

Sharing critical 'know-how' in TAFE Institutes: Benefits and Barriers

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Abstract

TAFE institutes face demands for uniquely high skill levels in their workforce at a time when a large number of their experienced workers are on the threshold of retirement – taking with them their TAFE and industry 'know-how'. One of the means of shoring up this skill base lies in retaining the critical knowledge - if not the worker - through effective knowledge transfer within organisations.

This paper reports on research that has explored the benefits of knowledge transfer to the TAFE bottom line and the TAFE culture. It reports on impediments to achieving effective knowledge transfer - whether constraining attitudes or vanishing resources, limiting management practices or unhelpful organisational structures. It presents a range of means that organisations can use to overcome these impediments – the building of attitudes and cultures, the establishing of processes with people at their core, and the integration of knowledge transfer organisation wide. The paper also reports on what TAFE organisations can learn from business models of knowledge transfer.

Introduction

This paper reports on a National Research and Evaluation Committee funded research project *Sustaining the Skillbase of Technical and Further Education Institutes*, undertaken in 2003-2004.

This research was launched from a context of change:

- world-wide and Australia-wide change, for example: global competition, technology and market regulation
- economic change, for example: the emergence of a knowledge economy with new work, new work structures and new workers
- VET sector change in the past ten years of continuous reformation, for example: a competitive training market, national training packages, workplace training, new technologies and flexible approaches.

These changes have brought an increased focus on the economic importance of education and training (Chappell and Johnston, 2003), and transformed the professional identity of teachers (Harris, Simons & Clayton forthcoming; Chappell 1999; Chappell & Johnston 2003; Blom & Clayton 2002).

The newest change in this context is a demographic one. Natural population growth in Australia is slowing, the proportion of mature age people is increasing and the rate of

labour market growth is declining (Australian Bureau of Statistics 2003). Education is one of the industries “most exposed to a retirement bubble, which started to burst as the 4.1 million baby boomers born between 1946 and 1960 began reaching early retirement age of 55 in 2001” (Washington & Morris, 2003).

What this change means for vocational education and training (particularly in the TAFE context of this research) is that:

- TAFE institutes, already with a teaching workforce older than the Australian workforce overall, face the prospect of losing a highly experienced section of the teaching workforce over the next three to five years, despite some moves towards flexibility and attitude change to extend participation in the workforce
- skilled replacements could become increasingly difficult to find as skill shortages become increasingly common
- erosion of critical knowledge within TAFE institutions could threaten training capacity, credibility and the ability to meet increasing demands for a more highly skilled teaching workforce than ever before.

This research therefore set out to investigate how TAFE institutes are sustaining their skillbases in this changing – and challenging – environment. Firstly it aimed to examine existing strategies that TAFE institutes have in place to maintain the currency of vocational competency of teaching staff. Secondly, it aimed to investigate the strategies being used to transfer organisational knowledge and skills from those with extensive expertise and long-term experience teaching in TAFE institutes to those teachers with relatively limited experience.

This paper is primarily concerned with the second of these goals, and reports on one of the main findings of the research: that human resources and professional development are not the only means of sustaining the skillbase in TAFE institutes. Another option is to retain the knowledge – if not the worker – through transfer of knowledge from more experienced to less experienced teachers.

The benefits of knowledge transfer to the TAFE bottom line and the TAFE culture that exists in this changing and challenging environment; the barriers to achieving effective knowledge transfer; and the means that can be used to overcome impediments to knowledge transfer, are the focus of this paper.

Methodology and other research considerations

Focussing only on the TAFE component of the VET sector, the research was designed to take into account the complexity within this sector, with its differences between TAFE institutes and the differences in approach between state-based systems. While a range of managers provided the information for this study - chief executive officers, human resource managers, senior educational managers and middle managers – the focus was on teaching staff in TAFE institutes.

The intent of the research was to identify TAFE manager perceptions, to provide a snapshot of their focus, priorities and the range of strategies being used rather than how the strategies were being implemented. The research aimed to be grounded research, seeking to research reality ‘on the ground’, allowing the voice of the TAFE managers to illuminate facets of a complicated situation.

