IMPLEMENTING COMPETENCY-BASED TRAINING IN THE WORKPLACE: A CASE STUDY IN WORKFORCE PARTICIPATION

Richard Curtain

Visiting Fellow

National Key Centre in

Industrial Relations

Monash University

Melbourne, Victoria

Helen Ormond
Manager Strategic Training Projects
Rural Water Corporation
Armadale, Victoria

Revised : 23.03.93

Published as 'Implementing competency-based training in the workplace : a case study in workforce participation', **Asia Pacific Journal of Human Resources,** 32 (2):133-143.

IMPLEMENTING COMPETENCY-BASED TRAINING IN THE WORKPLACE: A CASE STUDY IN WORKFORCE PARTICIPATION

1.INTRODUCTION

This case study details the development of a skill formation strategy at the Rural Water Corporation (RWC) which achieves many of the objectives of the national training reform agenda and provides a model to both public and private sector enterprises of how to implement competency-based training in the workplace. The project's success can be attributed to its consultative mechanisms and to the capacity of participants to use 'reflective practice' to solve problems as they emerged.

The case study demonstrates how to overcome a major deficiency in the way that employee participation in change processes is conducted in Australia. Despite a high level of union representation, there is traditionally a low level of involvement of union job delegates in issues affecting their work situation. This stems from management and union structures (particularly in a public service setting) which have been devoid of mechanisms to devolve power to the enterprise and the workplace. This paper describes how the separation of consultative arrangements for problem solving purposes from a more formal negotiating forum to resolve contentious issues was the key to the successful implementation of a change project which involved a large workforce.

This study outlines the approach the project took, the solutions it came up with, the final form of the outcomes and a reflection on the major lessons from the exercise. The case study does not present a simple model to be slavishly reproduced. The real lesson is for management to have confidence in the ability of workforce participants to come up with their own solutions, modifications and adaptations to problems encountered in order to produce a result which is truly home-grown. These homespun solutions exemplify what Schon has called "reflection-in-action" or "reflective practice" (Schon 1984). This refers to the practitioner's ability to adapt theory to practice by improvising to cope with unique, uncertain and often conflictual situations of practice.

The Rural Water Corporation, rather than waiting for a broad industry blueprint for training arrangements, took the initiative to develop its own enterprise focus. Nevertheless, this focus sought to maximise linkages with state and federal training authorities through registration as a private provider. In this way the RWC is able to offer in-house accredited courses within the emerging national training system. The project, therefore, was not introverted or preoccupied with responding narrowly to the organisational training needs. Rather, it sought to tap into national and international developments as the means of establishing best practice training and assessment arrangements. An important outcome of the project was the distinction made between job-specific skills, occupational skills, industry or organisation skills and at the broadest level, workplace basic skills. This classification of skills enabled appropriate training resources to be tapped.

The external and strategic focus also helped the project to assimilate new concepts and practices by encouraging the participants at all levels to grapple with ways to implement the essence of these new approaches to skill formation while taking into account their own circumstances. It also assured the Corporation's success in its application for funding from the Federal Department of Employment, Education and Training (DEET) based on the project's potential for wider use as a national model in the water industry.

The general objective of the project was to establish skill-related career paths which provide opportunities for advancement and more flexible work organisation based on a restructured award. The strategy aimed to produce an on-the-job training program that was accredited, modularised and

competency-based. The specific objective was to facilitate the integration of two occupational streams within the RWC.

2.BACKGROUND

The RWC, formerly the Rural Water Commission of Victoria, is a public business authority whose primary mission is to sell water and related services throughout rural Victoria for irrigation, domestic and stock, residential, commercial, industrial, recreational, environmental and other beneficial uses. The RWC operates and maintains a vast network of irrigation, drainage and other water systems which supply customers with approximately 80 per cent of water used in Victoria.

The new self-sufficient Corporation was established on July 1, 1992, the result of recommendations from an external review into the organisation to improve overall efficiency and effectiveness (Gutteridge, Haskins and Davey, ACIL Australia, Ernest & Young, January 1992). The recommendations included: redesignating the Commission as a statutory authority in the outer budget sector ("corporatisation"); establishing an enterprise award outside the provisions of the Public Service Act; reconfiguring the eight regions to five with each answering to its own board; establishing a small, strategic Corporate Office and overall Board to set policy frameworks and to monitor performance contracts with regional and service companies; and establishing two separate, semi-independent business units to provide technical and business services to internal and external markets.

