

Designing a flexible model of learning for a rural health organisation: a case study

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Abstract

Traditional models of learning for staff development are no longer meeting the needs of staff or of their organisations. This paper describes how one Staff Development Unit, the Rural Health Education & Research Centre at Tamworth, with few resources, has successfully negotiated the transformation from delivering ad hoc, face-to-face teaching to a model encompassing competency based training, recognition of prior learning, workplace assessment and flexible delivery over a raft of nationally recognised certificate/diploma qualifications. The paper highlights issues faced by a rural Registered Training Organisation in delivering accredited qualifications to a wide range of health staff from a geographically dispersed area. The paper also reports on strategies, which were developed and trialled for teaching and learning at a distance, as well as recommendations for ongoing implementation and marketing of competency based qualifications, largely the end product of LearnScope funding from the Australian National Training Authority.

Introduction

Staff Development Units across NSW Health have enjoyed mixed fortunes during the two most recent restructures in 1993 and 1996. The Rural Health Education & Research Centre (RHERC) at Tamworth in northwest NSW, is one such Unit which continues to reinvent itself to remain relevant. Established in 1993, it serves 3000 staff in 27 facilities covering 175,000 people in 19 local government areas. The RHERC is part of the New England Area Health Service (NEAHS) which covers 98,000 square kilometres.

Cupitt (2000) recently summarised staffing changes in the RHERC over the last seven years. Initially there were four full time educators with a range of skills and expertise providing education programs across the whole geographic area. The majority of training consisted of one- and two-day courses addressing general skills such as communication, assertiveness, conflict management, team building, with some clinical skill-based courses and more specific courses such as Occupational Health and Safety.

It was not until 1995 that the RHERC began to investigate the feasibility of moving into competency-based accredited training, which meant becoming a Registered Training Provider. Eighteen months ago, the RHERC joined forces with other Staff Development Units across NSW Health under the one Registered Training Organisation (RTO) umbrella. As a result, the range of accredited training on offer increased dramatically.

This paper describes the issues faced by a small rural RTO in delivering nationally accredited qualifications using a flexible delivery framework, and the strategies developed to improve and market the model. It explores the influences on the learning model and how these impact on the continuing evolution of the RHERC.

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Macrolevel constraints on the learning model

The RHERC's learning model has to be dynamic rather than fixed, to meet the needs of staff, the organisation and external customers. The learning model has evolved over the last eighteen months in response to four important influences: 1) decreased organisational resources, specifically a reduction in the number of education staff in the RHERC and budgetary constraints; 2) an increased number of qualifications on the RTO's scope; 3) the level of access by staff to qualifications, irrespective of their geographic location, or the type of position in which they work; and 4) technological advancements. These influences are discussed in relation to their impact on the development of a more flexible model of learning for the RTO.

Resources

Game (1994) described the influences of shrinking economic resources on the educational context in Australia and how these have shaped changes in course design and implementation. In the RHERC, the significant change in the level of staffing began early in 1998 after the departure of three educators. It soon became clear that the remaining number of staff (1.6) would be unable to provide all of the education for 3,000 staff, as well as external customers. Rather, the educators needed to be responsible for training other staff to share the training and assessment roles traditionally the domain of the RHERC educators.

One way to meet this strategic need was to establish quickly a critical mass of staff (in terms of their location and classification) through which to deliver and assess competency-based training (Hartley 2000⁶). Staff who were responsible for delivering any type of training, and those involved in competency based assessments, were targeted and trained. Similarly, area educators in NEAHS, who are responsible for a range of education in various health facilities, were targeted for this type of training as well. There are five area educators in NEAHS, located across the area, who are responsible for all types of education within health facilities (e.g. inservice programs; compulsory training). By the end of 2000, 170 staff had qualified as VETAB accredited workplace assessors and 250 as accredited trainers. This was a remarkable achievement, reflecting the NEAHS's commitment to a learning ethos.

