Health and Safety in the Office or another non-accredited unit.

***How did CWCC detect any possible risks?***

At the start of their 2004 initiatives in flexible learning, CWCC assessed risks to the implementation of e-learning as low, partly because of the research undertaken in 2003 that resulted in the confident selection of Learning Seat as the main e-learning provider; partly because of the sound relationships between CWCC and the two enterprises involved; and partly because of the LearnScope project which enabled a range of CWCC staff to develop skills in online and flexible learning.

***How did CWCC prepare the technological infrastructure?***

The technological infrastructure involved a learning management system which was provided by CWCC's e-learning provider Learning Seat, as described next.

**Figure 5: CWCC's approach to the learning management system (from *Flex e-News 2004*)**

Offering online learning using a learning management system (LMS) can potentially expand training business bases by attracting clients who want or need access to training 24/7.

An LMS provides the platform for an online learning environment enabling the management, delivery and tracking of both online and face-to-face training. A robust LMS can also integrate human resources, accounting and e-commerce components and allow administrative and management tasks to be streamlined and automated (Hall, 2003).

While access to an LMS definitely provides a competitive edge, there is a catch.

Few small or even medium sized training providers can afford to invest in this technology. In a 2001 report, Brandon Hall, an LMS guru and head of a Californian e-learning consulting firm, estimated that "the average LMS system costs US\$550,000 for 8,000 users over a five-year stretch".

However, adult and community education (ACE) entrepreneur and Senior Manager of Education and Training at Central West Community College's (CWCC), Sandra Gray says, "By taking a collective approach to increase their individual purchasing power, the 50 to 60 ACE providers in New South Wales (NSW) now have access to an affordable LMS if there organisations are keen to offer online learning opportunities."

CWCC is a multi-campus provider of ACE, employment and tenancy services and accredited training in central west NSW and, like other ACE providers, could not afford to independently establish their own LMS.

Sandra says after successful negotiations with Learning Seat, an e-learning company specialising in providing web-based training management applications, courseware and services, all NSW ACE providers could now have access to a LMS and a range of other learning technologies that have all the "bells and whistles".

***How did CWCC ensure the e-learning would be usable in the workplace?***

Temporary facilities for enterprise staff to access e-learning are available at various workstations at Simplot Australia, including near the production line, and in the training room at Cargill's abattoir in Wagga Wagga. Plans are in place to install additional computers to further assist access within the workplace, including the establishing of dedicated learning centres within each enterprise, once the usage of e-learning justifies this expenditure.

***What educational, business and technological criteria did CWCC and the evaluator use to evaluate the 2004 e-learning trials?***

Some educational criteria developed by the evaluator and CWCC managers and discussed above included whether learner readiness for e-learning was sufficiently high and whether the instructional design features of the e-learning materials, such as the degree of activity available to the learner, were appropriate. Other educational criteria used to evaluate the trials by both the evaluator and the stakeholders were as follows:

- whether the staff member felt that they were able to learn from undertaking the e-learning course
- whether the staff member found the e-learning course easy to use
- whether the staff member's computer skills were suitable for this e-learning course
- whether the staff member needed support from other staff to use this e-learning course
- whether the staff member needed face-to-face teaching to supplement this e-learning course
- whether the e-learning course needed to be modified to suit the enterprise.

These criteria were also incorporated in the FLAG research project surveys.

Some of the business criteria, from CWCC's perspective, used to evaluate the trials in 2004, are mentioned above and include whether the advantages for CWCC outweigh the disadvantages for CWCC and whether the costs of e-learning compare favourably with face-to-face delivery. The business criteria were developed in consultation with the enterprises. Some of the business criteria, from the perspective of the two enterprises, used to evaluate the trials, are discussed below and include the following:

- whether the online learning assists enterprise staff to learn new skills and/or knowledge in a timely, efficient manner
- whether additional support is required from enterprise managers
- whether additional support is required from the training provider.

Technological criteria used to evaluate the trials in 2004 were mentioned above and include the following:

- whether the technology required is available, affordable and reliable
- whether the technology is easy to use.

Findings in relation to all the above criteria are set out in section 5.2 below.

### **5.1.2 Findings about models for providers engaging with industry**

CWCC's partnerships with the two enterprises could be described as the one model for a provider engaging with industry, but with variations in the partnership model for each of the enterprises. Following Callon and Ashworth (2004), components of the CWCC partnership model that are similar for both enterprises are:

- a willingness by CWCC to use training delivery methods, including the timing and structure of training, that suit the enterprise
- a willingness by CWCC to customise training, including the inclusion of enterprise-specific content, to suit the enterprise
- support for the partnership from senior management within both CWCC and the enterprise
- a commitment to a long-term relationship

- a willingness to postpone immediate financial gains in lieu of a longer-term, stable relationship
- the allocation of specific CWCC staff to work with a particular enterprise
- the creation of a learning environment where individuals feel their specific needs are being catered for
- the development of skills by CWCC staff in partnering enterprises.

CWCC varies this multi-dimensional partnership model in response to particular features of each enterprise. The generic model needs to be varied for the following reasons:

- the two enterprises are in different industry domains, food processing and meat processing
- the two enterprises use very different processes, with one focused mostly on food such as corn and the other on beef
- the two enterprises produce very different products, such as chiko rolls on the one hand and cuts of beef on the other
- one enterprise focuses on automation while the other necessarily continues to rely significantly on the physical strength of its workers
- the enterprises also vary in terms of their staff profile: in one the average age is around fifty years which suits the heavily automated plant, while the other enterprise seeks a much younger workforce for the extensive physical labour involved.