A mixture of qualitative and quantitative methods was used. Information was gathered from:

- in-depth interviews of 61 chief executive officers, human resource managers and senior educational managers in 16 TAFE institutes in seven states and territories
- a paper-based questionnaire of 52 middle managers responsible for day-to-day management of teaching areas
- a literature review
- a search of Australian and overseas web sites
- an analysis of organisation documents.

An important part of the research was the clarification of terminology that is contested in much of the literature accessed during this research and on the ground. Key concepts used and their definitions for the purposes of this research are in Appendix I.

Findings and discussion

The benefits of knowledge transfer

Literature accessed during this research indicates that knowledge sharing can occur between individuals, either in isolation or as part of a group, or between groups. A good deal of organisational learning takes place through sharing knowledge in meetings, in communicating with colleagues and in engaging in ad hoc training on the job or in informal conversation. It has the capacity to build the expertise of individuals and teams and can ensure knowledge continuity.

Some of the literature (Frappaolo & Wilson 2000; National electronic Library for Health 2001) itemises the benefits of knowledge transfer as:

- increasing the tangible knowledge assets of an organisation
- articulating and making available to others intangible assets
- accelerating the pace of business and increasing productivity
- shortening the learning curve for new employees and safeguarding organisations from knowledge loss.

TAFE managers who took part in the study believed that such transfer of knowledge from experienced teachers to those less experienced benefited both the TAFE bottom line and the TAFE culture existing in this changing and challenging environment.

Firstly they recognised that it is a means of overcoming the knowledge loss in many forms that negatively affects efficiency and achievement, despite the potentially positive aspects of such change through the opening of opportunities to shape training to match new demands. Their views are supported by literature that describes the devastating impact of the passing of valuable skills, experience and tacit work-related 'know-how' (Access Economics 2001; Casher & Lesser, 2003; Field 2003). Beazley contends for example, that knowledge loss is 'the single most pervasive and costly source of knowledge mismanagement in corporate America today' (2002, p.1).

Secondly, the TAFE managers also recognised that knowledge transfer can produce gains in efficiency, service and professional quality. Again, extensive literature supports this view of the purposeful protection of critical knowledge

The research study did show some differences of opinion on the benefits of knowledge transfer that emerged between senior managers and middle managers.

Senior managers looked at the higher level benefits to the organisation such as:

- gaining efficiency through less reinvention of the wheel, fewer mistakes and increased co-operation (50%)
- increasing service quality through the increased knowledge and skill level of teaching staff (48%)
- achieving cultural benefits such as enhanced pride, organisational morale, team ethos and sense of tradition. (Institutionally, this meant maintaining continuity and preventing loss of organisational knowledge, sustaining the organisations and their reputations) (30%)
- ensuring professional benefits to teachers such as eased workload, increased pride and confidence, less stress, and better informed and equipped new teachers (18%).

Middle managers focused on benefits to learning and team work such as:

- fostering of a learning culture within work teams (78%)
- avoiding reinvention of the wheel (67%)
- building the skills of novices more quickly (59%)
- ensuring the most efficient form of professional development (42%)
- breaking down teachers' concepts of owning knowledge (38%).

In short, for the many organisations that are about to have significant knowledge loss as a result of extensive employee retirement, it would seem imperative that they immediately recognise that retention alone is unlikely to facilitate the transfer of the critical knowledge that older workers have accumulated to relevant people in an organisation; and that they recognise the value of organisational memory and worker 'know-how'.

The barriers to achieving effective knowledge transfer

Literature on knowledge sharing identified numerous barriers that impede the effective exchange of knowledge (O'Dell & Grayson, 1998; Hazel Hall, 2002a; Martin, 2003; Truch, 2001, Lancaster, 2003; Huysman, 2003; Hendriks, 2004). Examples of barriers are:

- individuals' dispositional impediments, often translating into action or lack of action, such as people not knowing what they know, what knowledge might be helpful for others, or what knowledge exists; people considering that knowledge does not apply to them; people withholding information, 'bad news' knowledge or intellectual property
- management practices, such as locking up tacit knowledge, denying time to engage in transfer, or failing to implement knowledge once it is transferred, limiting relationships or extending 'distances' between knowledge exchange partners