Following these institutional reforms, the Corporation's strategic objective is to develop its business through more commercial, customer-focussed management and work practices to assist customers to improve their productivity. This skill formation project, which focuses on the field-based workforce involved in water distribution and construction and maintenance (930 employees of the total 1,700 as at February 1993) is but one part of the Corporation's integrated change strategy.

3.WHAT WAS DONE

The strategy took the form of the following eight broad steps over an eighteen month period:

1.Setting the scene (December 1990)
2.Skills identification - DACUM (February-May 1991)
3.Skills analysis (April-July 1991)
4.Curriculum development (August-November 1991)
5.Development of assessment procedures (January-May 1992)
6.Development of instructional material (January-May 1992)
7.Preparation for implementation on July 1, 1992 (April-June 1992)
8.Launch of the training program (June 1992)

Steps 1 - 7 were, of course, dynamic and interactive. Therefore, there was considerable overlap, producing an iterative process whereby one step was often modified by subsequent activities.

Step 1.Setting the scene

To begin, a workshop was conducted by one of the authors, Richard Curtain, with the Managing Director and senior line managers to spell out the relationship between the RWC's goals and their impact on the development of an appropriate training response. The workshop was based around the following issues:

- Environmental factors affecting the Corporation's internal organisation by the year 2000;
- the job structures to complement these organisational changes;
- the required occupational mix;

- the labour markets in which these occupational groups might be operating;
- the career paths that the Corporation should therefore be fostering;
- the skills upgrading required by 1995 to facilitate these directions;
- implications for the business plan and corporate planning 1995-2000.

Following this seminar, an enterprise skill formation strategy and implementation action plan were formulated. These were endorsed by executive management and unions.

The strategy recommended the establishment of consultative mechanisms to develop the training program, which were to be separate from industrial negotiation. The purpose of this separation was to make it easier to use consultation to solve problems related to skill formation freed from concerns related to conditions of employment. Project participants were to have the opportunity to discuss and find solutions unfettered by issues and tactics required in a more formal negotiating setting which are likely to cause continuing conflict and disruption. The focus for the project participants was, therefore, to be on problem-solving and decision-making by consensus.

Such arrangements are based on an understanding that any award or related industrial matter is best dealt with by the formal consultative mechanism that exists for this purpose. This freed the project participants to discuss issues and formulate a range of responsive options. As Neal Herrick argues in Joint Management and Employee Participation:

> ... it is difficult to discuss win/lose issues in the same forum with win/win problems. Win/lose issues take priority, feelings run high, tempers get short, and the deviousness that is natural in adversary bargaining gets in the way of any constructive problem-solving. (Herrick 1989:64).

With this distinction between integrative and distributive bargaining in mind, four distinct consultative mechanisms were developed for the project:

- Reference Group (comprising union nominated workplace experts, internal management representatives, and a range of external experts from state and federal departments of employment and training, other water industry authorities, and private consultants - 12 people).

- Sub-committees (comprising workplace and external experts of the Reference Group - between six and eight people).

- Union Training Consultative Committees operating separately as the formal negotiating forum for each union (comprising union officials, the Project Manager and delegates from the Reference Group - six people in each committee).

- A network of workplace experts (selected from the workforce on the basis of their ability to articulate their views, their knowledge of the work processes involved in their area and their acceptability to the workforce) formed to identify workforce skills and to develop the instructional material.

The Project Manager's role was one of an internal consultant or facilitator of these groups who had to find ways around barriers that appeared along the way.

One important lesson from the project was the need to allow the participants to make their own decisions. To ensure that the consultative arrangements are not seen as a pseudo-participative process, management and unions should encourage their representatives to participate fully in such projects by devolving rather than withholding the power to debate strategic matters. After all, local managers and job delegates because of their

knowledge of the workplace and credibility with their fellow workers, are well placed to take decisions.