Additionally, CWCC has different arrangements with each of Simplot Australia and Cargill Beef. At Simplot, CWCC has a long-term relationship delivering specific aspects of the training, while a regional TAFE Institute regularly provides other aspects. At Cargill Beef, CWCC delivers the majority of the training for new staff, but Cargill uses many of its own staff for workplace assessment. Hence each enterprise requires some unique partnership responses from CWCC.

The relationship between CWCC and the two enterprises, Simplot and Cargill, was strong at the commencement of the FLAG research project in mid-2004. The relationship with Simplot is long-standing and CWCC's main trainer at Simplot is an ex-Simplot staff member, which assists the relationship. The relationship with Cargill is more recent, starting around one year ago, and is assisted by CWCC's stationing of up to two staff members at Cargill's Wagga Wagga abattoir, one nearly full time and the other part-time. One enterprise manager commented: "These (CWCC) guys are great and we expect them to do a good job every time". Another commented similarly:

CWCC has provided face-to-face delivery for us and the delivery is great. CWCC's main trainer has a very good understand of our business: her teaching skills complement our business needs.

The industry knowledge of CWCC staff is reflected in the following profile.

**Figure 6: Snapshot of CWCC staff assisting Cargill Beef, Wagga Wagga**

The photograph below, taken in the training room of Cargill Beef in Wagga Wagga, shows three of the CWCC staff who provide customised services to Cargill. On the left is Sharon Bradley, CWCC's Industry Manager, based in Orange. Sharon oversees the college's industry training which includes meat, food and mining and supervises CWCC trainers. Part of her role is to liaise directly with senior management of enterprises such as Cargill Beef. While highly

competent and entrepreneurial in such business partnership negotiations, Sharon also brings to her work a long background in the meat industry and a passion for the industry.

Pictured on Sharon's right are the two CWCC trainers who provide services at Cargill Beef in Wagga Wagga. In the centre of the photo is Gary Lowe, who spends most of the week at the abattoir. On the right of the photo is Murray Izzard, who provides training at Cargill's abattoir several days each week. Both Gary and Murray have very relevant experience: prior to working for CWCC, Gary was a regional quality manager in a government agency AQIS, which provided services for the meat industry, and Murray has worked in the abattoir field for most of his career and delivers training each week in a range of different abattoirs in the Riverina region. Murray is used to accessing e-learning materials, as he regularly uses the CD-ROM learning material developed by MINTRAC. Both Murray and Gary participated in the 2004 CWCC LearnScope project, to enhance their own skills in online learning.

**Figure 7: CWCC meat industry staff: Sharon Bradley, Gary Lowe and Murray Izzard at Cargill Beef, Wagga Wagga**



***What enterprise training need is addressed by e-learning?***

CWCC engaged in dialogue with the two enterprises in 2003-2004 and identified that there were two broad markets for e-learning: potentially large numbers of staff who needed to undertake compliance-related programs such as occupational health and safety (OH&S) and smaller numbers of staff who needed to undertake training in Frontline Management. These broad markets were confirmed by CWCC trainers who work onsite at these two enterprises.

A CWCC manager commented:

These companies have to provide training for essential areas such as compliance with regulations, including meeting export quality requirements. One of the incentives for training all new staff, particularly casuals, in areas such as OH&S, is that the enterprises 'have to prove all staff have the training'. If they complete the online program, the company has a record of their achievement. Also, the provision of one-on-one training is expensive and online learning could be more cost effective.

An enterprise manager commented:

Our major training needs are around Hazard Analysis and Critical Control Point (HACCP), Good Manufacturing Process (GMP) and understanding the machines. We also need programs in communication and conflict resolution and we need more workplace assessment. We have a wave of training coming up, from the needs analysis recently undertaken. A competency-based approach helps shows gaps which more training can fill.

### ***What other enterprise business needs are addressed by e-learning?***

Food and meat processing organisations in Australia meet stringent quality and safety requirements, while also demonstrating advanced capacity to be customer-focused and innovative in product design and marketing. In this environment, staff skills are a key to business survival and e-learning is now viewed as one way to provide timely, efficient training for progressive industries. The following snapshot of Simplot highlights these issues.

#### **Figure 8: Snapshot of Simplot's changing skill needs**

Simplot at Bathurst has a range of business needs that can be assisted by learning, particularly safety, quality and innovation. E-learning is one of the alternative approaches that could help meet these important business needs.

Simplot's food processing operation at Bathurst is sophisticated and world class, and needs to be to meet stringent government regulations, particularly for the export of processed food. The enterprise is focused on quality and safety and is determined to maintain its ISO accreditation. It is also determined to retain the reputation for consistent quality for its brands such as Edgell canned products and Bird's Eye frozen products.

Increased automation has characterised developments in recent years, resulting in improved safety but reducing the full time staff from 380 to 200. The automation is obvious in one section where laser-guided robots move heavy loads from one machine to another. In another part of the plant, where 13 machines once stood, each supported by two staff members, the new equipment only requires one staff member: a reduction in staff from twenty-six to one.

Simplot's Bathurst plant is the major corn processing plant in Australia and for six months of the year 20-30 24-tonne trucks arrive daily, laden with corn. This is where the automation makes so much sense, enabling the corn to be quickly and safely sorted, before being treated and converted into a variety of different food products.

Automation brings with it the need for staff to read manuals and to operate computerised equipment. One manager commented: "Literacy is no longer a problem as reading manuals is a core to the business. Computer literacy is improving too, with all work instructions kept on a personal computer (PC), for regular updating."