The reduction in staffing resources meant that the educators could no longer be involved in a time intensive, face-to-face teaching model. In addition to this, health service managers were no longer able to release staff to attend face-to-face training because of reductions in financial resources. The costs of training to managers and staff not only included course registration fees, but also the costs of replacing essential staff whilst they attended training, as well as travel and accommodation costs. The RHERC, therefore, needed to develop a dynamic learning model that allowed participants to learn without having to attend classes at set times and places.

Another feature of the previous learning model that needed to be addressed after the downsizing of staffing resources, was the type of assessment method used. Having large numbers of staff undertaking competency based training posed a considerable challenge to the RHERC in terms of assessing competencies. To overcome this, the decision was taken that assessment would be by portfolio only, rather than by other assessment methods, e.g. workplace assessment. Under this model, candidates prepare a portfolio of written evidences that demonstrate their competence. Portfolios are assessed by at least two people, one of whom is an accredited assessor, the other an industry expert familiar with the competency standards. Assessment decisions are validated by the periodic use of outside expertise, as in the case of university or TAFE staff. Such benchmarking is an important quality measure (Hartley, 2000⁶).

Portfolios are also a sound way for learners to demonstrate competence if they choose recognition of prior learning as a pathway for gaining their qualification. Anecdotal evidence suggests a growing number of staff are becoming well grounded in competency based learning, the notion of evidences, and what constitutes a good portfolio (Hartley, 2000⁶). Game (1994) described the

influences of recognition of prior learning, credit transfer, course articulation and the competency movement on distance education and higher learning in Australia and argues that these issues have had a huge impact on the evolution of education. For busy people completing qualifications, assessment by portfolio equates to no assignments, essays or exams - assessment methods that most adult learners expect to encounter when completing qualifications.

RTO Scope

The growing number of accredited workplace assessors available throughout NEAHS was the crucial precursor for being able to deliver the raft of certificate/diploma training packages on NSW Health's scope (Hartley 2000^b). Under the previous model, the RHERC was limited to delivering three competency based VETAB qualifications: Certificate IV in Assessment and Workplace Training, Diploma in Frontline Management and Short Course in Principles of EEO. Nowadays, by contrast, the RHERC offers ten certificate/diploma qualifications, including the Certificate/Diploma qualifications in Community Services (Aged Care Work), as aged care is the core business of NEAHS. The number of qualifications on the RTO's scope is set to increase throughout 2001, as other qualifications are added.

The increase in the number and range of qualifications on the RTO's scope, combined with decreased resources, has significantly influenced the learning model, and in particular, the role of educators. Educators, under the previous model, were responsible for delivering courses. In the enhanced model, the role of the educators is one of facilitating learning, rather than presenting material in a face-to-face teaching style. The changing roles of teachers in distance education have been well described in the literature (van Seventer, 1993), as methods of instruction and educational models evolve in response to the developments in the fields of information and communication technology. Rae (1993) described three main teaching roles in a flexible learning model: resource creation; teaching (mediating the students interaction with the resources); and student support.

At the RHERC, educators, or facilitators, will need to manage the overall delivery of the various qualifications, and utilise the 'knowledge' of 250 accredited trainers in NEAHS. It will be also be their responsibility to oversee the development of student support systems, assessment methods, learning materials and use of multimedia, roles quite different to those in the previous learning model.

Equity and access to training

The RHERC has always had concerns about equity of access to training. In December 1999 the RHERC purchased *Registrar* software for managing learning and development. Early data analysis some 12 months later confirms some 1800 staff (that is, about two-thirds of the total staff) have not accessed RHERC competency based learning, and only approximately 5% have completed VETAB qualifications. The RHERC subsequently analysed which groups of staff had not accessed learning. These groups included the types of positions in which staff were employed and the geographical locations in which they worked. Staff employed in non-clinical positions (e.g. hotel services, maintenance, and administration staff), by and large, had not accessed education compared with staff in clinical positions (e.g. nursing staff). Non-clinical staff are also less likely to possess post secondary qualifications compared with clinical staff. The other group of staff who had not accessed learning were those staff located outside larger regional centres such as Tamworth and Armidale (about 50% of staff).