- organisational structures, such as multi-layered structures that impede knowledge flow, trapping of knowledge in closed groups and work teams, under-utilisation of organisational systems set up, or circumvention of systems by personal networks and cliques
- lack of organisational commitment and operational priority, starving knowledge transfer of money, time, management or IT support
- internal competition within organisations that discourages collaborative behaviour and erodes the effectiveness of knowledge sharing activities
- cultural impediments such as the belief that knowledge is power and not to be given away, or the nature of cultures such as the bureaucratic, clan or entrepreneurial cultures which can deter knowledge transfer
- the ICT trap, based on the assumption that IT positively supports and improves knowledge sharing, while discounting the important role played by personal interactions in the process.

Many of the TAFE managers who took part in this research recognised the difficulty of managing a loss of knowledge, particularly in the face of factors beyond their control, such as superannuation or health. They also saw a range of specific impediments to using knowledge transfer as a means of overcoming knowledge loss.

Overwhelmingly, the managers agreed that the main barrier to knowledge transfer was lack of time and work overload, or perception of overload. Apart from agreement on this major barrier, there were again some differences between responses from senior managers and middle managers.

Senior managers believed that other significant barriers to knowledge transfer were reluctance to document knowledge, possibly caused – again - to some degree by lack of time, and reluctance to share. This was possibly caused by a number of attitudinal barriers such as personal pride and independence, a sense of competitiveness, shyness and lack of motivation, or simply a lack of awareness or lack of value being ascribed to sharing knowledge.

Although middle managers did recognise the cultural basis of many of the barriers to knowledge transfer, they ascribed low importance to any barriers other than workload.

It is evident that a complex of individual dispositions, management practices organisational cultures and structures underlie both the organisational decisions which under-resource knowledge sharing, and the individual behaviour which makes it less than successful, especially within an unpredictable environment.

Overcoming impediments to knowledge transfer

Management of knowledge transfer: Some TAFE institute managers involved in this study certainly recognised the importance of sharing experience and knowledge before it is lost – that is, retaining knowledge as well as maintaining it. However, managers generally demonstrated little familiarity with models of knowledge maintenance and knowledge transfer beyond national project initiatives such as Reframing the Future and LearnScope.

The managers did recognise in varying degrees two urgent and imminent tasks in retaining working knowledge: identifying what knowledge is critical to organisations, and establishing policies and processes to share that critical knowledge.

Identifying critical knowledge: In the study, informant groups nominated types of knowledge that were critical to their institutions and that should not be lost through staff attrition. Industry knowledge including technical skills, was emphasised by chief executive officers and senior educational managers. Organisational knowledge including knowledge of business and administrative functions and management skills, was emphasised by human resource managers. Knowledge related to teaching and learning including curriculum and IT skills, teaching and learning skills and product development, was emphasised by chief executive officers and human resource managers. Senior educational managers placed teaching knowledge within a group of minor categories of critical knowledge.

The study showed that only a small proportion of institutes have either undertaken a formal process of identifying critical knowledge that needed to be retained or shared. Relatively few chief executive officers and human resource managers (34%) claimed that their organisations identified critical knowledge, and half of these admitted it was done informally or incompletely. A further 25% were vague or did not know. One said: “knowledge is not necessarily seen as a strategic resource in an organisation; therefore we have not come to grips with how we should manage it”.

In contrast, those who were more directly engaged in delivery – the senior educational managers and middle managers, were more confident about the identification of critical knowledge, with 55% of both groups identifying some work that had been done in their delivery area to do so.

Extensive literature on the defining of knowledge and of what knowledge is at risk, does show what a complex task this presents to TAFE managers. For example, Ylinenpaa & Nilsson (2002) describe four types of knowledge potentially at risk. Know-how-knowledge (how people understand and apply learning) and know-who-knowledge (who knows what) that are person-specific and network-related, are difficult to share, easily lost as experienced teachers leave TAFE institutes, and cannot be regenerated in a short time. Know-what-knowledge (information and facts) and know-why-knowledge (principles and causal relationships) are more easily codified and transferred, but could still be at risk.