Simplot's Bathurst plant is also the source of the well-known Chiko Roll. This unique product involves a range of different food sources and it is imperative that the product maintain its consistent flavour and quality, to protect the brand and to satisfy customer demand.

One manager commented:

"This is a tough business and it is about value adding: it is about being different and innovating. It is about positioning. We need to produce food products that are convenient to use as well as being healthy. For instance, to meet new trends, our New Product Team is focused on designing products that are low fat, low salt and microwavable."

A CWCC manager commented on the need to increase flexible learning for the two enterprises:

To stay competitive in their industries, these two companies need more efficiencies in training and we are at the cutting edge in being flexible. Other training providers are trying to catch up to us. These companies have difficulties taking staff off the production lines, for training, so we are developing flexible ways to minimise the impact.

One enterprise was keen to reverse a frequent turnover of staff through the use of e-learning. A manager at the enterprise saw e-learning as one contributor to his company developing a different culture, where staff started to see that they could stay with the one company but could continue to study and to embrace the concept of a career path

with the company. This could also address the loss of young people to the city: “My two daughters did their training and then left for Sydney,” he noted.

Another business problem for one of the enterprises that could be partly addressed through the use of e-learning is the age of the staff: “60% of the workforce are over 50, which is OK provided they can do the job and are innovative. And their experience is valuable. But we need to attract more younger people.”

The following snapshot of Cargill Beef highlights the changing skill needs within the Wagga Wagga abattoir, due to the current expansion of its plant. E-learning potentially could meet some of the expected growth in demand for training.

**Figure 9: Snapshot of Cargill Beef’s changing skill needs**

Cargill Australia Limited provides unique solutions to the Australian agrifoods industries, by using its local knowledge and global expertise in supply chain management, commodity risk management, food safety, inventory management and e-business to help our customers succeed in the marketplace.

Cargill Beef Australia is currently investing AUD\$30 million upgrading its abattoir in Wagga Wagga ([http://www.business.nsw.gov.au/news\\_story.asp?id=192](http://www.business.nsw.gov.au/news_story.asp?id=192)). The company is part of an international group that processes and distributes agricultural products worldwide and employs more than 90,000 people across 57 countries. The AUD\$30 million investment would increase the abattoir’s daily capacity from 850 head of cattle to 1200, as well as boosting full-time employment from 500 to 625. The expansion will improve the abattoir’s environmental management, processing efficiency and occupational health and safety standards. Construction started in January 2004 and is due to finish by March 2005.

The upgrade will include a new meat-boning room, carcass sortation coolers, boxed-beef handling, chilling and freezing systems, as well as new environmental management systems. Already nearing completion is the installation of a biofilter designed to filter air coming from the plant. Capital will also be dedicated to new wastewater pre-treatment equipment.

The upgrade brings with it the need for new skills and training to develop these new skills.

The 2004 focus on e-learning demonstrated to one enterprise manager that e-learning could be one of the solutions to a range of problems:

Casual staff will do anything to win a job, so some of them will be very interested in e-learning as an option. Permanent staff often want a change in their job, so they may be interested in e-learning. And permanent staff get more money when they get a qualification. E-learning could help us train people who are involved with developing new products: these staff need to have the right aptitude for innovation and e-learning could help us check whether they have it. I can see us setting up a situation where we leave a staff member, particularly New Start staff, with an e-learning exercise for thirty minutes and we see how they go solving problems and being innovative.

One of the CWCC managers also commented on the value of providing e-learning to casual staff:

By training casual staff off-site with e-learning we can help the enterprise develop a pool of casual labour, on tap, to meet periods of heavy demand or when the enterprise has a high turnover of staff.

### 5.1.3 Findings about barriers

A range of barriers to the implementation of flexible learning within enterprises were identified during the 2004 Framework research project, including systemic, policy, legal, technological, business and educational barriers. A number of these were mentioned in the preceding sections of Chapter 5, some of which are summarised in the next paragraph.

Common barriers to the implementation of flexible learning in enterprises can be sorted into different categories, as follows:

- current: lack of customised online content for each enterprise
- potential: staff given insufficient time off from production lines to access e-learning
- tangible: lack of computers with Internet access available in the workplace
- intangible: users' lack of familiarity with e-learning
- deep-seated: some users' lack of experience as self-directed learners
- surface-level: some users' preference for only teacher-directed learning
- recent: lack of trainers with experience in assisting e-learning
- long-standing: lack of packaged e-learning programs
- systemic: lack of policy-level support from some stakeholders
- localised: some resistance from some stakeholders to all the requirements necessary to establish and support flexible learning.

### **Systemic barriers**

Some systemic barriers to the adoption of flexible learning in the meat and food processing industries in regional Australia stem from features of the industry:

- a focus on keeping the production line operating at an even level of output means that supervisors may be reluctant to release staff during a shift
- a skill shortage in some areas of the industry means that some staff are unlikely to be granted time to engage in e-learning during working hours
- in some enterprises a high staff turnover disrupts orderly training programs
- a high level of casual staff could be a disincentive to some enterprises to invest in e-learning programs.

An enterprise manager commented on how a cluster of similar barriers could be overcome:

The first step for us is to let staff go off the production line and to use a workstation, for example for one hour per week. The next step for us is to have staff learning at home, but we would not push it and it will be an option if they want it. But a mentor from CWCC would still be needed.

Another enterprise manager cited a range of challenges starting with staff acceptance:

E-learning will only appeal to some staff. Many staff are frightened of computers. We have to be wary about forcing it on people.