Murphy and Nixon (1993) described an experiment with distance professional education via satellite in Canada. They found that this means of delivering education was essential for small, scattered, rural communities. They reported that distance education programs, backed by the latest communication technologies, are pedagogically effective and a major means for ensuring equity of access to higher education in difficult environments. Therefore the RHERC's dynamic model of learning incorporates the needs of staff who are geographically dispersed, as well as staff

who work in non-clinical positions. Staff need to be able to access learning without having to leave their workplaces or homes, and the range of qualifications offered must meet the needs of non-clinical as well as clinical staff.

Woudstra and Murgatroyd (1992) argue that all countries need a skilled, educated workforce to compete globally, and that education providers must be responsive to the changing needs of the workforce. They argue that organisations must prepare knowledgeable workers and that education for adults needs to become both continuous and lifelong. Vocational education training (VET) qualifications are appropriate for the majority of staff employed by NEAHS – staff can use the qualifications as building blocks for higher level qualifications, they are suitable for staff who do not possess qualifications and the organisation can be confident that the workforce has the skills, knowledge and behaviour to provide a quality service.

The concept of anywhere, anytime access to learning is becoming a vital aspect of the learning model, as staff and external consumers are demanding a different educational system (Woudstra & Murgatroyd, 1992). Often it is difficult for staff to leave jobs and homes for one or more days to attend centralised learning. Further, and most interesting, is the fact that staff are demanding relevant, competency based qualifications delivered at the workplace. Staff can access identical or similar qualifications from other RTOs without having to leave their jobs or homes - they can study in a flexible educational mode through TAFE or university. Competition is rife, hence the need for the RHERC to deliver flexibly and cost-effectively while tailoring to the strategic needs of NEAHS, which the competition cannot do.

Technology

The rapid uptake of telecommunications technologies has had a profound impact on the nature of teaching and learning at all levels (Andrews, 1997). Technological advancements at work and in the home have changed the way education is being delivered. Two groups in particular have been greatly influenced by these changes – teachers and students. Arguably, teachers as change managers should be leading this revolution. The fact is that students and teachers no longer need to be in classrooms at specified places, dates or times. Computers, the World Wide Web, e-mail, discussion boards, chat rooms, CD-rom, video and telephone links have provided new opportunities for teachers and students alike to exploit. Learning nowadays can be independent of time, place and pace.

Evans and Nation (1992) described educational technology as 'not the use of technology in educational practice but as the systematic application of scientific and organisational knowledge to the use of technology in these contexts'. Earlier studies of distance education looked at the ways in which communication between the teacher and the student is facilitated. Garrison (1989) argued that the teacher and student who were physically separated must rely on technology to mediate the communication process.

Educational technology can be used to transfer information between students and teachers, but its most important use is for the teacher to support the learner. Evans (1989) described the overarching concepts of place, time and space in distance education and how technology could be used to decrease the distance, time and space between places. Bates (1997) described four reasons for using technology: 1) to improve access to education and training; 2) to improve quality of learning; 3) to reduce costs of education and 4) to improve the cost effectiveness of education. Bates argued that these four reasons can be contradictory and incompatible, for example, technology can in fact both widen and decrease access to education. Bates summarised that education providers need to keep in mind these four issues when developing new education models that incorporate technology. The RHERC has had to consider the level of access staff have to relevant technology (at home or at work) and their skills in using the technology, so that access to education is increased, not decreased.

The literature shows that initial forays into online delivery involved downloading huge wads of text (shovelware) with no design for user-friendliness or the pedagogical underpinnings (Sparrow, et al., 2000). More recent experiences have put considerable resources to evaluating the quality of online learning, though this research field remains in its infancy (McLoughlin, 2000). Undoubtedly, education via the Internet is rapidly becoming the preferred option for many busy people (Minck, 2000). Successful models of flexible delivery with astute use of technology abound throughout the world (Trisantero & Widodo, 2000).

Jenkins (1998) described the Internet as the "new killer application for learning". Jenkins argued that there is no longer a question about the relevancy of the Internet in education but rather how we best use it and how to widen access to networked learning. Jenkins also argued that the Internet, as a means of communicating over distance, is taking the centre stage in all teaching and learning.