Step 2. Skills identification

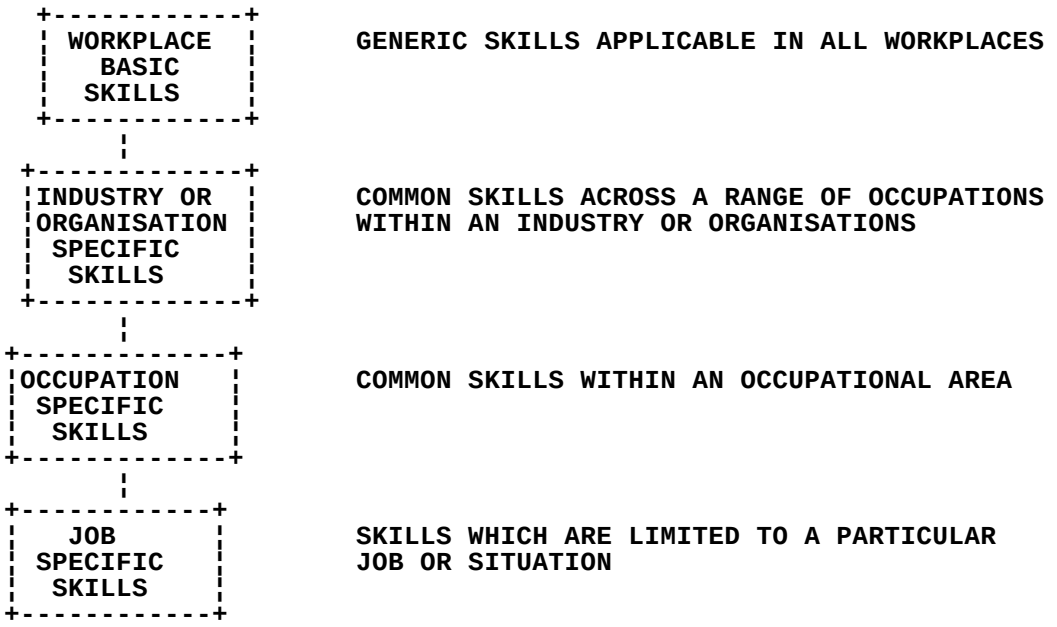
A modified DACUM technique was used as the model to develop the competency profiles. DACUM is a focussed group technique used to elicit information about workplace competencies by using participants involved in exercising or supervising skills being recorded (Curtain, 1990). The process involved the following steps : selecting the jobs for analysis; developing a preliminary list of duties, tasks, skills, knowledge and aptitudes for these jobs; and validating this information extensively with work groups across the state.

Twelve employees or "workplace experts" were selected and trained to facilitate thirty DACUM sessions over a span of four weeks. The competency profiles for each work function then underwent a thorough validation process to ensure that all the occupational groups and all duties and tasks were included. A future scan of the work requirements in one year, three years, and five years hence was also conducted. This information was elicited in a half-day workshop with corporate planners and workplace experts.

Step 3. Skills analysis

The Common Skills Subcommittee of training and workplace experts identified which skills fell into the four skill categories of workplace basic, industry-specific, occupational, and job-specific skills. The value of categorising skills in this way has been to structure the training program efficiently so that modules are not simply based on each specific skill application but rather on the underlying, generic skills. This has made it possible to focus on what type of training had to be developed in-house and what training could be readily borrowed from existing course materials or linked with other accredited training already provided.

The skill categories represent a pyramid from the most general to the specific.



The most generic skills applicable in all workplaces have been defined as **Workplace Basic Skills.** These were identified by the project participants as the following :

- learning to learn;
- reading, writing, computation, computer literacy;
- verbal communication;
- problem solving, creative thinking;
- personal management;
- group effectiveness;
- client relations;
- managing work.

Examples of this skill category include: negotiate the provision of human, physical and financial resources; plan, prioritise and supervise works programs.

The concept of "workplace basic skills" is derived from a two-year research project by the American Society for Training and Development in conjunction with the United States' Department of Labour (See A.P. Carnevale, et al., 1990). The first six workplace basic skills listed above, in fact, correspond to the skills identified by the Carnevale study based on US data. It is a significant finding of the project that approximately 60 per cent of all the skills identified through the DACUM method are in this category. These common skills are directly transferable to other workplaces inside and outside the water industry.

Industry or Organisation-specific Skills refer to skills which are common to a range of occupations within an industry or organisation. In this case, the skills relate to those areas which apply to the water services industry or which have relevance for both the Water Distribution and Construction/ Maintenance work groups. Examples are: identify maintenance requirements; operate small plant.