Another manager cited industrial relations as a challenge:

When we told some staff recently that they had a gap in their skills the union rejected it. Some staff don't like letting someone else do their job. So we have to be careful about who accesses e-learning and for what.

### ***Policy barriers***

Policy barriers include:

- lack of information by policy makers of the many educational, business and technological strategies needed to implement flexible learning in the workplace
- lack of knowledge by policy makers of the components of partnerships needed between training providers and enterprises, to facilitate the implementation of flexible learning
- lack of familiarity with the barriers preventing the implementation of flexible learning in the workplace.

In the light of this study, a number of policies of stakeholders in the VET arena could be reviewed:

policies of that relate to the online assessment of competencies could take into account the benefits of learners in the workplace having access to instant, online assessment

policies that relate to workplace training practices could take into account the benefits of flexible learning in meeting skill training needs in a timely manner

policies that relate to meeting the needs of the equity group of rural and remote workers could take into account the benefits of flexible learning for these workers, in providing them with increased choice.

Policy barriers are disappearing as stakeholders increasingly seek to support flexible delivery of training. Policy-level support is provided by stakeholders such as:

- the NSW DET which regularly demonstrates its commitment to training that meets the needs of industry clients
- the NSW Board of Adult and Community Education which has as one of its strategic objectives support for the development of both e-business and e-learning
- ANTA which has championed as one of the four objectives of the National Strategy for 2004-2010 the provision of timely training for industry
- the Framework which supports the use of flexible learning in industry.

It could be expected that the new Industry Skills Council for agribusinesses and primary industries will provide similar policy-level support for customised, flexible and client-driven training as that provided in the past by MINTRAC in the meat industry and the NSW FITC.

### ***Legal barriers***

Some legal requirements for food processing and meat processing operations could stimulate the implementation of flexible learning: for instance, where legislation clearly requires an enterprise to meet minimum levels of compliance with regulations around quality and occupational health and safety. Other legal requirements could hinder the development of flexible learning, where enterprises interpret regulations as requiring large groups of staff to be able to demonstrate physical skills which can be taught more appropriately in face-to-face demonstration sessions.

### ***Technological barriers***

CWCC has removed one of the most common technological barriers: access to a cost-effective learning management system. However, a technological barrier that continues is the lack of a reasonable speed for Internet access in the homes of many staff. For instance, at Wagga Wagga, many staff live in adjacent small villages where the speed of transmission is too slow to make online learning viable.

**Figure 10: Using technology effectively to manage training in the workplace**

Technological barriers can disappear when the technology becomes an enabler, as illustrated by the following story. The photograph below shows Chas Hotson, CWCC trainer in Young, sitting in the Young NSW training room of Burrangong Meat Processors, with Brett Loader, Training Officer. The wireless laptop in the foreground is used by Brett on a daily basis, as he moves through the abattoir, recording which staff are undertaking which tasks at any one point of the day. The software on the laptop enables Brett to check that each staff member has the recognised competencies to undertake the work tasks assigned.

**Figure 11: Chas Hotson, CWCC trainer in Young, and Brett Loader, Manager, Burrangong Meat Processors, Young**



***Business barriers***

One enterprise manager commented that access to funds to develop innovative e-learning is a barrier to his company further embracing e-learning. Another commented that 'the hard part is the cost factor of taking staff off-line' to train. Taking staff offline is particularly difficult when there is a shortage of qualified staff. One enterprise manager commented on the need to make it easier for staff to access training:

We would like to multi-skill everyone but we need to find out how to make it easier for staff to access training. With our plant expansion, in eighteen months time we will need more tradesmen. We want to put more emphasis on our staff gaining qualifications.

***Educational barriers***

A range of educational barriers were cited earlier in this chapter, such as the lack of computer literacy among staff and the hesitation of some staff to use computers. One enterprise manager commented: "About 60% of the people we recruit do not like computers."

**5.2 Findings from the surveys**

In addition to observations, interviews and case study analysis discussed above, surveys were conducted, firstly, of both employees of Simplot and Cargill as sample users of the online learning products and, secondly, of management and training staff

from CWCC, Simplot and Cargill who might supervise enterprise users of online learning.

### 5.2.1 Results from the end-user survey

Table 1 below includes questions asked of staff from Simplot and Cargill who are sample users of the online learning offering.

**Table 1: Responses to the end-user survey (staff within Simplot and Cargill) (n=12)**

	I agree strongly	I agree	I neither agree nor disagree	I disagree	I disagree strongly
1. I was able to learn by undertaking this e-learning course	16.66%	75%	8.33%		
2. I found this e-learning course easy to use	50	50			
3. My computer skills are suitable for this e-learning course	50	50			
4. I need support from other staff to use this e-learning course		8.33	8.33	41.66	41.66
5. I need face-to-face teaching to supplement this e-learning course		16.66	16.66	41.66	25
6. This e-learning course needs to be modified to suit my company		16.66	33.33	33.33	16.66
7. E-learning suits many of the areas where I need more skills		75	16.66		8.33
8. My use of e-learning at work will be a benefit for my organisation	16.66	66.66	16.66		
9. Assistance from CWCC in arranging this e-learning course was important	25	58.33	16.66		

The above survey results provide the following encouragement for the planners of online learning:

- over 90% felt they were able to learn using the e-learning course
- 100% found the online course easy to use
- 100% found they had suitable computer skills to undertake the course
- 75% believe that e-learning suits many of the areas where the users need more skills
- 83.33% believe e-learning at work will be a benefit for the organisation.