The very recent Australian National Training Authority (ANTA) e-conference is tangible evidence of the speed with which Internet technology is influencing our thinking and behaviour (Net*Working 2000 - putting people first in e-learning, <http://flexiblelearning.net.au/nw2000/>). Some 2100 people participated and comments from the closing bulletin board overwhelmingly supported the notion of the e-conference:

"What an experience! If you only got one thing out of this conference I hope it was that INTERACTIVE online delivery is possible",

compared with a very small number of participants who did not support the notion of an e-conference:

"I would urge all participants to embrace doubt in all discussions relating to online education".

One of the spinoffs from this e-conference was the identification of a veritable smorgasbord of useful Internet resources for savvy educators: <http://www.workplacetrainer.com.au> and <http://www.flexiblelearning.net.au/toolbox> for example. An obvious implication from this is the need to benchmark best practice. Of particular interest to the RHERC is the diversity of ways in which its strategic courses (previously mentioned competencies within Certificate IV in Assessment & Workplace Training) are being delivered elsewhere (e.g. online). This in turn makes our current move to more flexible delivery using local presenters and the tutorial approach, backed up by support from SDU educators/facilitators, seem almost tame by comparison.

Two other important technological changes occurred within the RHERC over the last twelve months, which supported the RHERC's renaissance. First is the previously mentioned use of *Registrar* software; the system's capabilities for managing information, report design and automail features have had a huge impact on the management of training resources. Its fully automated systems for communicating with learners have enabled educators to target specific groups of prospective students with tailored courses. Second is the creation of a shared computer drive (folder) within the RHERC, which has resulted in increased efficiencies with creating, editing, storing and retrieving documents, including learning resources and program fliers.

The flexible learning model

The RHERC had to change the way it delivers learning programs to stay viable in a competitive training market (Andrews, 1997). It must provide inexpensive, accredited qualifications with 100% flexibility. So what does the 'flexible' model look like? Certificate/Diploma qualifications are offered to all staff at their workplaces and/or homes, irrespective of their positions or geographic locations. The RHERC deploys local, accredited assessors and presenters to deliver short tutorials on various aspects of the competencies within each qualification. The RHERC manages and coordinates all assessors and presenters and has overall responsibility for developing learning resources and assessment. The RHERC provides unlimited telephone support from the RHERC for all learners, with an increased use of some other technology such as e-mail, the Internet and

discussion pages to facilitate learning and links between teachers and students. Implementation of computer based technologies (e.g. ANTA Toolboxes) and interactive multimedia assist learners to direct their own learning by using self assessment activities and designing work based, project type activities. Establishment of peer support networks in each facility creates and perpetuates a learning organisation. RHERC staff support assessors and presenters in their roles, an exciting venture for a small, rural RTO responsible for 3,000 staff.

Microlevel constraints on the flexible learning model

An enhanced, more flexible learning model evolved in NEAHS because of macrolevel influences such as decreased organisational resources, an increased number of qualifications on the RTO's scope, access and equity issues to learning and technological advancements. Staff and managers needed 100% flexibility in the way learning is achieved. Competition from other RTOs and strategic directions being funded by the Australian National Training Authority (ANTA) mean that the traditional model of face-to-face teaching is no longer appropriate nor cost effective.

The need to increase the flexibility of the learning model was a *fait accompli*. However, two main barriers stalled the move to a flexible learning system. First, RHERC and area educators' perceptions, values and beliefs about the benefits of the face-to-face teaching model versus the flexible learning model; and secondly, the RHERC and area education staffs' professional development needs in relation to flexible learning models and technological skills. The implications of the marriage between technology and pedagogy were not well understood by RHERC or area education staff. Andrews (1997) described how threatening and challenging the adoption of telecommunications technologies can be, not only for students, but teachers, many of whom are struggling to come to terms with the most effective ways of integrating the technologies into delivery.

Although education staff possessed varying degrees of proficiency with word processing, e-mail, and using the Internet, it was evident that the RHERC simply was not exploring the role of new learning technologies in learning and teaching. A technology becomes a "new learning technology" when its potential to become integrated into an educationally sound delivery system is discovered, explored or implemented (ANTA, 2000). Winning competitive funding under the LearnScope project late in 2000 provided the RHERC with the opportunity to explore in detail and for the first time, this relationship.

