

LITERATURE REVIEW AND EXEMPLARS
Staff Capability Review Approaches
In a Context of Emerging Technologies

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CONTENTS	Page
Executive Summary	1
1. Introduction	4
1.1. Background	
1.2. Audience and scope of the review	
1.3. Methodology	
1.4. Type, extent and reliability of the information	
2. Results	6
2.1. Do any frameworks or models exist?	
2.1.1. Models from Human Resource Management	
2.1.2. Models from Organisational Planning	
2.1.3. Current Practice in Higher Education	
2.1.4. Current Practice in the Financial Sector	
2.2. The parameters of the framework	
2.2.1. Terminology	
2.2.2. Scope and purpose of the review framework	
APPENDIX 1 References	17
APPENDIX 2 Workshop/Focus Group Attendees	25
APPENDIX 3 Phone Interviewees Contact List and Interview Notes	26
APPENDIX 4 HRM Models from Literature Review	41
APPENDIX 5 Organisational Planning Models from Literature Review	44
APPENDIX 6 Definitions from Literature Review	47

EXECUTIVE SUMMARY

Introduction

This review was designed as an initial phase to inform the parameters and direction of possible frameworks or models in staff capability towards flexible learning services using technologies.

The study was conducted over two weeks, from 22 May to 1 June 2000, and was designed to find out what, if any, frameworks, models or approaches currently exist for reviewing staff capability towards flexible learning and the use of technologies to achieve business objectives.

The questions were:

- Do any staff capability models exist?
- If frameworks or models or approaches to examining capability towards flexible learning using technologies do exist, have they been implemented and are there known benefits?
- What should be the parameters of the best framework for capability review towards flexible learning using technologies?

The methodology comprised:

- literature review
- Staff Capability Review Network workshop/focus group
- phone interviews with people from organisations not already represented in the focus group.

The study findings are:

A Staff Capability Review Framework involves an initial assessment phase that informs change management planning. There are two aspects to this assessment: (1) the macro capability (or competitive advantage) of the organisation that provides the context for assessing; and (2) micro or individual (team) capability. (See section 2.2.2)

There is a mix of terminology in use in this context, including ‘competency’, ‘capability’, and ‘capacity’. However, the distinctions between these terms were not investigated due to time constraints. The term ‘capability’ is widely used in this context of emerging technologies, and has been retained in this study.

There is sufficient clarity in the literature for definitions to be generally accepted in relation to ‘capability towards flexible learning using technologies’.

The relationship between clearly articulated macro capabilities in flexible learning and competitive advantage was not clear. However, it is clear that VET organisations must be clear about their objectives, so that they may determine how the use of technology can contribute to these.

Staff capability can be assessed organisationally (macro) and individually (micro) in relation to ability, self-efficacy, values and flexible capacity. (See section 2.2.1)

Whilst many useful frameworks or models have been developed, evidence of a fully integrated, clearly articulated system that reviews both individual and organisational capability in flexible learning using technologies is difficult to find. (See section 2.1)

A wealth of characteristics derived from all sources was identified, which could be drawn upon to develop a conceptual framework. (See section 2.2.2)

Some detailed, useful models with extensive inventories in relation to staff competency and capability in the use of technology for flexible learning were located in the project. The best examples were found in publicly funded education and training systems. TAFE SA is perhaps the most advanced in integrating all levels, macro and micro, of capability review in relation to online education. This model could provide the basis for a systemic and individual capability review framework for staff in VET. (See section 2.1.2)

Higher education institutions in Australia and the UK are currently exploring capability frameworks or models for managing change towards flexible learning using technologies. (See section 2.1.3)

Private sector organisations from which information was elicited evidenced little internal assessment of either competency or capability in relation to flexible learning.

Professional associations that stipulate continuing education are well behind in providing flexible learning using technologies. (See section 2.1.1)

The application of a change management model (Concerns-Based Adoption Model, CBAM) to staff development in relation to flexible learning using technologies proved to be effective. (See 2.1.1)

The case study examples from the Staff Capability Review Network workshop/focus group and the telephone interviews show strong adoption of exemplar models of organisational change management (RMIT, TAFE SA, Sydney Institute TAFE NSW). Staff competency and capability were incorporated into the review mechanisms and link the results to training and development.

The project implications are:

Further investigation into the management of staff learning and development and the end-users from other sectors (including finance) may illuminate this project. The following questions could be explored more fully.

- **How was staff training linked to the organisation's competitive advantage?**
(See section 2.1.4)
- **How were staff trained?**
- **What training and support was provided for end-users to encourage their uptake?**
- **How were the different needs of various user groups considered?**

The distinction between micro and macro capability is best described using the proposed Staff Capability Framework (represented diagrammatically) being developed in the project.

A number of characteristics that appear to be essential to a staff capability review model have been identified. These could be usefully validated by VET managers in the project evaluation.

1. INTRODUCTION

1.1 Background

This initial report was commissioned by Lynne Stallard (DET NSW) and Trish McCullough (OVET TAS), the project managers of the National Collaborative Framework for Flexible Learning in VET Strategy 2000 Goal 1 Strategy 3.2. This Strategy aims to develop and widely disseminate a Staff Capability Review Framework (and models) to assist VET providers to analyse the attitudes, knowledge, understanding and skills of staff in providing flexible learning services and in using technologies to achieve business objectives.

1.2 Audience and scope of the review

The study was designed as an initial phase to inform the direction of possible frameworks in staff capability towards flexible learning services using technologies. The audience includes the Project Managers, the National Steering Committee and the Staff Capability Review Network.

1.3 Methodology

The study was conducted over two weeks, from 22 May to 1 June 2000 and was designed to find out what, if any, frameworks, models or approaches currently exist for reviewing staff capability towards flexible learning and the use of technologies to achieve business objectives.

The key questions were:

- **Do staff capability review models exist?**
- **If frameworks or models or approaches to examining capability towards flexible learning using technologies do exist, have they been implemented and are there known benefits?**
- **What should be the parameters of the best framework for capability review towards flexible learning using technologies?**

The methodology incorporated the following three aspects:

Literature review

This was undertaken to provide a list of relevant documents to inform existing thinking about individual and organisational capability towards flexible learning and use of technologies.

The initial search was conducted of the ERIC and the Australian Education Index databases using the terms *staff development*, *professional development*, *capability*, *organisational capability*, *flexible learning* and *information technology*. A search of

selected references was also conducted. This included accessing a range of published and unpublished conference papers with a specific focus on capability.

See Appendix 1: References

Staff Capability Review Network workshop/focus group

This workshop/focus group was held on Friday 26 May 2000, in Melbourne. The outcomes from the day's discussion formed part of the research strategy as well as providing an opportunity for the face-to-face establishment of the network. Participants were asked to comment on their organisation's capacity to provide flexible learning using technologies and the professional development (PD) implications. The results of the workshop/focus group were analysed and have been incorporated in this report.

See Appendix 2: Workshop/Focus Group Attendees

Telephone interviews

Phone interviews were conducted with staff whose organisations were not represented at the workshop. The key questions which the study was addressing were elaborated, refined, and directed to interviewees:

1. What do you see as some of the major issues and challenges facing your organisation's capacity to provide flexible learning using technologies?
2. What are some of the flexible learning models and strategies you have in place?
3. What have been the successes and problems associated with the implementation of these?
4. What are your concerns about the professional development and staff training implications of these strategies?
5. What other comments do you have in relation to this area that may not have been covered by the previous questions?

See Appendix 3: Telephone Interviewees and Interview Notes

1.4 Type, extent and reliability of the information

The team feel confident that they have provided an extensive range of information in the limited time available for this project.

As this study draws heavily on cutting edge practice, it was considered essential to include practitioner perspectives through the workshop/focus group and telephone interviews. Some of the most relevant information was gained in this way and compared with information gathered through web searches.

2. RESULTS

2.1 Do any staff capability review models exist?

It was evident that much sophisticated and detailed work has been done in Australia and overseas in all educational sectors. Many organisations (educational and other) are grappling with the change required for their business in the knowledge economy. This includes the development of flexible learning for both internal staff training and development, and as a product or service.

The models that exist include surveys, audits, reviews and profiles. They generally focus on identifying current competency of the individual or the organisation and undertaking a gap analysis for action planning. Some include questions relating to capability. Generally, there was a lack of clarity regarding the relationship between competence and capability.

There are many strategic plans that incorporate training and development strategies. However, the relationship between clearly articulated macro capabilities in flexible learning and competitive advantage was unclear. It is not apparent whether the organisations themselves realise what their macro core capabilities are (or need to be) in flexible learning and how this contributes to their current and future 'Business Idea'¹ nor how it generates competitive advantage.

The interviews conducted identified early conceptual development of capability towards using a flexible learning approach and some attempts to document this process.

We were not able to determine whether the benefits of the models had been evaluated.

The financial sector provides a comparable sector where major restructuring through the adoption of information technology and communication (ITC) systems in the delivery of products and services has occurred. More study would be useful in this area to see whether an integrated capability review mechanism exists.

Those frameworks or models which are well documented fall into two categories:

- human resource management (HRM)² audits or inventories, for example, staff development needs analysis and assessment; and
- organisational planning, including frameworks or models for strategic and future planning, change management and organisational development, and quality management.

Whilst a number of useful frameworks have been developed, evidence of a fully integrated, clearly articulated system that reviews both individual (micro) and organisational (macro) capability in flexible learning using technologies was not found.

¹ The 'Business Idea' is the organisation's mental model of the forces behind its current and future success. Kees van der Heijden (1996, pp. 59–82) describes how the Business Idea can be represented diagrammatically and tested for robustness in future environments.