However, if e-learning is to be implemented more extensively within Simplot and Cargill, the following survey results need to be taken into account:

- 83.33% need support from other staff to use this e-learning course
- 66.66% need face-to-face teaching to supplement this e-learning course
- 50% found the e-learning course needs to be modified to suit the enterprise
- 83.33% felt that assistance from CWCC in arranging this e-learning course was important.

The above four items relate to the users' belief that they needed extra support. This need could be expected to diminish, once the users had more exposure to e-learning.

The users were also asked to write answers to questions, as set out in the following table.

**Table 2: Sample written responses to the end users' survey**

Question	Sample written responses
<b>1. What do you like about using e-learning?</b>	Easy to learn and understand. Practical. In your own time frame. Quick and easy to use. It suited my needs as I could start and finish the components of the course when I have time. Can do it at my own time; at my leisure. Quick and easy to use. It suited my needs.
<b>2. What do you not like?</b>	Nothing. All OK. Nothing. Nothing.
<b>3. What would prevent you from using e-learning at work, in the future?</b>	Spare time. Nothing. Would like to do more. Nothing.

The written answers above are almost all positive, suggesting that the attitude towards e-learning is conducive to a high adoption rate within Simplot and Cargill.

### 5.2.2 Results from the managers' and trainers' survey

Table 3 below includes questions asked of management and training staff from Simplot and Cargill and CWCC, as well as one from another food processing company in Bathurst, who could be involved in any future implementation of flexible learning by CWCC.

**Table 3: Responses to the managers' and trainers' survey (from Simplot, Cargill and CWCC) (n=8)**

	I agree strongly	I agree	I neither agree nor disagree	I disagree	I disagree strongly
1. Most Simplot/Cargill staff who could use this e-learning course have the necessary computer skills		50%	37.5%	12.5%	
2. Staff will find this e-learning course easy to use		62.5	37.5		
3. Staff will learn from this e-learning course		100			
4. This e-learning course needs to be modified to suit the company's (Simplot/Cargill) context	50	25	12.5	12.5	
5. The technology required to access this e-learning course is easy to provide in the workplace	12.5	25	25	37.5	
6. Staff will be able to use this e-learning course with minimal induction		62.5	12.5	25	
7. This e-learning course will not require support from managers		25	25	37.5	12.5
8. Staff using this e-learning course will not need additional notes or teaching		37.5	12.5	50	
9. The convenience of e-learning being available at the workplace will suit Simplot/Cargill		50	12.5	37.5	
10. E-learning is appropriate for 'compliance'		50	25	25	

topics such as OH&S					
11. E-learning is appropriate for many other topics in Simplot/Cargill		62.5	12.5	25	
12. Simplot/Cargill will ensure suitable technology is available for e-learning to be used at work	12.5		37.5	37.5	12.5
13. CWCC made it easy for Simplot/Cargill to access the e-learning course	37.5		62.5		
14. The trusting relationship between CWCC and Simplot/Cargill was a major reason why these e-learning trials were held	50	37.5	12.5		
15. Simplot/Cargill need CWCC to provide additional support to ensure the e-learning system is successfully implemented	75	12.5		12.5	

Given the following views of managers and trainers, the above survey results are positive about the potential of e-learning within Simplot and Cargill:

- 50% consider that most Simplot/Cargill staff who could use this e-learning course have the necessary computer skills
- 62.5% consider that staff will find this e-learning course easy to use
- 100% consider that staff will learn from this e-learning course
- 62.5% consider that staff will be able to use this e-learning course with minimal induction
- 50% consider that the convenience of e-learning being available at the workplace will suit Simplot/Cargill
- 50% consider that e-learning is appropriate for 'compliance' topics such as OH&S
- 62.5% consider that e-learning is appropriate for many other topics in Simplot/Cargill.

These positive results provide all stakeholders with encouragement to continue implementing e-learning. However, the following support issues will need to be considered:

- 75% consider that this e-learning course needs to be modified to suit the company's (Simplot/Cargill) context
- Only 37.5% consider that the technology required to access this e-learning course is easy to provide in the workplace
- 50% consider that this e-learning course will require support from managers
- 50% consider that staff using this e-learning course will need additional notes or teaching
- 50% consider that their company will not ensure suitable technology is available for e-learning to be used at work.

Some specific questions about CWCC revealed the following:

- Only 37.5% consider that CWCC made it easy for Simplot/Cargill to access the e-learning course, which may be because the trials were held before any dedicated PCs were made available for e-learning in the workplace
- 87.5% consider that the trusting relationship between CWCC and Simplot/Cargill was a major reason why these e-learning trials were held, which reinforces findings from the literature review about the importance of a trusting relationship between training provide and enterprises

- 87.5% consider that Simplot/Cargill need CWCC to provide additional support to ensure the e-learning system is successfully implemented, which is understandable given that e-learning is so new to many staff within the enterprises examined in this research project.

The enterprise managers and CWCC staff were also asked to write answers to questions, as set out in the following table.