The LearnScope project

By and large, the enthusiasm and motivation with which team members approached this novel opportunity for skills enhancement was notably mixed, e.g. "*we must make sure that we do not replace face-to-face teaching with technology*" compared with "*firstly we need to make sure that educators across the area are comfortable and conversant with both the technology and the concepts before it is rolled out*". In fact, one might even advance the proposition that there seemed to be resistance (for whatever reasons) by some members to "experiencing" the technologies. We had argued in the LearnScope submission for funding that in order to understand the pedagogical implications of technology we had first to experience it as users (Andrews, 1997).

Therefore the LearnScope project plan was designed to give education staff the opportunity to learn and use e-mail effectively; to learn and use the Internet, specifically search engines, bulletin boards and chat rooms; to trial the use of video conferencing among the group; and to gain exposure to a range of educational multimedia options. The group consisted of the RHERC staff, and the five area educators and is mostly disparate and unrelated in terms of organisational structure. However, the project allowed this group, responsible for the education of staff across the organisation, to come together for the first time. The team was to meet fortnightly to share experiences, mostly by audioteleconferencing. Through this process the pedagogical issues and

implications of flexible delivery and on-line learning could be experienced. This group had the opportunity to direct, lead and market the massive change in learning ethos within the organisation. The aim of the project was to prepare the teachers to operate effectively in a changing teaching and learning environment (Andrews, 1997).

The project was conducted over a three-month period from September to November 2000 and was managed by the RHERC's director and facilitated by an external person. The plan was submitted for approval to ANTA via the NEAHS CEO - project funding matched dollar for dollar by the NEAHS, a requirement of ANTA. The total package was \$20,000.

The LearnScope plan contained a wide range of learning activities for the participants, including work based activities through to attendance at short courses, conferences and on-line learning activities. One participant attended the "Moving On-line Conference" in Brisbane in August 2000 and another attended and presented at the "Education for Quality Healthcare Symposium" in Brisbane in November 2000. Three participants participated in the previously mentioned "Net*Working 2000 - putting people first in e-learning" conference (<http://flexiblelearning.net.au/nw2000/>) hosted by Australian National Training Authority, 1-14 November 2000. These conferences provided opportunity for staff to explore the most recent trends in on-line learning.

Training was also provided in using email, advanced word processing skills, introduction to the Internet, advanced Internet searching, database searching, multimedia productions and on line delivery of courses, and designing and building web sites. Although these events were conducted in the classroom, using face-to-face teaching, the benefits arose from getting the team physically together. Team members also accessed on-line learning packages to further develop email and internet skills.

These courses were conducted in a range of locations, including at the work place, at a local university and the local adult education centre. Facilitated discussions, either by teleconferencing or synchronous discussion rooms, were scheduled on a fortnightly basis to discuss the learning opportunities and how new technologies had been implemented in the workplace as a result of the training.

Participants' access to the training and the discussions was limited by other work commitments, as the education events were not independent of time or place. Alternative options for delivering the training were considered (for example, online tutorials in searching the Internet) however they were not practicable due to the participants' underdeveloped computer skills. A short time frame for the project meant that a large number of learning activities were scheduled into a short time frame. This also affected the team members' level of access to the training. Further to this was the need to bring the team together to build consensus on the future of education in NEAHS, which needed to be conducted in face-to-face settings.

However, after the first training session on "Getting the most from e-mail", group members began to share knowledge and "tips" for using e-mail with other group members, via the email. This was a rich learning and team building experience for the team, which in the past had rarely shared any knowledge or expertise, or even met on a regular basis. One participant's comment following this training "*I learned something yesterday, lots in fact*" reflected the general benefits gained from this type of training by the other participants.

The LearnScope team participants began trialing chat rooms and bulletin boards on commercial websites (Start.com.au, for example), which was an outcome of the LearnScope project. One of the fortnightly meetings was held online using synchronised chat, but was unsuccessful as team members were unsure of their roles and the purpose of the exercise. Also, team members had difficulty accessing the chat room, which impeded the process. Asynchronised discussion using the Internet was also unsuccessful, with fewer than 50% of the team posting a message in the four

week window. Again, this may have been due to team members being unsure of the purpose of the discussion, or possibly a reluctance to try "new" technologies due to existing attitudes and beliefs.