² Human Resource Management (HRM) is used here in broad terms to encompass the range of functions performed in relation to staffing the organisation as well as providing training and development. The purpose of HRM is to ensure business productivity, efficiency and staff satisfaction in order to promote the overall effective success of the business.

2.1.1 *Models from Human Resource Management*

From current practice

There is already a range of programs for staff training and development in the vocational education and training sector that includes tools for assessing the use of technologies.

The ANTA-funded programs ‘Framing the Future’ and ‘Learnscope’ incorporate opportunities for staff to assess their skills in using technology and to develop projects to improve their skill base. Learnscope has a detailed self-checking inventory of skills in the use of computer-based technology in teaching.

In TAFE NSW, the Professional Development Scheme (PDS) for Educational Staff was developed in 1996 as a competency-based teacher portfolio inventory. It was underpinned by action learning and designed to allow individuals to determine their own development plans. The scheme integrates developments in IT that are contributing to new patterns of learning.

From the literature review

The literature presents four different and useful examples that attempt to review staff competence and capability in relation to the use of technology:

- The Teacher In-Service Training, Technology, and Front-End Analysis, Quebec (Schnackenberg et al. 1999)
- The CASC (Computing Across the Secondary Curriculum) Teacher Capabilities Guide, Victoria (SOFWeb, 1999)
- The Learning Technology Dissemination Initiative, funded by the Scottish Higher Education Funding Council (1997)
- The Concerns-Based Adoption Model of Staff Development (CBAM). This provided diagnostic information for the structuring of professional development activities in McKinnon and Nolan’s New Zealand study (1989), ‘Using computers in education: A concerns-based approach to professional development for teachers’.

Although the CASC refers to capabilities, when these are compared to competencies in PDS, it is difficult to see the difference.

The CBAM (a change management analysis) applied to PD was found to be ‘a useful framework within which to analyse the ongoing dialectic of change. The CBAM instruments provide important diagnostic information for staff developers. This permits the selection of appropriate intervention strategies and tactics to facilitate innovation, adoption and use while minimising the trauma of change.’ (McKinnon and Nolan 1989)

See Appendix 4: HRM Models from Literature Review

From Staff Capability Review Network workshop/focus group

Chisholm Institute of TAFE, Victoria has a performance management and assessment scheme completed by individual staff members. This scheme includes PD and encourages flexible learning.

From telephone interviews

TAFE Online (DET NSW)

The manager of this program has developed a model for building staff capability for online flexible learning through just-in-time work-based staff development. Initially, early adopters are targeted as those most likely to need learning because they are at the frontiers of change. Next, their managers engage in professional development so as to understand their innovative staff and how best to support them. Finally, with new 'Learningware' for courses and supportive management, implementation is disseminated to other sites in a process of replication. The original Learningware Development Team is instrumental in supporting the implementation of online course material from sites across NSW TAFE.

The Team Learning Plans typically include training in:

- instructional design
- technical use of software for Learningware production and delivery (i.e. Dreamweaver for authoring and site management)
- authoring, communications technology, incorporating interactivity into online learning (i.e. ways of actively engaging learners)
- using information management systems to manage the learning processes (e.g. Solutions Platform used by New England Institute of TAFE, WebCT, Blackboard).

IBM

IBM was the only private sector organisation with a discrete model for senior management development that integrated pedagogy with end-users' needs in order to build capability. The Director of Management and Executive Development at IBM, together with the Learning Services Unit, has been offering a range of flexible learning options using technology for some years. Most staff are already confident and comfortable with the technology.

IBM has a four-tiered management development model which uses flexible learning and technologies. IBM is developing a range of initiatives using flexible learning and technologies, including a remote mobile managers' training program.

IBM is also establishing 'customer rooms' where all staff dealing with the same customer can share information, ideas and resources.

The main issues facing IBM in terms of staff capability in flexible learning include:

- ensuring that there is a cultural change within the organisation that supports and prioritises learning, which is often given lower status in 'hard business' environments such as IBM
- providing staff support and access to ensure use of the technology

- moving away from a short-term focus on learning and embedding it as a long-term, continuous process
- dealing with the issue that flexible learning involves a focussed and self-disciplined approach by learners that some may find particularly challenging
- ensuring that adequate administrative resources are provided to support learning processes.

The need to respond quickly and flexibly to both internal and external requests for training has meant that IBM has encouraged outsourcing deals.

The Royal Australian College of General Practitioners (RACGP)

The continuing education professional development accreditation process of the RACGP requires that GPs gain 130 points in the triennium 1999–2001, with at least 20 points for Clinical Audit. This semi-regulated system encourages professional currency and links the GPs' rating with health insurers and the Medicare rebate system. GPs who fall behind in their credit points can be investigated for competence through referral to the Medical Board.

The program provides GPs with three strands of continuing professional development brokered through the RACGP:

1. Clinical Audit
2. Continuing Medical Education
3. Professional Development.

There is a growing interest in distance education. At present this is mainly through the use of CD-ROM.

Summary Comments

Within a Human Resource Management context, detailed, useful models exist with extensive inventories in relation to staff competency and capability in the use of technology for flexible learning. The best examples were found in publicly funded education and training systems.

The application of a change management model (e.g. CBAM) to staff development in relation to flexible learning using technologies has proved effective in some contexts.

In the small number of private sector organisations from which information was elicited, there was little internal assessment of competency or capability in relation to flexible learning.

Professional associations that stipulate continuing education appear on enquiry to be lagging in the provision of flexible learning using technologies.

2.1.2 Models from Organisational Planning

There are many sophisticated and well-known models in organisational planning. A common theme is the assertion that to be viable in the current and future knowledge economy, it is essential to manage organisational learning strategically. By doing this, it is argued, the organisation will be capable of flexible, adaptive and transformative behaviours. We sought to

identify whether there has been any contextualising of these models in relation to flexible learning using technologies.

From the literature review

Clarke (1994, pp. 29, 130, 189) outlines a process for leading change, a tool for diagnosing organisation capability and for building a shared vision. Her framework looks at the business environment, the fit between it and the business strategy, and whether the organisation has the necessary resources—people, systems and structure.

Kaplan and Norton's Balanced Scorecard (1992, pp. 71–79) is part of a performance management system to enable organisations to achieve their goals. It translates a strategic business unit's mission and strategy into a set of measures built around four or five perspectives. These include financial, customers, internal processes, innovation and improvement, and employees. (See Appendix 5: Organisational Planning Models from Literature Review)

The Australian Quality Awards assessment criteria (Australian Quality Council, 1996, p. 2) provide a process for CEOs and Boards to be able to 'stand back and objectively assess organisational capabilities needed' to meet tomorrow's challenges. They are 'designed to explore the individual enterprise's basic beliefs and strategies, to look for the deployment and linkages and to test the related measures and results'. There are seven categories of analysis in the framework. (See Appendix 5: Organisational Planning Models from Literature Review)

In 'A Planning Model for Innovation: New Learning Technologies', Mitchell and Bluer (1997) provide a set of qualitative and quantitative performance indicators to enable assessment of the effectiveness of new learning technologies (NLTs): checklists to aid selection of appropriate technology; implementation proposals; an action plan; and eight case studies. Their extensive research findings include detailed recommendations applicable to determining the fields of capability that VET organisations should review. (See Appendix 5: Organisational Planning Models from Literature Review)

Scenario planning is 'that part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future'.³ As part of the scenario planning process, Kees van der Heijden (1996, pp. 229–231) includes an organisational capability review. This involves a facilitated analysis of the current Business Idea and its robustness for future environments.

Ringland (1998, pp. 54–57) documents a set of twelve questions that could be used in regular planning reviews. For example:

Considering the capabilities required in your chosen markets, which ones, if lost, could result in your losing competitive advantage? How do you know?

Everett M. Rogers in 'The Diffusion of Innovations' (1995) proposes that people adopt innovations at different rates and that the categories of people in organisations fall into a bell curve as follows:

³ This definition is taken from Gill Ringland, 'Scenario Planning: Managing for the Future' (1998, p. 2).

- Innovators (2.5%)
- Early adopters (13.5%)
- Early majority (34%)
- Late majority (34%)
- Laggards (16%).

Rogers also says that the attributes of the innovation affect its adoption rate. These include relative advantage, compatibility, complexity, trialability, and observability. Organisational characteristics which affect innovativeness include size, interconnectivity, slack, centralisation, and formalisation.

Organisations in which innovations thrive are likely to be large, less centralised, less formalised, and highly interconnected.

From the Staff Capability Review Network workshop/focus group

RMIT Teaching and Learning Strategy—Distributed Learning System

The IT Alignment Program is a university-wide cutting edge strategic initiative established by RMIT to package IT activities associated with efficient delivery of RMIT learning services and business services, and to support this efficient delivery. This major initiative is directly linked to the RMIT Teaching and Learning Strategy, and is led and coordinated through the Learning Technology Services unit. It includes:

- a university-wide improvement program for IT network and desktop infrastructure
- the Distributed Learning System, a corporate online learning platform currently with over 10,000 students and 350 staff
- the establishment of a state-of-the-art online student and academic management system for release in 2001
- online learning materials development to support delivery of strategic courses
- related IT and teaching and learning projects, such as the RMIT Learning Network Project.

Professional Development Program

Over the last two years the professional development team have been implementing a Learning Technology Mentors program. There are approximately 135 Learning Technology Mentors (LTMs)—two or three in most university departments and in central areas such as the Library. These are mostly academic and teaching staff who have been funded for 26 days' release time to develop online materials and support their departmental colleagues in engaging with online teaching and learning.