The third more specific skills category refers to **Occupation-based Skills** which have a common relationship to a particular cluster defined or group of skills known historically as an occupation. Within the project, the

focus would be specific to either the Water Distribution or Construction/Maintenance group. Examples are: install pipelines and fittings; interrogate telemetry.

The final category, **Job-Specific Skills,** are those which are limited to a particular job or situation or to the distinctive context in which it is carried out.

Examples are:

- handle toxic and dangerous goods;
- operate chlorinator.

Step 4. Curriculum development

Following extensive validation of the DACUM information and the identification of the four skill categories, the Common Skills Subcommittee designed the training framework in consultation with workplace experts across the state. The process was as follows:

- Identification of patterns/common themes on which a basic training framework could be developed (Water, Works, Management Skills);
- grouping of duties and tasks under each of these headings;
- grouping of tasks into logical functions (concept of module content);
- development of performance standards for each of these tasks/learning outcomes;
- identification of competency levels/plateaux on the basis of agreed criteria (complexity, problem-solving, variety and breadth, flexibility and adaptability, judgement, responsibility and accountability, autonomy and independence);
- development of initial course structure;
- finalisation of streams, compulsory/elective modules, nominal hours.

Step 5. Development of assessment procedures

All assessment principles, procedures and practices were designed by the Competency Assessment Subcommittee comprising training and workplace experts. (These are described in detail in section 4).

Step 6. Development of instructional material

Six employees were selected to produce self-paced instructional material for the seventy-three modules full-time over a three month period with the support of a skilled mentor in instructional design. The group was trained in instructional design and was then supported by the mentor and, as time went on, by one another. The success of this segment of the project, as with the DACUM exercise, was largely the result of strong networking between participants. The initial networking was deliberately and consciously engineered and then nurtured once established.

Step 7. Preparation for implementation

The intention was to devolve fully all the planning, conducting and monitoring of the on-the-job training to line management in districts. District Managers were prepared for this responsibility by undergoing intensive training in the recognition of prior learning and in the use of the skills database. Following the formal launch of the training program, each was provided with a video and brochures so that he could conduct workplace briefing sessions.

It is important to note, however, that these information sessions were not new. From the outset, project participants were providing updates to constituents to maintain the communication links with the project. They were able to bring issues raised at these fora to the attention of the Reference Group and subcommittees for consideration. Newsletters to all

staff supplemented these updates during the course of the project. A communication campaign was devised to reach a range of audiences using specifically tailored strategies. Several papers were also delivered to national conferences and publications made as part of the process (Ormond 1991, 1992).

Step 8. Launch of the training program

The training program and private provider status was launched by the Corporation's Chairperson, its Managing Director, the General Manager of the Department of Employment and Training in Victoria, the State Director of the Federal Department of Employment, Education and Training, and the state secretaries of two of the participating unions. This format highlighted the tripartite arrangement on which the project was based and signalled to stakeholders the importance of the initiative to the effectiveness of the new Corporation.

4.OUTPUTS

The project produced the following specific outputs.

4.1Accredited Training Program

In April 1992, the RWC was granted accreditation by the State Training Board of Victoria for the *Certificate*, and *Advanced Certificate in Water Resources Management*, and the *Associate Diploma of Applied Science (Water Resources Management)*. The organisation has also gained registration by the State Training Board of Victoria as a *Private Provider of Vocational Education and Training* - the only water authority in Australia to provide accredited water industry training.

The course was designed in accordance with the National Training Board's competency framework (Certificate levels two & three, Advanced Certificate levels four & five, Associate Diploma level six). It is largely conducted on-the-job and comprises self-paced modules which rely on supervisors providing mentor support to trainees to guide them through the program. There are two significant features of the program:

- A compulsory common core of management modules which progressively develop generic skills, eg., Team Participation (Certificate), Team Management 1 (Advanced Certificate), Team Management 2 (Associate Diploma);

- action learning projects at Associate Diploma level which are identified in district plans and will require the investigation, analysis, and development of strategies and processes to manage a range of issues affecting the operational effectiveness of a district.

4.2Competency and Prior Learning Assessment Procedures

The Water Resources Management program comprises four action-learning projects and 73 modules. Each module contains approximately five learning outcomes with performance standards and conditions of assessment for each outcome.