Establishing a similar forum on the organisation's email system, by contrast, proved a huge success and was something the team was unaware of before the LearnScope funding forced the issue. As a result, shared discussion folders have become a standard tool for communicating among the team and between learning consultants and respective cohorts of candidates. Evans et al (1997) described how new communication technologies are reforming the teaching and learning processes and how practitioners in open and distance learning have developed particular ways of using the technologies to reduce distance.

Technologies should be used to complement and assist the student/teacher interaction (Garrison, 1989). Technologies will continue to change, as will learning models. However, there will always be a need for creative, flexible, committed educators who are motivated to expand their understanding of how people learn, what students need, and how to find new and better ways of managing learning (LearnScope, ANTA, 2000). Our role as educators leading this change to more flexible learning and teaching, is to assist learners and each other to use technology more effectively.

One participant's comments summarised the overall benefits of the project:

"Thankyou. I do use my technologies that I have available 100% better which in turn makes me more efficient".

Without doubt, the LearnScope project provided an excellent opportunity for educators to trial "new technologies" and assess the potential to incorporate these in the design of a new educational model. The project also addressed two barriers to implementing flexible learning: staff perceptions about the face-to-face teaching model versus a more flexible learning model; and staff skills and knowledge regarding educational technologies and flexible learning.

Recommendations

Many forces have contributed to the need for a new more flexible model of learning in our rural health organisation. The model will need to be marketed and evaluated in due course to all stakeholders in the organisation, highlighting the motivators for each market segment. The RHERC will always need to be responsive to the changing needs of its customers. It also needs to lead the way, be prepared to take risks and make mistakes, but most importantly to learn along the way.

Reddy (1990) described the planning for future distance education at two levels: "micro" and "macro" levels. "Microlevel" planning pertains to the pedagogic aspects of the educational model, including things such as planning effective materials, student support services, program evaluation, student assessment and research. "Macrolevel" planning relates to the future of education more globally, such as via joint ventures, consortia, networking and collaboration. With this in mind, the RHERC needs to:

1. Address both "microlevel" and "macrolevel" aspects of its new educational model, particularly support systems for students and program evaluation. The RHERC will need to consider its role as an education provider in regional, national and international systems. Are there networks that can be maximised to assist the RTO's role as a high quality vocational education provider? The answer to this may lie, in part, in the links the RHERC has with the NSW Health RTO, and it may need to consider how this relationship can be enhanced to position the RTO as a sought after online provider of VET sector qualifications.

2. RHERC and area education staff need to continue to develop the use of the technologies so that they become more confident and efficient (Peach, 1996). It is not just a matter of putting printed education material onto a CD-ROM or onto a web page. The challenge is for educators to find ways to exploit the uniqueness of the delivery method, whether it be telephones, videoconferencing, interactive multimedia, cyberspace or interactive teaching using computers and a network (Peach, 1996). Teaching styles must be tailored to the new developments that replace the lecture and note-taking format of previous times. Education staff must continue to explore how the technologies could be used with learners, keeping in mind such issues as access, quality and flexibility.
3. NEAHS needs to develop a web page so that there is a platform to market qualifications to prospective students and from which to deliver training packages. Discussion rooms (asynchronous) for classes of students could also be conducted on the web page.
4. A further recommendation involves the RHERC prioritising the training of facility managers as accredited workplace assessors so that they can assist in the rollout of the flexible learning model. This qualification could be delivered to the managers on the organisation's e-mail discussion page using existing workplace activities from this program and facilitated and supported by the RHERC.
5. The RHERC continues to explore the foundations of a flexible learning model and develop a consistent, reputable and valid instructional design infrastructure. This will provide opportunity for innovative teaching and learning strategies which could continue to be trialed and evaluated.

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References

Andrews, T. 1997, Designing for the customer – what does diversity really mean? *Proceedings of the 13th Biennial Forum of Open and Distance Learning Association of Australia, University of Tasmania, Launceston, Tasmania, 29 September – 3 October*, pp. 5-9.