Other writers propose different ways of categorising knowledge and making it visible as a first step to transferring it. Wilson & Holloway’s (2001) ‘working knowledge’ consists of relationships to other people and work, systems or tools, process flow, and documents information or people referenced in the process. Swart & Wild’s (2001) ‘areas of competence’ model consists of working with people, management of work, personal effectiveness and job knowledge and experience.

Policies for knowledge transfer: There was general acknowledgement that sharing of critical knowledge is an issue, even when the first step – identifying critical knowledge – has not been taken.

However, the findings suggest that only a small proportion of institutes have put formal policies in place to ensure that knowledge is not lost. Only 17% of senior educational managers and middle managers claimed to have a knowledge transfer policy. Amongst the chief executive officers and human resource managers interviewed, the proportion was even lower at 6%.

Managers indicated that policies and processes were needed, and were indeed being developed to support various knowledge transfer practices for sharing critical knowledge between experienced and less experienced teaching staff. Some of those who admitted to not having an established policy described emerging or partial ones such as knowledge transfer frameworks, standards and intellectual property guidelines, that would in the future contribute to an overall knowledge transfer policy

Strategies for knowledge transfer: Within the TAFE institutes included in the study, many preferred the practical to the policy approach to knowledge transfer. While they promoted and supported both formal and informal strategies to enhance efficiency and learning, the research suggested a reliance on the informal and tacit. As one chief executive officer pointed out, his organisation put in ‘an awful lot of practice’ transferring knowledge, but had not documented this in a policy.

This practical rather than policy approach to knowledge transfer was demonstrated by the high level of encouragement of sharing and distribution of pedagogical and other organisation knowledge between more experienced, long-serving teachers and less experienced teachers. Almost all middle managers confirmed that they were actively doing this. Of chief executive officers and human resource managers, more than 60% claimed to be doing this, and of senior educational managers, more than 50% were engaging in such activities.

This finding confirms other research that has identified a culture of knowledge sharing networks of teaching staff in Australian VET providers, fostered by national funding through Reframing the Future and Australian Flexible Learning Framework initiatives which encourage collaboration (Symons 2001; Mitchell & Young 2003).

Specifically all informants and respondents were asked to report on their usage of a series of practical strategies for facilitating knowledge transfer, taken from the Knowledge Management Toolbox of the UK National Health Service. Although there was some discrepancy between the ways some strategies were understood, all informant groupings agreed that the three most commonly used strategies were: knowledge exchange activities depending on bringing people together rather than collecting materials, identifying and sharing best practice; communities of practice; and mentoring.

It was apparent that in many cases strategies were used in an informal manner, that is, there was not always a formal policy in place that supported regular and efficient use of the process. Teams played a key role in the process.

Literature on knowledge sharing proposes more formal methods of knowledge sharing. Casher & Lesser (2003) cluster strategies into knowledge elicitation strategies (such as after action reviews, knowledge audits, knowledge centres, knowledge directories, knowledge harvesting, social network analysis and subject

matter expert interviews) and knowledge exchange strategies (such as communities of practice, exit interviews, identifying and sharing best practice, mentoring, networking, peer assists and storytelling).

Promotion and support of knowledge transfer: At the levels of both the organisational and delivery area, TAFE managers participating in this research saw support for knowledge transfer coming from organisational structures to promote the sharing and distributing of knowledge, whether from policies and procedures, specific allocation of responsibilities or funding. Chief executive officers and human resource managers had a pivotal promotional role and team-based work structures were emphasised.

They said support was also provided by particular staff who were tasked with knowledge transfer responsibilities. Nearly 70% of all chief executive officers and human resource managers, and nearly 60% of both the senior educational managers and the middle managers, were able to identify staff with specific responsibilities for knowledge transfer scattered throughout their organisations, such as librarians, coordinators, communications officers and informal advocates. Some informants also identified new staff appointments, such as a delivery enhancement officer, a manager of performance and strategy and a flexible learning manager.

Beyond the structural approaches mentioned above, all informants saw forums such as meetings and conferences as the second most common means by which sharing was encouraged, followed by mentoring and professional development.