These LTMs undertake an extensive staff development program for approximately one week, covering both the use of the online toolset used at RMIT and a broad range of topics in educational design and practice.

All LTMs develop a work contract; if individual staff wish, this can be formalised into credit for a subject in a Graduate Certificate of Flexible Delivery.

Online Education: Change Management Plan for TAFE SA

TAFE SA is implementing a change management plan in order to introduce online delivery and embed the new communications technologies. To achieve this goal, the plan encompasses a review of all systems in the organisation and support for all staff, specifically in the following areas:

- the Vision statement
- commitment from key stakeholders
- policy and guidelines
- online resource development
- pedagogical and learning issues
- technical infrastructure.
- evaluation and research
- professional development.

In devising its plan, TAFE SA:

- reviewed theoretical models in change management and found that the four common elements of change are the human factors, a dynamic and wide ranging impact of change, embedding change into the structures, and communication for success
- analysed the current situation of TAFE SA and identified the reasons and the vision for change, in regard to online delivery
- proposed a six-phase model for achieving the required change
- analysed a workgroup in flux to highlight key micro forces that must be accommodated in the macro change process.

From the telephone interviews

Sydney Institute of TAFE IT Strategy

An IT Strategy was devised in 1999 for Sydney Institute. Managers are encouraged to identify their professional development needs and turn these into a personal training and development action plan. The Strategy Manager believes that Staff Training and Development needs to work closely with the implementers of the IT Strategic Plan, so as to overcome the 'learned helplessness' of staff. This is also linked with the IT Skills Action Plan, which identifies the likely changing nature of jobs in the Institute over the next five years and the IT implications. All positions, clerical, stores and educational, are included.

Managers determine a framework and the protocols in which staff will be the users. Staff need skills to manage applications. Skill levels should cascade down with parameters set at higher levels. This is being done through the IT Sub-Committee, whose role is to determine and consolidate a shared understanding and approach.

The critical skills needed by staff at all levels in delivering flexible learning include project management and IT management skills.

Summary Comments

The examples outlined indicate adoption of exemplar frameworks or models of organisational change management (RMIT, TAFE SA, Sydney Institute TAFE NSW). Staff competency and capability were incorporated into the review mechanisms and results were linked to training and development. TAFE SA appears the most advanced in attempting to integrate all levels of capability review in relation to online education. It provides the basis for an individual and systemic capability review model for staff in VET.

2.1.3 Current Practice in Higher Education

Significant research in this area is being undertaken by the Australian and international university sector. The most recent literature shows useful parallels between VET and higher education, in particular, the study commissioned by the Committee of Vice Chancellors and Principals of the Universities of the UK (CVCP) and the Higher Education Funding Council for England (HEFCE). The findings were published in a recent summary report, 'The Business of Borderless Education: UK perspectives',⁴ which draws on the work of an earlier Australian project, 'New Media and Borderless Education: A Review of Convergence Between Global Media Networks and Higher Education Provision' (1997).

This report gives a comprehensive account of the virtual and corporate developments in learning which, along with the Internet, are sweeping the world. It draws on international and UK case studies and highlights the multitude of issues that need to be addressed to develop high quality borderless education. In relation to human resource management, it was felt that:

enhanced staff development and training is crucial, although by itself it will not resolve the human resource management issues facing institutions...⁵

and

In our view it is clear that the combination of factors considered in this report is of such magnitude that it will require imaginative action from both institutions and central agencies if any attempt at coherence in human resource management practices is to be achieved.

To date the approach adopted by most institutions, as such pressures start to become evident, has been to 'muddle through' and look for central agencies to provide guidance. Our clear view is that such an approach will not be appropriate in the future. Institutions themselves will need to become much more professional and strategic about their human resource management responsibilities.⁶

The limited time available did not allow for sufficient exploration of this sector. Anecdotal information suggests that further study would yield a wealth of relevant information and detail.

⁴ Committee of Vice Chancellors and Principals of the Universities of the UK (CVCP) 2000

⁵ op. cit. p. 28

⁶ op. cit. p. 29

2.1.4 *Current Practice in the Financial Sector*

The financial services industry has undergone rapid and major restructuring within a major industry transition.

Zurich Financial Services Australia Ltd has developed strategies to ensure all staff could develop new skills and knowledge that complemented their business responsibilities. The company has been implementing flexible learning using technology as a continuous and ongoing learning process.

Working with Indelta, the commercial arm of the University of Southern Queensland (USQ) and in partnership with the university, Zurich have developed a flexible learning program with three components:

1. face-to-face learning programs
2. self-paced distance learning using technology
3. interactive online learning processes.

Further investigation into the management of staff learning and development and end-users from a representative range of private enterprise, including the financial sector, may illuminate this project. The focus of such enquiry should include:

- How was the organisation's competitive advantage linked to the implementation of flexible learning?
- How were staff trained?
- What training and support was provided for end-users to encourage their uptake?
- How were the different needs of various user groups considered?

2.2 *The parameters of the framework*

2.2.1 *Terminology*

The terminology utilised in this report provides some framework parameters, especially as follows:

Staff

This includes the staff of VET providers, or registered training organisations, including educational and support services staff from all levels of the organisation.

Competencies

Competencies can be defined as individual and measurable skills demonstrated and assessed against agreed standards of competence (Keating 1995, p. 85).

Competencies are current and include knowledge and attitudes.

Capability

This has been defined variously as both individual and organisational capability (see Appendix 6 for a more detailed range of definitions).

Individual capability is ability (current competence) plus potential, self-efficacy (belief in one's own capability) and values, in familiar and/or specialist contexts and in response to new and changing circumstances.

Organisational capability is ability (current systemic competency plus potential) and flexible capacity in meeting the evolving needs of society and maintaining competitive advantage.

Both individual and organisational capability definitions assume that learning is an essential and underpinning dynamic relationship between the two capabilities.

Flexible learning and the use of technologies

The intention of this project is to refer to the materials and processes that are required in order to set up an information-rich environment where teachers support students online. RMIT refers to this as a 'distributed learning system'; the Manager, TAFE Online, (DET NSW) has coined the term 'Learningware'; Mitchell and Bluer (1997) refer to 'new learning technologies' or NLTs, and Taylor (1998) claims it is Fourth Generation Distance Education (see Appendix 6).

Flexible learning (in this project) refers to the learner selecting to engage in learning in ways that vary across modes of styles and interaction patterns. This occurs within the opportunities for interactivity and access to instructional resources provided by computer communications networks, that is, the Internet and the World Wide Web.

Review framework

A review framework relates to:

- a range of levels including individual, team or group, and organisational. At the individual level it refers to a model for a skills audit of staff competence and performance.
- the business of the organisation, in the context of flexible learning and the use of emerging technologies.

2.2.2 Scope and purpose of a review framework

A review framework that addresses capability in flexible learning using technologies needs to:

- be applicable to all VET organisations in relation to their varying attributes and characteristics (e.g. size, type, location, sector, structure, level of IT infrastructure, HRM function, access and equity issues for staff and end-users, quality assurance framework)
- provide a means for the organisation to outline clearly how it assesses its future (its business case or competitive advantage)
- address how this competitive advantage is achieved by the organisation's and individual's engagement with flexible learning through technologies
- articulate clearly the relationship between the organisation and the individual in the above context (including the team aspect)

- maintain a focus on learning and educational outcomes
- define ‘learners’ to include managers, staff, and end-users/clients/customers, and recognise individual differences in learning styles
- distinguish between capability and competency and be clear about whether competency assessment will be incorporated
- include questions that address the attributes of capability in the context of flexible learning, such as the following.
 - (i) **Does the organisation have the individual and collective efficacy to implement flexible learning systems?**
 - (ii) **Does the organisation believe in flexible learning and flexible delivery and the use of information technology to achieve these goals?**
 - (iii) **Are staff able to implement a flexible learning system?**
 - (iv) **Do staff believe in implementing a flexible learning system?**
 - (v) **Do staff and the organisation share the same values in relation to this?**
 - (vi) **Can staff use information technology to achieve these goals?**
 - (vii) **Do managers know where innovators and early adopters are in the organisation and how to support them?**
 - (viii) **Do managers encourage and manage organisational learning and knowledge creation (i.e. collaboration, teamwork and project management)?**
 - (ix) **Is the implementation of a flexible learning system encouraged through the development of self-managed learners who can make informed choices?**

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APPENDIX 2 Workshop/Focus Group Attendees

Surname	Name	Position	Organisation
Bailey	Kirsten	State PD Coordinator	TAFE Tasmania
Bate	Frank	Manager of Online Technology Unit	West Coast College WA
Bennett	Deb	Manager Learning Systems and Resources	TAFE SA
Bushell	Sandra	Manager Management Development Unit	Training and Development Directorate NSW Department of Education and Training
Cairns	Len	President Australian Capability Network	Australian Capability Network
Gribble	Ian	HR Policy Manager	Office of Post Compulsory Education Training and Employment Victoria
Grozdanic	Rose	Senior Education Officer	ANTA Project (Learnscope)
Harris	Bernadette	Learnscope Facilitator Small Business PD Program	Harris Bromley Pty Ltd
Kirkwood	Graeme	Consultant Small Business PD Program	
Lawford	Lorna	EVAG National Secretariat	Department of Education, Employment and Training, Office of Post Compulsory Education, Training and Employment Victoria
McCullough	Trish	Senior Project Manager and Project Partner	Office of Vocational Education and Training Tasmania
McKenzie	Ian	TAFE Teacher	Bremer Institute TAFE
Malloch	Margaret	Lecturer, School Education Australian Capability Network	Victoria University
Misko	Josie	Senior Project Fellow	NCVER South Australia
Parton	Christine	Manager	META Live
Roberts	Anita	Principal Program Officer	ANTA
Stallard	Lynne	National Project Manager Staff Capability Review Model(s)	Training and Development Directorate, NSW Department of Education and Training
Wallace	Simon	Principal Project Officer	ANTA
Wheeler	Leone	Learning Network Coordinator Information Technology Program	RMIT – Learning Technology Services
Wright	Liz	Manager Projects and Promotion	Community Services and Health ITB
Young	Susan	Framing the Future National Project Manager	Regency Institute TAFE SA