**Table 4: Sample written responses to the managers' and trainers' survey**

Question	Sample written responses
<b>1. What were the most useful strategies used by CWCC in introducing e-learning to your company?</b>	Perseverance Flexibility – use of learning resources to prepare for entry to workplace CWCC needs to be more structured and ready to put this into any workplace. Need to ensure computer literacy and basic literacy and numeracy are at a level to ensure they are capable of performing e-learning. Need the flexibility of being able to mark induction questions electronically and to ensure compliance prior to starting work.
<b>2. What major training needs at Simplot/Cargill could be addressed by e-learning and flexible learning?</b>	Identification of products. Hygiene and sanitation. Safety. Quality Assurance. OH&S OH&S. Leadership. GMP, HCAPP, OH&S, Induction Induction. Legislative units Mainly anything legislative. Enterprise's policy requirements, e.g. for induction (programs) Induction of both associates (of the enterprise) and contractors.
<b>3. What are the main barriers to your company's ongoing use of flexible delivery and e-learning?</b>	Communication – needs to be 'sold' to the company Time spent away from production Time. Apathy. Short-sightedness. Facility, resources eg personal computers Access to computers. Computer literacy. Determining participants' literacy skills and any prior knowledge Access to computers, computer literacy unknown, communication to sell e-learning, commitment from all levels of employees and all interested parties in the enterprise Use of external training providers, costs, lack of control of content.

Another written comment about the unit on Food Safety was:

not interactive enough; want assessment-only pathway; not learning activities – reading got monotonous and I found I didn't always take it in. Quotes Victorian legislation and regulations: obviously needs to be changed.

Other comments were offered about the unit on Personal Hygiene and Grooming:

My thoughts are that the module is very useful for underpinning knowledge, to gain a basic outline of food hygiene ... Not having access to any actual hard copies for future reference is ineffective ... It definitely needs other forms of assessment to go with it, e.g. supervisor validation; case study; observation, demonstration...How can you be sure the student has solely done the package by themselves? (Regarding) prior knowledge of any learning difficulties (of the student): how are they determined?

The written comments indicate that a number of useful strategies were used by CWCC to implement flexible learning; that a range of needs for flexible learning exist within the enterprises; and a range of barriers to implementation need to be addressed.

## **Final Comment**

The findings set out in this chapter enable conclusions to be drawn in the next chapter and provide the rationale for the recommendations summarised at the beginning of this report.

## 6. Conclusions

This chapter presents conclusions in response to the three key questions for this research project, based on the findings in the previous chapter. The discussion is abbreviated, as all the conclusions are represented in the Key Messages section of the Executive Summary.

### Strategies

1. How effective is a range of transferable **strategies** in planning and implementing flexible learning and e-learning initiatives that provide innovative, cost-effective learning for industries and enterprises in the meat and food processing industries in regional Australia, based on the experiences of Central West Community College collaborating with Simplot Australia (Bathurst) and Cargill Australia Ltd (Wagga Wagga) in 2004?

The study highlights effective strategies that can be used to plan and implement flexible learning courses or programs. At the planning stage, decisions are needed about issues such as learner readiness, enterprise readiness, the appropriateness of learning materials, the availability and reliability of the technology, risks, costs and staff skills.

Additionally, at the planning stage, strategies are needed from three perspectives: education, business and technology. For example, educational strategies include clarifying what additional materials and learning activities are required to supplement pre-packaged e-learning courses; providing staff development for all staff who will be involved in supporting the flexible learning; and ensuring the e-learning is educationally sound, that is, relevant, engaging and not just text online, accommodating a range of learning activities.

To implement flexible learning in the workplace, business strategies are also needed, such as highlighting for the enterprise how the provider can add value to e-learning courses prepared by a third party, and undertaking risk management analysis to anticipate and avert problems.

Technological strategies are needed, such as developing criteria for selecting a learning management system, which might include affordability, ease of use and reliability, and ensuring the learning management system can be accessed at low bandwidths by users at home.

The identification of these strategies complements earlier reports by Mitchell & Bluer (1997), Misko (2000), ANTA (2001), Brennan (2001) and Cashion and Palmieri (2002).

### Partnership models

2. What transferable **models** can be identified for how RTOs can engage with industries and enterprises in the meat and food processing industries in regional Australia, to apply flexible learning solutions to business problems?

Readers from other training providers and enterprises may be able to transfer to their own settings components of the partnership model identified in this study, provided

they first clarify the differences between their own contexts and those described in this report.

Based on this research, components of a partnership model for implementing flexible learning in workplaces include the belief of all parties that flexible learning will add value to the enterprise. Other components of a partnership model include the willingness of the training provider to analyse clients' business models and training needs, share ideas, develop joint knowledge, increase the level of collaboration, generate mutual benefits and overcome challenges.

Ideally, the provider will have a relationship with the enterprise before complex flexible learning approaches are introduced. The provider will also have an understanding by the provider of each enterprise's unique history, structure, workforce, partnership expectations and business goals that can be assisted by flexible learning.

These components of effective partnership models identified in this study complement findings key reports by Harper and others (2000), Mitchell (2001, 2003, 2004), FLAG (2004) and Callon and Ashworth (2004).

## **Barriers**

3. What are the systemic, policy, legal, technological, business, educational and any other **barriers** – particularly policy barriers – to the take-up of flexible learning in the meat and food processing industries in regional Australia – based on the experiences of Central West Community College collaborating with Simplot Australia (Bathurst) and Cargill Australia Ltd (Wagga Wagga) in 2004 – and how can they be overcome?

Types of barriers to the adoption of flexible learning in the workplace include the following: current or potential; tangible or intangible; deep-seated or surface-level; recent or long-standing; systemic or localised. For example, tangible barriers include lack of computers with internet access available in the workplace and intangible barriers include users' lack of familiarity with e-learning.

Some systemic barriers to the adoption of flexible learning in the meat and food processing industries in regional Australia stem from features of the industry: a focus on keeping the production line operating at an even level of output means that supervisors may be reluctant to release staff during a shift; and a skill shortage in some areas of the industry means that specific staff are unlikely to be granted time to engage in e-learning during working hours.