Assessment of successful achievement of learning is based upon the learning outcomes and assessment parameters specified in each module. The Competency Assessment Subcommittee resolved that final assessment of a module (i.e., of all the learning outcomes of that module) is to be based on activities which combine all the learning outcomes into a meaningful assessment task. This enables serious consideration of the whole work role so that contingency management, task management and role/job environment factors are assessed alongside the specific technical aspects.

Assessment of learning outcomes is generally carried out by the supervisor. The purpose of this assessment is to ensure that the learner is

progressively developing the skills and knowledge required to achieve the objective of the whole module. Final assessments, however, are conducted by a panel comprising:

- an agreed subject expert;
- a agreed person independent of the assessment process;
- a supervisor/trainer.

Assessment of prior learning (the process of acknowledging skills and knowledge obtained through formal training, work experience and/or life experience), as with the assessment of training, is carried out by a panel. Panels comprise persons with the following skills:

- subject expertise;
- RPL process skills and knowledge;
- assessment expertise.

Recognition of prior learning is being implemented within normal working arrangements in the districts with candidates being provided with proformas which ask them to reflect upon their areas of expertise and opportunities for development in relation to the learning outcomes. These proformas are provided following an initial discussion with the candidate on the RPL process and the course structure. The follow-up discussion to confirm the areas of required training is conducted by the RPL panel. A review mechanism applies to the final assessment of defined learning outcomes to provide an opportunity to clarify or review assessment outcomes.

4.4 Skills Data Base

The project developed a skills database to record and monitor the achievement of learning outcomes. All course information and details of each employee's attainment with respect to the learning outcomes are held and updated on the database which is networked to all districts. Reports can be generated by individuals directly from the database in the form of 'Skills Passports' which record the status of their attainment.

Reports can also be generated for regional and Corporate Office management to provide information on the status of module attainment in different parts of the organisation. As well as providing a record of achievement for participants, the database also provides vital information to District Managers for the planning and monitoring of training to support operational requirements at district and regional levels. In addition, reports provide quality checks on the implementation of the program, for example, the number of attempts employees make to attain a particular learning outcome can identify differences in assessment and training delivery standards between districts.

4.5 Trainee Workbooks and Supervisors' Notes

Trainee workbooks were produced which include supervisors' notes containing the answers to questions raised in the material. The workbooks are written in a style and at reading levels which reflect the learner characteristics of the participants. Trainees are expected to make notes in their workbooks and complete exercises in consultation with supervisors as directed in the module. Thus the desired behavioural change toward a team-based approach to supervision, with the supervisor enacting a mentor/facilitator role, is embedded within the *practice* of the training program.

6. CONCLUSION

This case study demonstrates the value of taking an enterprise focus in developing appropriate training arrangements. Considerable effort has gone into producing industry-wide standards in a number of industries with

little evidence of widespread implementation of new training arrangements in workplaces. The challenge is to set standards to achieve consistency but also to ensure that they can be adapted to the needs of specific enterprises.

There is a danger, due to the considerable efforts by government, employer associations and unions to put in place new training arrangements through the Training Guarantee, implementation of the Structural Efficiency Principle and new industry awards, that an enterprise may react passively to these 'requirements' and respond in a minimal, formalistic way. This case study demonstrates that, when an enterprise does take the initiative and puts the rhetoric into action, a new set of training arrangements can be designed quickly and efficiently to complement new job structures and in a way which is capable of engendering commitment by the workforce.

The RWC's stated objective of moving from a construction-oriented agency to one predominantly concerned with service delivery provided the pretext for change. The Structural Efficiency Principle of the Australian Industrial Relations Commission provided the facilitative framework to encourage workforce involvement in developing new, more appropriate training arrangements.

Pressure from the powerful rural farmer lobby for a more cost- efficient and responsive service was also a significant factor in creating the right climate for change within the organisation. This pressure resulted in a public review of the RWC's structures and operations which argued for a major devolution of responsibility to operating units closer to the customer. In this context, the development of a training program which embodies some of the key competencies required by the new restructured corporation has been a valuable support for the very workforce required to take a much stronger customer orientation.