APPENDIX 3 Phone Interviewees Contact List and Interview Notes

Summary of organisations interviewed

ORGANISATION	CONTACT PERSON	POSITION	CONTACT DETAILS
ARTD – Royal Australian College of General Practitioners	Chris Milne	Independent Evaluator Director of ARTD	02 9716 4500
Barraba Community Learning Association	Bronwyn Clinch	Executive Officer	02 6782 7253
Centralian College of TAFE	Bob Kinloch	Asst. Director, Enterprise Programs	08 8959 5238
Dept. of Training and Employment, WA	Lesley van Shoebreck	Director, Access and Participation	08 9235 6320
EVAG NT	Joyce Turnbull		08 8999 4396
IBM Australia	Ian McDonald	Dir. Management & Exec. Development	02 9354 7882 or 0411 021 024
Indelta – University of Southern Queensland	David Ross	Executive Manager	Rossd@indelta.com.au
Institute of Chartered Accountants	Gloria Blonde	Asst. Gen. Manager Cert. Prac. Elements	02 9290 1344
KPMG NSW	Daljit Singh	Director, National Prof. Development	02 9335 7000
Lotus Aust.	Chris Waterman	Senior Education Specialist	02 9350 7700
Management Frontiers Pty Ltd., NSW	Christine Brierley	Manager, Higher Education Programs	02 9957 4448
National Inst. of Economic and Industry Research	Graham Larcombe	Director	02 9209 4053
Southrock, Vic.	Charlie Spendlove		03 8341 2200
Sydney Institute of TAFE	Claire O'Connor	A/Manager IT Strategy	02 9217 3400
Sydney Morning Herald	Rebecca Scott	Journalist	02 9282 2941
TAFE Online DET NSW	Tony Brady	Project Director, TAFE Online	02 9561 8286
Tourism Training Aust	Susan Briggs	Project Manager & Access Nat. Manager	02 9290 1055
University of the Sunshine Coast Online MBA	Peter Macdonnell	Project Director, (Fee Paying Courses)	07 5430 1234
Zurich Financial Services	Julie Webster	Head of Education	02 9391 1819

Telephone Interview Notes

ARDT

Chris Milne

Director

Evaluation Consultant for Royal Australian College of General Practitioners

(details from phone interview and from RACGP website <http://www.racgp.org.au/>)

Chris Milne is evaluating the Quality Assurance and Continuing Education program (QA&CE) for the Royal Australian College of General Practitioners (RACGP). The program provides GPs with three strands of continuing professional development which are brokered through the RACGP. These are:

- **Clinical Audit:** Planned activities designed to help GPs review aspects of their own clinical performance in practice with the aim of improving patient care.
- **Continuing Medical Education (CME):** Activities designed to help doctors enhance knowledge, skills, attitudes and judgment so as to improve the health care of their patients and the community.
- **Professional Development (PD):** Activities that focus on the profession's role in improving the health care of the community and which may also improve the GPs' own patient care.

CME is approximately 90% of activity and is mostly provided by drug companies and the government-funded Divisions of General Practice. PD also includes non-medical skills development such as computer skills.

As a requirement of continued accreditation with the RACGP, GPs must gain 130 points in the triennium 1999–2001, with at least 20 points for Clinical Audit. This semi-regulated system aims to encourage professional currency and links the GPs' rating with health insurers and the Medicare rebate system. GPs who fall behind in their credit points can be investigated for competence through referral to the Medical Board.

GPs can also gain points in CME and PD, but there is no minimum requirement for either category. The requirements are the same for both full-time and part-time GPs. Interest in distance education is growing; this mainly occurs through CD-ROM.

The theoretical basis for QA&CE is that GPs accept that their continuing medical education and quality assurance activities meet certain criteria, namely, that the activities are:

- based on adult learning principles
- designed to reflect evidence of what works
- designed to involve peer and self-review processes.

Traditional CME methods such as conferences, seminars, workshops, journals, small group sessions, teleconferences and clinical attachments have been expanded by:

- clinical audit with feedback, including medical record review with peers
- outreach visits—academic detailing by pharmacists, nurses and other professionals
- use of local opinion leaders and peers as educational influences, including peer practice visits
- patient-mediated interventions such as patient education materials

- reminder and alert systems in medical records or clinical documents
- educational media—distance education courses, audiovisual and computer-mediated learning activities.

Educational strategies and processes

Research shows that simply providing information or training doctors is less likely to help them change their clinical practice. However, strategies such as providing resources or peer support, patient education, reminders and feedback are more effective at enabling and reinforcing behavioural change.

Intensity of educational intervention

Research suggests there is a ‘dose-response’ relationship in quality assurance and CME. In-depth courses that use a range of educational interventions are more likely to work than a few traditional lectures.

Barraba Community Learning Association, NSW

Bronwyn Clinch Executive Officer

Bronwyn Clinch manages a smaller end rural adult and community education (ACE) provider. Her main concern was the unreliability of IT infrastructure in her rural location which depends on the telephone line. The connection constantly drops out, and the limited budget means that it is too costly to have a dedicated line for an Internet connection. Email is used and most attachments can be downloaded but downloading graphics is very slow.

Teaching and learning materials are limited by the small budgets of many rural ACE colleges. Most of their work is conducted face-to-face with students and they would need more resources to do distance and online training. One of the strengths is that they are very conscious of student support and they feel that this is a key to online course delivery.

Barraba has a videoconferencing facility as part of ‘Networking the Nation’, linked to a facility through Port Macquarie. Despite repeated attempts to use this facility for community training and general use there is very little interest. Where there were no local teachers, the college tried to offer courses that they thought would be of use to the community, such as ‘Introduction to the Stock Market’ via videoconferencing, but no-one enrolled.

The most popular courses are in computing and the Internet, which seems contradictory. It is difficult to assess whether course participants are using their computers for work or leisure. Bronwyn has no way of knowing the level of Internet access in the area. She has heard from the local store and accountants that a lot of computers are being purchased or upgraded in preparation for the GST.

If it was possible to solve the participation rates in relation to resistance to videoconferencing, then it would be worthwhile getting PD for teachers in this form of distance education. They would need some awareness-raising on student support and front-of-camera performance, and in reviewing teaching and learning materials for appropriateness.

With staff capability essentially in face-to-face delivery and no experience in flexible delivery, the college would be competing with the New England Institute of TAFE’s ‘Flexilearn’, the Open Learning Access Centres (OLAC) and OTEN.

Centralian College of TAFE, Alice Springs, NT
Mr Bob Kinloch
Assistant Director, Enterprise Programs

Bob Kinloch indicated that this was still a greenfields site in much of the NT. However, organisations in Alice Springs and elsewhere in the NT are currently planning and/or developing a range of flexible learning options, often in partnership with other companies, such as Quantum, an interactive learning specialist based in Darwin. Centralian College of TAFE faces a number of issues and challenges before it can comfortably implement flexible learning using technologies. These include:

- high cost of equipment, technology and limited resources to ‘make it all happen’
- limited expertise by staff in implementing flexible learning online
- complexities associated with remote education needs.

However, Centralian is currently investigating the implementation of online training, examining the skill levels of its existing staff and working closely with Quantum, the Darwin-based company. CD ROMs have already been developed for local government and retail sector training.

In addition to the above initiatives, Centralian has also developed a remote Automotive qualification using a combination of print-based materials and CD ROM. This course is aligned with the relevant training package.

A trainer from Alice Springs is sent periodically to remote locations to meet with the Automotive group to review their training and conduct experiential assessments to complement those done through print-based methods.

Mr Kinloch suggests that resourcing—including at human, financial and technical levels—is the major obstacle to further developments in flexible learning technology. Centralian is overcoming these obstacles in part by investigating developments in other organisations and forming partnerships to develop new programs.

IBM
Ian McDonald
Director of Management and Executive Development

Ian McDonald, together with the Learning Services Unit, has been offering a range of flexible learning options using technology for some years. Mr McDonald did not see technology as being one of the major issues facing IBM given that the majority of staff already feel confident and comfortable with the technology.

The main issues in flexible learning facing IBM in terms of staff capability include:

- ensuring that there is a cultural change within the organisation that supports and prioritises learning, which is often given lower status in ‘hard business’ environments such as IBM
- giving support and access to staff to ensure that they use the technology
- moving away from a short-term focus on learning and embedding it as a long-term, continuous process

- dealing with the issue that flexible learning involves a focussed and self-disciplined approach by learners that some may find particularly challenging
- ensuring that adequate administrative resources are provided to support the learning processes.

The need to respond quickly and flexibly to both internal and external requests for training has meant that IBM has encouraged outsourcing deals.

IBM has flexible learning options and pathways using technologies at a number of levels, including:

- entry level training and orientation programs
- internal learning programs
- external learning services
- management and executive development.