Key factors for effective knowledge transfer: Only about one third of informants to this study knew of knowledge transfer strategies from outside VET that would be useful in their organisation. A literature search, and a broad scan of business and knowledge transfer-related websites revealed a range of approaches to knowledge transfer used outside the VET sector, which could be adopted or adapted by TAFE institutes.

This literature and website search found four factors common to non-VET examples of successful knowledge transfer:

- attitudes and culture – in particular, a base of attitudes of respect and open valuing of the tacit knowledge that resides with individuals, combined with long-term building of a culture of knowledge retention
- people-centred processes – in particular, preferencing the engagement and motivation of people in sharing critical knowledge rather than technology
- integration of knowledge transfer organisation-wide – in particular, through documentation, education, training, recruitment and workforce planning
- financial commitment to knowledge transfer, including a balancing of the cost of training or re-training against recovering knowledge.

The role of organisational culture is a particularly strong feature of literature. O'Dell and Grayson (1998) and Bishop (2002) suggest that an organisational culture that values knowledge sharing provides support and clear leadership at management level and facilitates productive collaboration and partnerships. It also fosters attitudes of knowledge sharing, trust, innovation and lifelong learning and encourages an

environment conducive to tacit knowledge exchange. It instils personal responsibility for knowledge creation while sharing a collective sense of purpose.

Truch (2001) further proposes that critical activities in the knowledge sharing enculturation of an organisation are engagement, empowerment, entitlement, enablement and environment. Many authors agree that such enculturation requires extensive, long-term time and effort.

An “enabling” infrastructure that will support knowledge transfer is another strong concern in the literature. This is often seen as one in which people are at the heart, and technology provides the tools (Richard Hall, 2002). Several infrastructures are proposed (O’Dell & Grayson, 1998) including a self-directed infrastructure (using databases, yellow pages, intranets, dissemination mechanisms); knowledge services and networks (using information services, communities of practice, help desks, knowledge managers and people networks); and facilitated transfer (using knowledge brokers, coaches, mentors and change agents).

Another possible “enabling” factor is incentives to engage people in knowledge transfer and motivate them to be active, which can include hard incentives (economic rewards, access to information and knowledge, and career advancement or security) and soft rewards (enhanced reputation and personal satisfaction). Monitoring and evaluation, can further help to foster individual attitudes that move past a passive willingness to share, to an active eagerness to share knowledge.

Conclusions

What does this research mean for managers of TAFE institutes who aim to foster knowledge sharing to sustain their institute skillbase? It means that institutes need to develop environments in which a knowledge culture can flourish. Such an environment needs to be created from an audit of existing skills and knowledge, retirement intentions, organisational structure and practices, and to be based on policies underpinning integrated practices. Institutes also need to implement knowledge transfer processes integrated into organisations, and sustained by their cyclical nature. To support this, they need to devote resources, commitment and incentives to knowledge sharing and to build on the widespread national initiatives that already support knowledge transfer, and learn from non-VET business about adaptable and adaptable innovations in knowledge transfer.

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Appendix I: Key concepts used

- **Skillbase** - an omnibus term used to describe the collection of skills and knowledge possessed by the teaching staff of a TAFE institute that supports that institute's training capacity and credibility. These skills and knowledge are technical, pedagogical and organisational. The focus on **sustaining** the skillbase of TAFE institutes in the study has as its basis not only the maintenance of current skills and knowledge, but concepts of continuous improvement and ongoing capacity building
- **Knowledge** – information combined with experience, context, interpretation, reflection, intuition and creativity, in no way to be confused with solely information (Khandelwal & Gottschalk 2003)
- **Organisational knowledge** - organisational capabilities, management know-how and operational know-how (Haider, 2003)
- **Technical currency** of TAFE institute teaching staff - the up-to-date industry specific skills relevant to today's workplaces, and an integral component of vocational competency
- **Vocational competency** - the demonstrated skills and knowledge that enable someone to do a job in a workplace, which are industry based, and include familiarity with the latest industry developments. They include technical competency, technical currency and industry knowledge
- **Practitioner** - teachers and trainers in TAFE institutes, regardless of their experience in industry or in teaching or the arrangements under which they were employed.