The case study confirms not only the importance of an enterprise focus but also the value that comes from linking recognition and training arrangements into a wider emerging set of industry skills. In the case of the state training system, this required gaining registration as a private provider and having the training courses submitted for approval. The benefits from this formal association are the recognition of the skills for workers who previously had no recognition and the opening up for them of linkages into the wider vocational education system. This both gives access to a broader range of career opportunities for workers in the external labour market and allows the organisation to tap into already developed courses for common skills at a fraction of the cost it takes to develop and update these courses. It is this access to a wider national training system that is the hallmark of German vocational training and a major weakness in the narrow enterprise and individual focus of training arrangements in the United States (Dertouzos et al., 1989: 87-93).

The case study demonstrates, therefore, that a large-scale enterprise training program can be mounted cost-effectively, drawing on internal resources and the rapid transfer of skills from external consultants. Consultants were used selectively to enable internal workplace experts to conduct each phases of the project themselves from skills identification and analysis, through to curriculum and module design. Expenditure on the project was therefore low, representing a one-off expenditure of only 0.7 per cent of the payroll of the workforce involved over the eighteen months project life or 0.4 per cent of their work time. Because the major part of the training is to be conducted on-the-job, the continuing recurrent expenditure is expected to be approximately 1.0 to 1.5 per cent of total payroll.

Gaining employee ownership of the project was achieved by the establishment of a network of supporters from different levels in the organisation. The cross-functional team of supporters helped to ensure that it was not seen as a bureaucratic exercise. It was a project developed by a grouping of people who were outside the normal channels of authority and hence did not attract the disinterest that often accompanies official directives. The non-formal network of supporters gave the project a strong sense of

ownership that would otherwise have been difficult to achieve. Nonetheless, the chief executive officer's demonstrably strong support for the project provided considerable leverage to ensure that the project had the legitimacy that only the CEO can confer.

The legacy of a centralised IR system in Australia has made many Australian workplaces poorly prepared for participating in change projects unless appropriate consultative mechanisms are put in place. The case study demonstrates the value of specifically addressing this deficiency by setting up a framework to separate workforce involvement in problem solving from union-management negotiations over contentious issues concerning conditions of employment.

References

Curtain, R. (1990) "How to identify skills for award restructuring purposes, using a modified DACUM technique", *Asia Pacific Human Resource Management*, 28, 4, 112-125.

Dertouzos, M; Lester, R., and Solow, R. (1989) *Made in America: Regaining the Productive Edge*. Cambridge, Mass.: MIT Press.

Carnevale, A.P., Gainer, L.J. and Meltzer, A.S. (1990) *Workplace Basics The Essential Skills Employers Want*. San Francisco: Jossey-Bass Publishers.

Gutteridge, Haskins and Davey, ACIL Australia, Ernest & Young (1992) *Future Management Review. Rural Water Commission : Final Report*. Rural Water Corporation, Armadale, Victoria.

Herrick, N. (1989) *Joint Management and Employee Participation*. San Francisco: Jossey-Bass Publishers.

Moran, T. (1992) Untitled presentation at launch of the Water Resources Management Program. Rural Water Corporation, 23 June.

Ormond, H. (1991) The Rural Water Commission of Victoria - Developing an appropriate enterprise skills formation strategy. Paper presented at national conference *Industrial Relations in the Public Sector*, Sydney.

Ormond, H. (1992) Implementing an assessment process at the Rural Water Commission of Victoria. Paper presented at national conference *Competency-based Assessment*, Sydney.

Ormond, H. (1992) Skills Formation. *Crosscurrent*, Australian Water and Waste Association Journal, 3, 2, p.7.

Schon, D. (1983) *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.

BIOGRAPHICAL NOTE

Richard Curtain (BA Hons, MA, PhD) has conducted research on skill formation in Australia and Japan, provided assistance as a consultant and has been involved as a practitioner in the implementation of workplace reform in the Public Transport Corporation of Victoria. His most recent publication is *Enterprise Bargaining: Choosing an Appropriate Strategy*. (Department of Industrial Relations, Canberra). Richard is currently Manager, Special Projects in the Office of Training and Further Education in the Victorian Ministry of Education and a Visiting Fellow at the National Key Centre in Industrial Relations, Graduate School of Management, Monash University.

Helen Ormond (BA, Dip Ed, B Litt Hons, MA) managed the skill formation project at the RWC. She is a former lecturer at the Royal Melbourne Institute of Technology and Monash University, Caulfield Campus, and a former management consultant with the Alexander Proudfoot Company of Australia. She has designed and is currently managing a project to assist the Corporation to develop its business through commercial management practices.