The units responsible for managing each of these areas offer a range of services to internal and external clients in partnership with each other.

Management Development Pathway

IBM has a four-tiered management development model using flexible learning and technologies.

Level 1: Known as ‘Manager Quickview’, this offers managers an intranet site which provides information on a diverse range of issues facing managers within IBM. Managers can key in, for example, ‘retention’ and access IBM philosophy, policies, practices and procedures on how managers can retain staff as well as specific information on business conduct guidelines and leadership competencies. There are links with various relevant websites such as Harvard Business Review.

Level 2: This is an interactive level that offers managers access to simulations and business-based scenarios that provide a range of responses (including pros and cons) to a range of management decisions. These options allow a range of global career options to be investigated.

Level 3: This is a collaborative learning space for new managers who can correspond with each other, and their tutors. It provides question-and-answer options and other learning requirements. The Management Development Unit logs in daily to respond to questions posed by managers enrolled in the Learning Spaces.

Level 4: Learning labs provide face-to-face learning for managers, complementing the technology phases of their learning. Only very complex management issues and scenarios are addressed in the learning labs; that is, the only learning that takes place in the face-to-face mode is that which could not be covered by the previous three levels of learning. Managers deal with demanding situations, complex problem-solving and those areas requiring experiential learning.

IBM is developing a range of new initiatives using flexible learning and technologies that include remote mobile managers’ training program. IBM is also establishing ‘customer rooms’ whereby all IBM staff dealing with the same customer can share information, ideas and resources with each other.

Institute of Chartered Accountants of Australia (ICAA)

Gloria Blonde

Assistant General Manager, Cert. Prac. Elements

Flexible learning using technologies is clearly a greenfields site for the ICAA. From the available information it appears that professional development, other than traditional face-to-face seminars and conferences is limited to the following:

- videos
- CDs
- papers posted on the ICAA website.

KPMG NSW

Mr Daljit Singh

Director, National Professional Development

Daljit Singh acknowledged that this was a greenfields site and that the company was currently under-utilising 'e-learning'. KPMG has a global perspective on how to develop flexible learning options, given that there are KPMG staff across the world, with headquarters in the USA.

Currently, flexible learning using technologies is limited to:

- a web-based program (complemented by paper resources) on using the Internet
- CD-ROMs on a range of technical skills, including consulting and interpersonal and behavioural skills.

In the future, Mr Singh envisages more and more learning on the web. However, he does not wish to see web-based learning completely replace classroom learning. He favours a blended and balanced learning process, developing learning methodologies that fit the learning objectives. There is an important place for face-to-face, interactive and experiential learning.

He proposes the development of KPMG learning communities who work together before, during and after the training programs. He also sees web-based learning as being very useful for process learning, citing performance management processes such as goal setting and review.

Some of the major issues facing KPMG include:

- the need to respond to the needs of older learners and those who are less 'technologised'
- technology issues such as bandwidth capacity
- instructional design and designer issues—ensuring an appropriate blending of the different learning methodologies
- the development of appropriate protocols on workplace learning so that employees maintain a lifestyle balance. There needs to be a balance between learning in one's own time and learning that can occur in the workplace during working hours.

Management Frontiers Pty Ltd, NSW

Christine Brierley

Manager, Higher Education Programs

Christine Brierley had recently returned from conducting a two-week study tour of universities in the UK. She discussed the implications of the 'Borderless Education' report and the current situation in UK universities moving to online provision, and provided a copy of the executive summary of the report.

National Institute of Economic and Industry Research

Graham Larcombe

Director

From an economic and regional development perspective, Graham Larcombe has an overriding concern about the growing discrepancies between educational attainment through VET and job income outcomes. There is Australia-wide evidence that people in low socioeconomic regions with limited skills sets are finding it difficult to get access to training that will position them in the competitive environment.

In relation to the capacity of VET to provide flexible learning using technologies, Graham is specifically concerned with:

- the capacity of teachers within the TAFE system to use technology
- the lack of commitment by Federal and State governments to upgrade hardware and software and to provide training to diffuse technologies
- the lack of flexibility in meeting the needs of particular groups and organisations (in particular, course materials, time allocation for delivery)
- the prohibitive costs of some technology and the need for these to be reduced.

The professional development implications are:

- the need for a very strong commitment to upgrading skills of VET in IT, including new ways of delivering modules and teaching
- the need for a new learning culture for VET staff to be developed that includes IT skills, is demand driven, and recognises the sociocultural context of learners and their place of work and lifestyle.

There appears to be an increase in the need for training but a decrease in resourcing of training providers. There is also an increasing inequality between regions and a need through provision of VET to develop the capacity of regions. This can be done through integrating the role of the community in education and training systems with the local/regional economic system to create a learning community.

Graham's preferred vision is of a system that is well resourced, flexible, innovative, and maximises the interaction between formal education and households for continuous learning. The teacher's role will be to help individuals and communities map out pathways to meet their goals. Learning will be accessed from multiple sources with a greater emphasis on experiential learning, Internet searching, and global ideas exchange, and less emphasis on formal curricula.

Sydney Institute of TAFE
Claire O'Connor
A/Manager, IT Strategy

The critical skills needed in delivering flexible learning for staff at all levels include project management and IT management skills, that is, using desktop features and systems such as Microsoft applications and email.

Managers need to determine a framework and the protocols in which staff will be the users. Staff need skills to be able to manage applications. Thus, skill levels should cascade down with parameters being set at higher levels. This is being done through the IT Sub-Committee at SI. Its role is to determine and consolidate a shared understanding and approach. The organisation should use IT to drive business goals.

An IT Strategic Plan was devised in 1999. In implementing the strategy, Claire O'Connor is encouraging managers to identify their professional development needs and turn these into a personal training and development action plan. She feels that Staff Training and Development needs to work closely with staff implementing the IT Strategic Plan. Strategies like this help overcome the 'learned helplessness' of staff. This is also linked with the IT Skills Action Plan, a workforce plan that identifies changes likely in the nature of jobs (including clerical, stores and educational) in the Institute over the next five years, and the IT implications. Increased support for IT is needed, so that everybody is using the relevant technology in their jobs.

SI is participating in the TAFE Online project and is liaising with Macquarie University and UTS who are more developed in their approach to whole-of-organisation planning in relation to flexible learning. However, they are not advanced in PD or knowledge management in this area.

Claire felt that half the staff on the ground still don't know what the agendas are. PD is needed in research skills (both traditional and Internet-based resources), in defining student needs for flexible delivery, and online learning. This is a significant challenge in TAFE where many courses deliver basic skills. In comparison, universities can define their minimum skill levels from a higher base.

Ways of changing training packages, with their currently identified competencies, so as to accommodate for the future and prepare VET students appropriately, is a relevant concern. Currently some training packages are reinforcing silos between areas rather than identifying commonalities.

Sydney Morning Herald

Rebecca Scott
Journalist

Rebecca Scott interviewed a range of organisations for a recent article published in the *Sydney Morning Herald*, entitled 'Virtual Learning'. She saw quite clearly that this was the way of the future. Flexible learning is burgeoning, mostly because it represents huge savings to organisations, and can be provided at a fraction of the cost of traditional forms of training.

The question is now one of how fast it happens and spreads and who gets the business of developing and delivering flexible learning options.

Ms Scott expressed concerns about the quality of training and transferability of skills of some organisations, some of which do not appear to acknowledge this as a problem. Many organisations are offering company-specific and non-accredited courses. Universities and other tertiary providers are left out, since many of these companies have RTO status and many employees (and possibly others) believe a high-profile company qualification could make them as employable as any other qualification, and possibly more so. Because of this trend, there is greater scope for a variety of individuals and organisations to run a range of courses of varying quality.

Another issue that has emerged is that of equitable access to the new technology. Organisations implementing flexible learning using technologies must take on board issues of adequate support and assistance to learners.

TAFE Online, DET NSW

Tony Brady
Project Director

Tony Brady sees staff capability as his main concern and has developed a model for increasing staff capability in delivery of flexible learning. Tony has coined the term 'Learningware' to describe the materials and processes that are required in order to set up an information-rich environment where teachers support students online.

There are 16 Learningware Development Teams in NSW TAFE, involving approximately 100 people (teachers and others) in work-based learning, to take TAFE courses online. Each team has identified its skills needs and determined its Team Learning Plan for just-in-time staff development. This model builds capability through work-based learning. Initially, early adopters targeted are those who are most likely to need learning because they are at the frontier of change. Next, their managers are professionally developed to understand the work of these innovative staff and how best to support them. Finally, with new Learningware for courses and supportive management, implementation is disseminated to other sites in a process of replication. The original Learningware Development Team is instrumental in supporting the implementation of their online course material from sites across NSW TAFE.

Team Learning Plans typically include training in: instructional design; technical use of software for Learningware production and delivery (i.e. Dreamweaver for authoring and site management); authoring; communications technology; incorporating interactivity into online learning (i.e. ways of actively engaging learners); and using information management systems

to manage the learning processes (e.g. Solutions Platform used by New England Institute of TAFE, WebCT, Blackboard).

A capability review model should not be a skills inventory. This is a waste of time because needs vary and staff development in this area has to be just-in-time. It is more useful to work with staff who are motivated to make it happen and have a basic literacy in using technology and a customer orientation mindset. Whilst student capability to participate online is important, this should not be a primary consideration since the take-up of technology is so great students will develop the necessary skills to participate.