ANTA 2000, *ANTA Framework for National Collaboration in Vocational Education and Training 2000 – 2004*.

Bates, A.W. 1997, The impact of technological change on open and distance learning. *Distance Education*, 18, (1) pp. 95-109.

Cupitt, Margaret 2000, Using Flexible Delivery to Provide Education Programs in Rural Communities. Education for Quality Healthcare Symposium. Brisbane Australia, 12-14 November, Mater Hospital, (Abstract).

Evans, T. D. 1989, Taking place: the social construction of place, time, space, and the (re)making of distances in distance education. *Distance Education*, 10 (2) pp. 177-183.

Evans, T. D. and Nation, D. 1992, Theorising open and distance education. *Open Learning*, June 1992, pp.3-13.

- Evans, T. D., Nation, D. E., Renner, W. and Tregenza, K. 1997, The end of the line or a new future for open and distance education? Issues for practitioners, researchers and theorists from a study of educational reform in post-secondary education. *Proceedings of the 13th Biennial Forum of Open and Distance Learning Association of Australia, University of Tasmania, Launceston, Tasmania, Australia, 29 September – 3 October*, pp. 151-155.
- Game, C. 1994, The changing environment in distance education course development – using “openness” to meet the needs of both clients and teachers. *Distance Education: windows on the future*. Conference Proceedings, Wellington, New Zealand, 8-12 May, pp. 62-78.
- Garrison, D. R. 1989, *Understanding Distance Education: a framework for the future*. Routledge, London.
- Hartley, R. 2000^a, Area health services as learning organisations - the rural experience. *Australian Journal of Rural Health*, 8, 77-80.
- Hartley, R. 2000^b, Rural health meets the challenges of delivering national Training Packages. *Australian Journal of Adult Learning*, 40 (1), 49-59.
- Jenkins, J. 1998, Distance Education, the Internet and learning culture. International Conference on collaborative networked learning, 16-18 February, New Delhi, India, pp 117-121.
- McLoughlin, C. 2000, Beyond the halo effect: investigating the quality of student learning online. Moving Online Conference, 18-19 August, Gold Coast Australia, Southern Cross University, pp. 141-154.
- Minck, S. J. 2000, The future of collaborative, inter-professional, Internet-based education is here. Education for Quality Healthcare Symposium. Brisbane Australia, 12-14 November. Mater Hospital, Abstract 25.
- Murphy, J. and Nixon, M. 1993, A glimpse into the future: professional development in the twenty first century. *Higher Education in Europe*. XVIII (4) pp. 99-112.
- Net*Working 2000 - putting people first in e-learning. 2000, Conference hosted by Australian National Training Authority, 1-14 November. <http://flexiblelearning.net.au/nw2000/>
- Peach, F. 1996, Queensland Curriculum Council open Learning Forum. *Open Education*, 3 (1) pp. 29-35.
- Rae, M. (1993). Role of the teacher in the year 2000 – some personal perceptions. *Distance Education Association of New Zealand Bulletin*, 16, pp. 85-88.
- Reddy, G.R. 1990, Distance Education: planning for the future. In M. Croft et al., (eds) *Distance education: development and access*. pp. 303-308.
- Sparrow, H., Herrington, J. & Herrington, A. 2000, 'Shovelware' as staff development: a useful introduction to moving online. Moving Online Conference 18-19 August, Gold Coast Australia, Southern Cross University, pp. 236-246.
- Trisnantoro, L. & Widodo, S. D. 2000, The strategic management course for district hospital in Indonesia: a sample of pioneering a cost effective training method. Education for Quality Healthcare Symposium. Brisbane Australia, 12-14 November. Mater Hospital, Abstract 17.

van Seventer, C. W. 1993, The ambiguity of tutor roles in higher distance education. *EADTU News*, Issue 14, August, pp.12-16.

Woudstra, A. & Murgatroyd, S. 1992, Responding to change: designing a flexible learning organisation for distance education. *ACDSE Research Monograph*. 4. pp. 43-58.