Policy barriers stem from a lack of information by policy makers of the many educational, business and technological strategies needed to implement flexible learning in the workplace. Policy barriers also stem from a lack of knowledge by policy makers of the components of partnerships needed between training providers and enterprises, to facilitate the implementation of flexible learning.

Technological barriers include access to a cost-effective learning management system and the lack of a reasonable speed for Internet access in the homes of many staff.

## **Summary**

Implementing flexible learning in workplaces, involving a collaboration between a training provider and an enterprise, is a complex undertaking. However, this study provides good practice strategies that can be used as a checklist by other parties seeking to embed flexible learning in workplaces. Besides strategies, the collaboration

needs to be firmly based on a strong partnership model, so that enough time, patience and resources are dedicated to the implementation. Finally, barriers to implementation do exist, but case studies such as those presented in this report, that provide detailed analyses of successful implementations, can help overcome many of the barriers.

## Appendix 1: Researcher

The researcher was John Mitchell from John Mitchell & Associates. His competence as a researcher is demonstrated by his being awarded numerous research assignments by NCVET, FLAG and the Framework ANTA, OTFE/OTTE, NOIE, DETYA, NBEET, DIST, NSW ACE, NSW TAFE, TAFE frontiers, TAFE SA and other national and state/territory bodies.

His research collaborator in the field was Sandra Gray, Senior Manager, Operations and Business Development, Central West Community College. Sandra's competence in liaising with industry is demonstrated by her appointment as Senior Manager in charge of business development at CWCC. Sandra's competence in understanding and managing flexible learning is demonstrated by her appointment in 2003 as a Framework national Flexible Learning Leader.

Assistance in liaising with Simplot Australia was provided by CWCC food industry specialist Judy Doulton and assistance in liaising with Cargill Beef was provided by CWCC industry manager, meat projects, Sharon Bradley.

## Appendix 2: Key stakeholders and interviewees

<b>1. Simplot Australia, Bathurst NSW and NSW Food Industry Training Council</b>	Ray Stapley, OH&S and Environmental Manager, Simplot Australia Bathurst; Chair of the NSW Food Industry Training Council
<b>2. Simplot Australia, Bathurst NSW</b>	Harry Robertson, Production Supervisor
<b>3. Cargill Beef, Wagga Wagga NSW</b>	Dave Skews, Recruitment Officer
<b>4. Cargill Beef, Wagga Wagga NSW</b>	Chris Ward, Supervisor Boning Room A
<b>5. Burrangong Meat Processes, Young NSW</b>	Brent Loader, Training Officer
<b>6. MINTRAC</b>	Clive Richardson, Project Officer
<b>7. DET, Tamworth</b>	Andrew Clements, researcher
<b>8. Key ACE representative</b>	Amanda Moore, Manager Adult and Community Education, NSW DET
<b>9. CWCC project team member</b>	Sandra Gray, Senior Manager, Operations and Business Development
<b>10. E-learning provider</b>	Joseph Bruzzanti, Managing Director, Learning Seat
<b>11. CWCC project team member</b>	Sharon Bradley – Industry Manager
<b>12. CWCC project team member</b>	Judy Doulman – food industry training specialist, CWCC
<b>13. CWCC trainer</b>	Gary Lowe, CWCC trainer/assessor at Cargill Abattoir Wagga Wagga
<b>14. CWCC trainer</b>	Murray Izzard, CWCC training/assessor at Young and Wagga Wagga
<b>15. CWCC trainer</b>	Chas Hotson, CWCC trainer/assessor at Burrangong Meat Processors

## Appendix 3: Background to the research instruments

This appendix describes the rationale for the use of research instruments in the project. The rationale was prepared near the start of this project.

The research methods used in the project will be a review of literature; observations; structured and unstructured interviews; surveys containing both ratings and open-ended questions; and the case study approach.

### Case studies

The two main enterprises, Simplot and Cargill, will provide two different qualitative case studies. It is proposed that each of the case studies will highlight issues that are unique to that setting or group, making each major case study different. Then commonalities will be extracted and highlighted. To research, develop and deepen the case studies and the relevance of the findings to other enterprises, the researcher will collaborate closely with the key stakeholders cited in the Appendix, particularly those connected to the two enterprises, Simplot and Cargill. It is expected that the case study approach will be a limited application of the comprehensive case study method described by Yin (2003), as there is neither the time nor the resources in this project for the researcher to accumulate dense and exhaustive data. In Yin's terms (2003), the case study research will be 'part of a larger multi-method study' (p.2): and in this situation, 'the larger study encompasses the case study' (p.150). Yin advises (p.150) that the larger study's overall report should be based on 'the pattern of evidence from both the case study and the other methods'. The approach to be taken in this project fits an approach set out by Yin (2003):

The larger study may have called for multiple methods simply to determine whether converging evidence (triangulation) might be obtained even though different methods may have been used (p.150).

Hence, part of the larger study's assessment would then be 'to compare the case study results with those based on other methods' (p.150).

In reporting the two case studies, a decision may be taken to intersperse through the final report the findings and data from the case studies, organised in easy-to-read subsections or framed inserts or quotations, as NCVET finds that dense case studies are unpopular in the VET system and not often read. The case study material will be used to serve the interests of the VET reader.