Tourism Training Australia

Susan Briggs

Project Manager and Access National Manager

Susan Briggs indicated that TTA does not provide any flexible learning options as yet. All TTA training resources are print/paper-based. There is continuing demand for workbooks and other print-based learning materials. These are complemented with group learning and practical project-based learning methodologies.

However, Ms Briggs indicated that a range of other organisations have developed flexible learning options for this industry, particularly citing the examples of OTEN in NSW and North Melbourne and Central Metropolitan TAFE in Victoria which provide a range of tourism and hospitality courses online. In addition, the ANTA Toolboxes include some for training in the hospitality and tourism fields.

Ms Briggs acknowledged that paper-based learning was not always appropriate or adequate as learning tools. Particularly in rural and remote areas alternatives need to be developed and implemented. She cited the following reasons why flexible learning using technologies is still such a greenfields site:

- limited or no access by potential learners to the technology
- prohibitive cost in rural and remote areas
- not enough people with the necessary skills to implement such learning programs
- limited equipment, software and maintenance skills
- rapid obsolescence of technology.

TTA offers professional development programs through face-to-face conferences and seminars and continues to provide professional support to its members by email and telephone.

As for the future, Ms Briggs felt that there were still too many difficulties in providing interactive and online learning opportunities. The major obstacle cited was the lack of funding to support the development and implementation of flexible learning using technologies.

University of the Sunshine Coast, Online MBA

Peter Macdonnell

Project Director (fee-paying courses)

The online MBA at USC is one of many online programs offered by a variety of tertiary institutions.

The major issues facing their program include:

- technology breakdowns—they have experienced problems such as the server going down and problems with bandwidth. They have responded by providing CD ROMs to all their students.
- recognition that some students and some cultural groups prefer face-to-face learning and are not yet comfortable with the technology. Mr Macdonnell cited the example of offering the MBA to students in China where the culture favours high personal contact particularly in learning environments. USC has had to adjust its program to meet these cultural needs and use, for example, videoconferencing.
- recognition that some students find that flexible learning using technology is not their preferred learning style. Older students seem to face more challenges with this flexible learning approach as they are less comfortable with the technology. Technology is changing continually and rapidly and some learners have difficulty adjusting to this.

There appear to be no problems with staffing issues as the faculty are comfortable with the technology and the learning processes involved. Mr Macdonnell notes, 'It is no different to any external course'. He believes an important indicator for success is the level of support given to those delivering the course as well as to learners.

The online MBA has a browser/web-based course management system known as 'Topclass'. Coursework placed on the Topclass server is accessed by students via a secure password.

The course employs asynchronous communication methods and is not designed to offer face-to-face learning options. However, chat rooms are occasionally provided to complement the other learning methods. Students are also encouraged to learn together (and face-to-face) through group projects. Occasionally students facing a particularly difficult subject (Corporate Finance was cited) get together in a library-based learning process.

Zurich Financial Services

Julie Webster

Head of Education

Julie Webster explained that her company has decided to implement flexible learning using technology. The financial services industry has undergone rapid and major changes recently and continues to do so. The industry is experiencing a major transition and a steep learning curve as it plans, develops and formalises workplace competencies. Large volumes of people are affected by these changes and developments as well as the fact that key timeframes and deadlines must be met.

In the face of these changes, new strategies were needed to ensure that all staff, young and old, new to the company as well as those with many years with Zurich, were able to develop new skills and knowledge that complemented and did not compete with their business

responsibilities. The learning process could NOT be business inhibiting and had to be continuous and ongoing, not a one-off.

Zurich faced many learner issues.

- Many staff had not studied or trained for a long period; some had no formal qualifications at all. However, many had excellent workplace skills that needed to be formally acknowledged.
- Distance education options were available but did not suit those who had not studied for some time or those who found the focussed and self-disciplined approach not to their liking.
- Some workers had qualifications but lacked the required workplace skills.
- Learning had to happen in the workplace—there were too many issues facing off-site training. Regional workers were particularly disadvantaged by their isolation and limited access to traditional types of face-to-face training programs. Some were travelling 10 hours to get to a one-hour seminar.
- Zurich was also concerned with the transferability of learning directly into workplace skills and contexts.

Zurich recognised that a mix of learning strategies was required. Because most of the staff were already online for other purposes, the training could come to them, where they were and when they were ready. Zurich recognised that the success of this process was also dependent on:

- generating a broad level of interest across the whole organisation and amongst a broad cross-section of staff
- acknowledging that whilst not all staff were ready to study they may have been interested in having a ‘taster’ by being informed about the process
- developing partnerships and alliances with external stakeholders, critical to the success and credibility of the program
- ensuring that the program did not impede workplace effectiveness and the generation of income
- ensuring that flexibility was the key—it was important not to force people down one particular learning pathway, but instead to work with them depending on their workplace and career needs.

Qualifications are not always in line with business needs and it was imperative that relevant learning pathways could be opened up. Partnerships are encouraged and provide new approaches, new thinking, credibility, and formal accreditation. Zurich chose not to become an RTO but to work in alliance with the University of Southern Queensland (USQ). This ensured greater industry credibility, quality and broad-based learning options.

In partnership with the USQ and working with David Ross from Indelta, the commercial arm of USQ, Zurich developed a flexible learning program with three components:

1. face-to-face learning programs
2. self-paced distance learning using technology
3. interactive online learning processes.

The third component includes access to up-to-date course materials and access to chat rooms and lecturers for feedback and advice. Learners use Zurich-specific case studies along with

broad-based learning programs, ensuring a mix of knowledge and skills that cover core competencies as well as Zurich values, policies and practices.

Once enrolled in the program, Zurich employees are considered as USQ students and liaise directly with faculty staff. Students can start at a Graduate Certificate level and study additional modules up to a Masters qualification. USQ staff offer Zurich support and advice on course content whilst Indelta assists with project management and provides advice on appropriate learning technologies and flexible learning options.

Having developed and implemented this initiative, Zurich will use this same platform to bring other programs online. It hopes to offer a variety of learning programs and pathways on its website.

Ms Webster indicated that it is imperative that there is a strong learning culture in the organisation and believes that Zurich is committed to providing ongoing and flexible learning programs to its employees. It sees this as adding value and as part of the overall services provided to its staff.

The success of flexible learning is dependent on strong and continued commitment and support from the top. The Managing Director of Zurich believes that education and self-education is critical, and that giving people the necessary tools to continue their learning is fundamental to the success of both the organisation and the individual. Access and motivation are also important; some students and trainers still need encouragement to use the range of technologies available, particularly chat rooms.

Summary Comments

Organisational readiness

An interesting issue raised by some organisations interviewed, in particular Zurich, is the question of timing—when should organisations implement flexible learning? What if there is not an adequate and sophisticated enough learning culture? What if there is opposition to the new learning methods that use advanced and complex technology? It appears that some organisations, whilst setting in place adequate systems and support networks are not waiting for the ideal circumstances to arise. They are not necessarily waiting until they think everyone in the organisation is prepared for flexible learning. They are allowing the implementation process to bring about awareness and to some degree, educate those who may be reticent or lacking in enthusiasm.

Quality

It is imperative that quality control mechanisms and processes are not lost in this rapidly expanding and lucrative market. It appears relatively easy for organisations to develop and implement a range of training and learning programs outside the formal accreditation and quality control processes that tertiary institutions, for example, must operate under.

Some organisations have extensive internal and external networks and associations to ensure some degree of quality control. Others choose a quality control mechanism through obtaining RTO status. Others do neither.

Vigilance on the part of managers and learners is essential in this environment.

Transferability

This is an issue that has been concerning educators for some time. Organisation-specific learning programs and processes benefit that particular organisation. However, with an increasing trend for workers not to remain for long periods of employment within the one company, there is growing concern in regard to the transferability of knowledge and skills.

Educators and policy makers must develop appropriate strategies, wherever possible, to ensure that programs are balanced and provide broad-based learning opportunities, including a range of generic components as well as units for specific organisational contexts.

Access and equity—age, cultural and gender issues

The rapidly growing field of flexible learning using technology is also in danger of losing sight of a range of access and equity issues. Long-term discriminatory practices may be exacerbated as certain individuals and groups gain greater control over and access to new technologies. Organisations must be aware of the implications of long-standing inequalities and ensure that new developments are made available to as broad a range of individuals and groups as possible.

Age seems to be an important issue in terms of confidence and comfort in using not only the new technologies but the newer forms of learning methodologies and techniques. Some companies report that older students are reluctant to join high-tech learning programs and groups, preferring more traditional forms of education which, in some cases, are simply no longer being made available.

Some cultural groups have a long-standing history and cultural preference for face-to-face learning methodologies and require a range of additional learning strategies to bring them 'online' (in every sense of the word).

The IT industry has historically been a predominantly male-dominated field. It is important that, as flexible learning opportunities increase and other learning options decrease, women are not disadvantaged because of previous limited training in, and/or access to, the technology. It would be both interesting and valuable to examine whether there are gender differences in terms of preferences in learning methodologies. Does the 'online' approach to training advantage some individuals and groups in our society, and does it disadvantage others?

Student-centred learning

The need for student-centred learning programs is critical. From the interviews it appears there is confusion as to the meaning of the term, and that some organisations are struggling not only with the concept but with its implementation. Some organisations believe that by providing flexible and accessible programs they are delivering student-centred programs.

It appears that many organisations are providing organisation-centred learning and argue that this is appropriate under the circumstances.

It is possible to develop effective learning processes that can meet the combined needs of learners and the organisation. Educational planners and trainers need to consider organisation-specific strategies to ensure that this is the case.

A balance of learning methodologies

It is all too easy to see online learning as the be-all and end-all of the future of flexible learning. Many organisations reported the critical need to keep a balance between online learning and other learning methodologies. Face-to-face, interactive and experiential learning can complement technology-based learning. ‘Don’t throw the baby out with the bath water’ was a common sentiment. The needs and issues facing learners and their organisations must be examined and a balanced and equitable blend of learning approaches to take on board these issues must be developed.

Adequate support, administration systems and resources

There is unanimous agreement from all organisations interviewed that the success or failure of flexible learning programs using technology is dependent on the level and quality of support, and the financial and human resources provided to ensure a stable foundation to the entire learning process.

A sound and well-resourced infrastructure is clearly a pre-requisite for an effective flexible learning strategy in any organisation. Given the speed with which technology is developing, appropriate resources and support is even more imperative.

Many organisations interviewed noted that limited funding was often the main reason why flexible learning options and pathways have not yet been developed. Other organisations indicated that flexible learning strategies represent a fraction of the cost of traditional face-to-face learning programs. Huge savings can be made, particularly for organisations where staff are geographically widely spread.

Reliable technology

Reliability was identified by a number of organisations interviewed. They noted that the success of their flexible learning programs was compromised by breakdowns in the technology or technology-related access issues.

All organisations need to develop contingency strategies to address this problem.

APPENDIX 4 HRM Models from Literature Review

ANTA Staff Development Programs

There is already a range of programs for staff development in the vocational education and training sector that include tools for assessing use of technologies. The ANTA-funded programs 'Framing the Future' and 'Learnscope' incorporate opportunities for staff to assess their skills in using technology and to develop projects to improve their skill base. Learnscope has a detailed checklist for a before-and-after program self-checking inventory of skills in the use of computer-based technology in teaching.

Models from the Literature Review

Four programs which have explored staff capability in relation to use of technology are useful to consider in relation to the development of the Staff Capability Review Model(s). Each program involves assessment of the capability of the staff in relation to technology; each emphasises the importance of pedagogy and learning, with technology supporting staff development. Action learning is utilised and each provides ongoing support for the staff member in the workplace.

Example One

The Teacher In-Service Training, Technology, and Front-End Analysis was conducted in Quebec (Schnackenberg et al. 1999). A needs assessment was carried out on the use, skills and confidence of teachers in relation to computer facilities, in a sample of two elementary schools. The methodology used included interviewing senior administrators, computer resource personnel, teacher focus groups and teacher surveys. It was found that many teachers were unclear as to what was expected of them, that computers were primarily used for word processing, and for accessing information from the Internet.

The study recommended that professional development be designed and provided to enable teachers to integrate technology based on current skill levels into their teaching and that the training include follow up support for implementation. The study strongly stressed the importance of pedagogical and technical support in bringing about innovation. A recommended program involved teams of two teachers working together with a technical support person over a period of time, to develop, trial and evaluate a work-based program. A copy of the staff survey is appended.

Example Two

In Victoria, the 'Computing Across the Secondary Curriculum' (CASC) (see SOFWeb at http://www.SOFWeb.vic.edu.au/pd/casc/teach_trg.htm) is a professional development program which aims to develop teachers' skills in the use of learning technologies in their classrooms, schools, and curriculum planning and implementation. It is a hands-on program aiming to develop participants' understanding of how learning technology contributes to learning, their knowledge of classroom strategies that facilitate use of learning technologies, and their skills in using appropriate computer software.

There is a Leader Training Program and a Teacher Training Program which is completed in the school setting. Understanding pedagogy, learning and use of technology is central to the program. The program uses a Skill Development Matrix which identifies six areas for

skill development in the use of learning technologies for classroom and administrative purposes.

Three different stages of development are identified:

Stage One

- exploring a new facet of learning technologies
- developing new skills
- beginning to understand the role the learning technology might play in the classroom.

Stage Two

- refining personal skills
- incorporating the learning technology into existing classroom practice
- developing classroom practices that effectively integrate learning technologies.

Stage Three

- developing advanced skills
- exploring innovative possibilities for classroom use of the learning technology
- sharing knowledge and skills with others.

CASC draws upon an action learning model for the staff development in the use of technologies. The Teacher Capabilities Statement which outlines areas for development and capabilities is appended. The program begins with a Learning Technologies Teacher Survey of the teachers' capabilities, skill development and personal professional development which is integral to the development of the school in the utilisation of technology in learning.

Example Three

The Learning Technology Dissemination Initiative is funded by the Scottish Higher Education Funding Council. It aims to support higher education in implementing the use of learning technology and computer-based learning materials. It emphasises educational issues and pedagogy and the implementation and integration of learning technology. Support includes providing information and materials training and classroom support. Participating staff complete a detailed survey on computer-based learning (Learning Technology Dissemination Initiative, <http://www.icbl.hw.ac.uk/ltidi>).

Example Four

The Concerns-Based Adoption Model of Staff Development (CBAM) provided diagnostic information for the structuring of professional development activities in McKinnon and Nolan's New Zealand study (1989), 'Using computers in education: A concerns-based approach to professional development for teachers'.

CBAM is based on the theory that:

- individuals progress through various stages regarding their emotions and capabilities relating to the innovation
- the change process is an extremely personal experience and how it is perceived by the individual will strongly influence the outcome
- the availability of a client-centred diagnostic/prescriptive model can enhance the individual's facilitation during staff development

- people responsible for the change process must work in an adaptive and systematic way where progress needs to be monitored constantly.

The researchers found that:

The CBAM...provides a useful framework within which to analyse the ongoing dialectic of change. The CBAM instruments provide important diagnostic information for staff developers. This permits the selection of appropriate intervention strategies and tactics to facilitate innovation adoption and use while minimising the trauma of change.

(<http://cleo.murdoch.edu.au/gen/aset/ajet/ajet5/su89p113.html>)

APPENDIX 5 Organisational Planning Models from Literature Review

Clarke (1994, pp. 29, 130, 189) outlines a process for leading change, a tool for diagnosing organisation capability and for building a shared vision. Her framework looks at the business environment, the fit between it and the business strategy, and whether the organisation has the necessary resources in terms of people, systems and structure.

Kaplan and Norton's 'Balanced Scorecard' (1992, pp. 71–79) is part of a performance management system to enable organisations to achieve their goals. It translates a strategic business unit's mission and strategy into a set of measures built around four or five perspectives:

- *financial*: how do we look to our shareholders?
- *customers*: how do we become our targeted customer's most valued supplier?
- *internal processes*: what processes—both long- and short-term—must we excel at, to achieve our financial and customer objectives?
- *innovation and improvement*: how can we continue to improve our processes and systems in order to create value?
- *employee*: how does our organisation and its employees continue to learn and grow?

The Australian Quality Awards assessment criteria (Australian Quality Council 1996, p. 2) provide a process for CEOs and Boards to be able to 'stand back and objectively assess organisational capabilities needed' to meet tomorrow's challenges. They are 'designed to explore the individual enterprise's basic beliefs and strategies, to look for the deployment and linkages and to test the related measures and results'. There are seven categories of analysis in the framework.

- Leadership and Innovation
- Strategy and Planning Processes
- Data, Information and Knowledge
- People
- Customer and Market Focus
- Processes, Products and Services
- Business Results.

All categories are linked and are interdependent. The Framework promotes a systems approach by exploring how the organisation works to achieve its goals, and leaves the specifics of addressing each facet of management up to the people within the organisation. (<http://www.aqc.org.au/>)

In 'A Planning Model for Innovation: New Learning Technologies', Mitchell and Bluer (1997) provide a set of qualitative and quantitative performance indicators to enable assessment of the effectiveness of new learning technologies (NLTs): checklists to aid selection of appropriate technology; implementation proposals; an action plan; and eight case studies. Their research findings are extensive and include detailed recommendations to use in determining the fields of capability that VET organisations should review. For example:

Teaching staff may need professional development in a range of areas: instructional design for new media, proficiency in using new learning technologies, and an understanding of the new student support measures required in courses that use new learning technologies.

To ensure quality is maintained during the transition to the use of new learning technologies, VET administrators will need to develop and promote a variety of evaluation techniques, including customer-centred or Total Quality Management models, stakeholder analysis, qualitative and quantitative approaches, and context-specific evaluations.

Advance Online: Integrated Training System has proposed a total learning system approach supported by four underpinning change methodologies (i.e. organisational, technological, training delivery, and development) (see Mitchell & Bluer 1997, at <http://www.otfe.vic.gov.au/planning/model/index.htm>).

Scenario planning is ‘that part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future’.⁷ Kees van der Heijden (1996, pp. 229–231) includes an organisational capability review as part of the scenario planning process. This involves a facilitated analysis of the current Business Idea and its robustness for future environments. Then, options are generated to develop the capabilities of the organisation by leveraging the Distinctive Competencies the organisation already has. Ringland (1998, pp. 54–57) documents the set of twelve questions that ICL used in their regular planning reviews. For example:

Considering the capabilities required in your chosen markets, which ones, if lost, could result in your losing competitive advantage? How do you know?

Everett M. Rogers in ‘The Diffusion of Innovations’ (1995) proposes that people adopt innovations at different rates and that the categories of people in organisations fall into a bell curve as follows:

- Innovators (2.5%)
- Early adopters (13.5%)
- Early majority (34%)
- Late majority (34%)
- Laggards (16%).

Rogers also says that the attributes of the innovation affect its adoption rate. Attributes include:

- Relative advantage, such as:
 - economic profitability
 - low initial cost
 - decrease in discomfort
 - savings in time or effort
 - social prestige (but only for innovators, early adopters, and early majority).
(Good predictor of rate of adoption)
- Compatibility:
 - with values and beliefs
 - with perceived need
 - with previously introduced/adopted ideas.