### Observations

The aim of the observations will be provide additional insights into issues related to questions 1 and 2, as follows:

- Regarding Question 1 on strategies, observations will be conducted to determine how different flexible learning and e-learning initiatives were planned, implemented and managed and what resulted. Issues to observe include end-user readiness, end-user acceptance, appropriateness of learning materials and other educational, business and technological factors.
- Regarding Question 2 on models for engaging with industry, observations will be conducted to determine partnerships issues, diagnosis, facilitation, joint planning, collaboration and common benefits.

Observations will be conducted on-site at Simplot (Bathurst), Cargill (Wagga Wagga) and Burrayong (Young).

Observations will be conducted of the following groups:

- end-users (employees) using the e-learning products
- CWCC project management group
- industry managers supporting the e-learning
- CWCC trainers assisting with the implementation of flexible learning.

An observation checklist will be used.

### **Structured interviews**

The aim of the structured interviews will be to identify attitudes and experiences of stakeholders in relation to issues raised by the three research questions.

The type of interview chosen for the interviews with the end-users and the CWCC staff and industry personnel fits the description of Patton's (1990, p.206, in Cohen and others 2000, p. 271) standardized open-ended interviews: the exact wording and sequence of questions are determined in advance and all interviewees are asked the same basic questions in the same order. The benefits of this approach are that comparability is increased as the respondents answer the same questions; data are complete for each person on the topics addressed; and the standardised approach facilitates organisation and analysis of the data.

However, some flexibility will be needed in interviewing CWCC staff as they may wish to comment on issues not covered in the interview schedule. Similarly, some flexibility will be needed in interviewing industry personnel as they have varying levels of involvement in the project.

Structured interviews will be conducted as follows:

- on-site at Simplot (Bathurst), Cargill (Wagga Wagga) and Burrangong (Young);
- face-to-face with other CWCC staff and with some stakeholders based in Sydney;
- and by teleconference with all stakeholders.

The following categories of subjects will be interviewed:

- end-users
- CWCC project management team members
- staff supporting the end-users, including management staff at Simplot and Cargill and Burrangong and training staff from CWCC
- other stakeholders.

### **Unstructured interviews**

The aim of the unstructured interviews will be to capture informal information not captured in either the structured interviews or the survey. The unstructured interviews will be different each time, and will be in response to the individual being interviewed and that individual's specific involvement in the project. The topics will be similar to those in the structured interviews and survey, but could also traverse different territory.

No specific instrument is needed for these informal and impromptu interviews, although some of the questions will be drawn from other instruments such as the observation instrument.

### **Survey containing both ratings and open-ended questions**

The aim of the surveys will be to obtain both statistical data – in response to questions requiring a rating – and responses to some open-ended questions, on the topics related to the three research questions.

To obtain statistical data about stakeholders' attitudes, respondents will be asked to respond to Likert scale items by selecting from a five-point scale. An aim in using the Likert scales is to 'build in a degree of sensitivity and differentiation of response whilst still generating numbers' (Cohen and others 2000, p.253). It is understood that the rating scales will only provide an aggregated summary of stakeholders' attitudes to some broad issues and that more specific, individual attitudes to critical issues will be gained from the interviews. The open-ended questions will be designed to stimulate individualistic responses, complementing the statistical results of the Likert scale questions.

Surveys will be conducted of:

- End-users
- Simplot, Cargill and CWCC staff supporting the end-users and CWCC project management team.

### **Case studies**

The two case study locations are Simplot (Bathurst), for the food processing industry, and Cargill (Wagga Wagga) for the meat processing industry.

Following Yin (2003), the sequence of activities for developing the case studies will be as follows:

- designing (research questions)
- conducting (preparation for data collection; undertaking of site visits; conducting of interviews)
- analysis of data/evidence (using an explanation-building technique of theoretical framework, refinement, revision of proposition)
- development of written summaries.

Regarding the first step for the case study approach, designing, the research questions are the same as for this project, as set out at the start of this section on Research Instruments. The structured and unstructured interview schedules set out in the Appendices will be the main data-gathering tools for the case studies.

### **Participative evaluation**

The following comments are designed to separate the above research activity from an additional evaluation strategy.

In addition to the research methodology set out above, a participative evaluation methodology will be used, following Parlett and Hamilton (1975), in relation to the researcher's relationship with the CWCC project team. The aim of this strategy is to provide additional value to CWCC, as participative evaluation aims primarily to illuminate the processes and settings for the benefit of the participants in this project and to assist the staff at CWCC to optimise the possible benefits for the enterprise personnel undertaking the projects. This illumination will be achieved by focusing on the enterprises as distinct settings, with their different contexts, challenges, processes, difficulties and achievements. The participative evaluator will set out to understand and describe the complex interplay of factors affecting the project within each enterprise and to feed this analysis back to CWCC and to the enterprises.

This participative approach provides assistance during the course of the projects and is in contrast to most managerial evaluation where the evaluator is detached from the participants and only gives feedback to the funding body or oversighting committee, mostly at the conclusion of the project. For this project, and for the benefit of CWCC, the participative evaluator will undertake a formative evaluation, examining the

efficiency of the inputs, processes, strategies and outputs developed between CWCC and Simplot and Cargill. To preserve confidentiality, the participative evaluator will provide this formative evaluation only to the CWCC Project Manager. The participative evaluator will also use the framework of an outcomes evaluation, examining the effectiveness of the collaborative model used by CWCC and the flexible learning strategies developed with Simplot and Cargill. The participative evaluator will also provide this summative evaluation directly to the CWCC Project Manager.

In summary, the participative evaluation will happen backstage, for the benefit of the CWCC project management team, while the research will be conducted on the main stage, to meet the expectations of all stakeholders in this project, particularly the Framework.

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