⁷ This definition is taken from Gill Ringland, ‘Scenario Planning, Managing for the Future’ (1998, p. 2).

(Consistency may speed up adoption, slow down adoption, or cause new methods to be inappropriately applied.)

(Mediocre predictor of adoption)

- Complexity:
 - difficulty in understanding
 - difficulty in implementation and use.(Negative correlation with adoption)
- Trialability:
 - experimentation on limited basis before final commitment
 - ‘instalment plan’ or phased approach
 - especially important to earlier adopters.(Positively correlated with adoption rate)
- Observability:
 - visible results.(Positively correlated with adoption rate)

Organisational characteristics which affect innovativeness include size, interconnectivity, slack, centralisation, and formalisation. There are five stages in deciding to adopt an innovation:

1. *knowledge*: awareness, comprehension
2. *persuasion*: formation of attitude
3. *decision*: trial, followed by adoption or rejection
4. *implementation*: actual use
5. *confirmation*: continued use.

Organisations in which innovations thrive are likely to be large, less centralised, less formalised, and highly interconnected. Inventories have been developed to assess organisation against the Rogers criteria and the results can be graphed.

APPENDIX 6 Definitions from Literature Review

Capability

Teece, Pisano and Shuen (1995, p. 3) refer to dynamic capabilities as ‘the ability to reconfigure, redirect, transform, and appropriately shape and integrate existing core competencies with external resources and strategic and complementary assets to meet the challenges of a time-pressured, rapidly changing Schumperian world of competition and imitation’.

Stephenson (1992) defined individual capability as:

an all round human quality, an *integration* of knowledge, skills, personal qualities and understanding *used appropriately and effectively*—not just in familiar and highly focused specialist contexts but in response to *new and changing* circumstances.

In 1999 he stated that, to be capable:

- people need justified confidence based on real experience, of their
- specialist knowledge and skills;
 - ability to manage their own learning and to learn from experience;
 - power to perform under stress;
 - ability to communicate and collaborate effectively;
 - capacity for dealing with value issues—their own and other people’s.

Cairns (1997a) has defined *capability* as having three key elements:

- ability (current competence) plus potential;
- self-efficacy (belief in one’s own capability); and
- values.

Gist and Mitchell (1992, p. 197) also emphasise the importance of capability in relation to work-related performance, with internal and external determinants. Personal control is important. Self-efficacy affects performance through behavioural choices such as goal level, effort, and persistence (Gist & Mitchell 1992, p. 199).

Other research into individual capability includes that by Dainty and Anderson (1996, pp. 15–17) who have developed **eleven executive capabilities**. These executive capabilities, it may be argued, are important attributes that all employees and managers should demonstrate. The capabilities refer to behavioural skills, areas of knowledge, cognitive processes and the emotional make-up which the authors identified as required for senior executive roles. With these capabilities staff would be well positioned to address change and development.

Eleven Executive Capabilities

Personal Capabilities:

1. *cognitive*: analytical and creative processes
2. *maturity*: management of emotion and mental resilience
3. *development*: the ability to learn and develop.

Interpersonal Capabilities:

4. *influence*: getting others to act in your interests
5. *leadership*: helping others achieve a common goal
6. *integration*: building teams and bringing groups together
7. *insight*: an awareness of others' needs and agendas.

Directional Capabilities:

8. *expertise*: functional knowledge needed to fulfil one's role
9. *external*: understanding the relevance of changes in the environment
10. *organisational*: understanding the critical elements of the organisation
11. *actioning/structuring*: taking action and facilitating the achievement of long- and short-term goals.

A capable organisation

A capable organisation is an extension of the capability concept. Such an entity has been described (Hase, Cairns & Malloch 1998, p. 15) as one that

shows clear and deliberate understanding of learning among its members and in its organisational memory and development. Flexibility and adaptability are key aims of such an organisation. The 'executive function' or corporate capability of such an organisation is the management, encouragement, and development of a problem solving approach to both novel and familiar situations.

Organisational capability

There is considerable literature on the concept and significance of *organisational capability*. This term usually describes the way an organisation (as more than just the sum of its employees) manages and responds to change.

There is an imperative for organisations and their staff to be up-to-date to be able to fully utilise modern technology in the conduct of their business. In education and training this is also an imperative. The Dearing Report (1997), a key and recent UK report in establishing directions for higher education, including information technology, emphasises this:

the essence of professionalism is a thorough and up-to-date grasp of the fundamental knowledge base of an occupation; sufficient understanding of the underlying theoretical principles to be able to adapt to novel circumstances and to incorporate research findings into practice; and appropriate practical skills and professional values.

Organisational capability is more than the sum of staff capability; it is maximisation of the total capacity of the organisation. A definition of a capable organisation is provided by Williams, Cunningham and Stephenson (1997, p. 6):

an organisation can be described as capable if it embraces the intrinsic, *conscious and continuing capacity to survive, grow, improve and transform*, achieved through a positive commitment to developmental learning and relationship with its environment. It is a synthesis of process, outcome and culture, encompassed in the notion of *flexible capacity*.

Flexible learning

‘Flexible learning is learning by a range of means with the learner selecting to engage in learning in ways that vary across modes of styles and interaction patterns. Learning is an open-ended, continuous aspect of life, with interaction between the learner and teacher, in a variety of settings.’ (EdNA 2000, p. 6)

Taylor (1998) traces the history of distance education models and defines *flexible learning* as the fourth generation of distance education models. He says that previous generations of distance education are now being supplemented by ‘...the opportunities for interactivity and access to instructional resources provided by the computer communications networks popularly referred to as the *Internet*, the *World Wide Web* (WWW) or the *Information Super Highway*’. Table 1 summarises Taylor’s conceptual framework.

Table1: Taylor’s Models of Distance Education: A Conceptual Framework

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies				
	Flexibility			Highly Refined Materials	Advanced Interactive Delivery
	Time	Place	Pace		
First Generation: The Correspondence Model <ul style="list-style-type: none"> • Print 	Yes	Yes	Yes	Yes	No
Second Generation: The Multi-media Model <ul style="list-style-type: none"> • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL) • Interactive video (disk and tape) 	Yes	Yes	Yes	Yes	No
<ul style="list-style-type: none"> • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL) • Interactive video (disk and tape) 	Yes	Yes	Yes	Yes	No
<ul style="list-style-type: none"> • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL) • Interactive video (disk and tape) 	Yes	Yes	Yes	Yes	No
<ul style="list-style-type: none"> • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL) • Interactive video (disk and tape) 	Yes	Yes	Yes	Yes	No
<ul style="list-style-type: none"> • Print • Audiotape • Videotape • Computer-based learning (e.g. CML/CAL) • Interactive video (disk and tape) 	Yes	Yes	Yes	Yes	No
Third Generation: The Telelearning Model <ul style="list-style-type: none"> • Audioteleconferencing • Videoconferencing • Audiographic Communication • Broadcast TV/Radio and Audioteleconferencing 	No	No	No	No	Yes
<ul style="list-style-type: none"> • Audioteleconferencing • Videoconferencing • Audiographic Communication • Broadcast TV/Radio and Audioteleconferencing 	No	No	No	No	Yes
<ul style="list-style-type: none"> • Audioteleconferencing • Videoconferencing • Audiographic Communication • Broadcast TV/Radio and Audioteleconferencing 	No	No	No	Yes	Yes
<ul style="list-style-type: none"> • Audioteleconferencing • Videoconferencing • Audiographic Communication • Broadcast TV/Radio and Audioteleconferencing 	No	No	No	Yes	Yes
Fourth Generation: The Flexible Learning Model <ul style="list-style-type: none"> • Interactive multimedia (IMM) • Internet-based access to WWW resources • Computer-mediated communication 	Yes	Yes	Yes	Yes	Yes
<ul style="list-style-type: none"> • Interactive multimedia (IMM) • Internet-based access to WWW resources • Computer-mediated communication 	Yes	Yes	Yes	Yes	Yes
<ul style="list-style-type: none"> • Interactive multimedia (IMM) • Internet-based access to WWW resources • Computer-mediated communication 	Yes	Yes	Yes	No	Yes

Mitchell and Bluer (1997) refer to *new learning technologies* (NLTs) to describe the same delivery technologies as Taylor’s *flexible learning*. These are referred to as *emerging technologies*.

RMIT is implementing what it calls a ‘Distributed Learning System’ (ICT)⁸ which provides tools to meet their learners’ needs.

Flexible delivery

For the purposes of this report, the following definition has been accepted (Malloch 1998a, p. 3):

Flexible delivery is often used as an umbrella term to cover a number of distinct but related delivery methods. These include: flexible enrolment, distance education, audio conferencing, computer based learning, computer managed learning, audiographics, problem based learning, work based learning, open learning, video conferencing, flexi-mode, self paced learning, resource based learning, independent learning, multimedia, multiple entry and exit points, learner centred and off campus approaches.

Online technology

This encompasses computer-based courseware; computer-managed learning; computer-mediated communication and interaction.

Learning technology / technologies

This includes an extensive range of technology-based methods for learning, including print, multimedia, interactive multimedia, audio- and videoconferencing, and programs and broadcast television.

⁸ For example: synchronous and asynchronous communication strategies, provision of access to learning resources, incorporation of online quizzes and tests, use of fixed or streaming media, development of interactive learning environments, incorporation of specialist tool sets.