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21 July 2005

John Carter, Committee Secretary
Senate Employment, Workplace Relations and
Education Committee
Department of the Senate
Parliament House
Canberra ACT 2600

Submission to the Inquiry into the provisions of the Skilling Australia's Workforce Bill 2005

Dear Mr. Carter,

Please find attached with this letter my submission to the Senate for the inquiry into the provisions of the Skilling Australia's Workforce Bill 2005.

Please note that my physical address is shown below should this be a legal requirement.

51 Wallangarra Drive, Bedfordale,WA 6112

I have sent to you by post a hard copy is for your records should this be necessary.

I do apologise for not attaching the cover sheet but was unable to find the link on the website to download this document. Should this be necessary, please do not hesitate to contact me.

Yours sincerely,

(signed)

Andrew Lindhjem
Director

Physical residence:
51 Wallangarra Drive, Bedfordale WA 6112
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Senate Employment, Workplace Relations and Education Legislation Committee

Inquiry into the provisions of the Skilling Australia's Workforce Bill 2005

Personal submission

Andrew Lindhjem, Independent Researcher and Consultant[1]

Not affiliated

20 July 2005

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1. Scope and limits of this submission

1.1 This submission is limited to the process of training in new technology which forms an important component for entry level training and for up-skilling.

1.2 Training in new technology is assumed to be fundamental to the ability of the workforce to prepare for the future. This includes the learning of the content of new technology but also this training should allow the individual to be able to become familiar with the actual processes of learning new technology. Theory and practise has shown this to lead to greater acceptance of new technology and therefore greater productivity.

1.3 The content of the submission is based upon the outcomes of qualitative research for the report *New Technology, Training and Public Funding: The Case for Greater Flexibility*. This report was an ANTA-funded project through the EE-Oz Industry Skills Council and finalised in 2005 and is available from the Department of Education, Science and Training's web site:

http://165.12.253.219/publications/publication.asp?qsID=740

[1] Andrew Lindhjem is the Director of V3 Research and Consulting – a privately owned consultancy.

2. Key points

2.1 Traditional public-funding for training is based upon a 'teacher-centred' model of training that assumes that all students learn the same subject matter at the same time. This model limits the ability of publicly-funded training providers to provide training in 'thin markets' such as new technology.

2.2 Funding for training in new technology should be set at a higher level than other 'static-state' training to encourage closer links to commercial training which forms the majority of training in new technology. This funding would allow employers to have apprentices and trainees trained in areas of greatest demand for their enterprise rather than only take what is served to them through public-funded arrangements.

2.3 The three main areas of activity for training and funding should be directly related to the method of delivery such as mass-market e-learning; those areas in which direct supervision of core skills are required (e.g., welding); and specialised new technology with its associated higher costs.

2.4 The organisational structure for publicly-funded training providers should be reassessed in the light of these differential funding arrangements. This would be necessary to reinforce the separate but connected activities required for differential funding as well as meeting the future staffing requirements in light of an ageing workforce.

2.5 As single repository for on-line materials as suggested by *Skilling Australia*[2] will not be sufficient to meet the requirements of those who are working with new technology. The reason for this is that teaching and learning materials for new technology is not yet codified and therefore is in a dynamic state. This situation does not lend itself to being placed in a central repository. Therefore alternate arrangements need to be made for teaching and the learning materials for new technology.

2.6 The current wording of the Employability Skill[3] relating to technology is ambiguous and refers mainly to 'IT'. Technology use in enterprises extends much further than 'IT'. Therefore, this Employability Skill needs to be reviewed in order to ensure that it has the capacity to convey a meaning which is not technology dependent and does not relate specifically and only to 'IT' as is the current situation.

[2] *Skilling Australia: new directions for Vocational education and Training*, February 2005, p, vii. Department of Education, Science and Training, 2005

[3] ACCI 2002, *Employability skills for the future*. Department of Education Science and Training. Canberra, ACT.

3. Philosophical underpinnings for VET funding

3.1 For public policy to be sustainable, it is important to develop a match between the existing culture and the intentions of government. Mismatches lead to difficulties in sustaining the direction of policy initiatives. Therefore by having better matches between policy development and practice, better results may eventuate.

3.2 Current funding arrangements have been based upon the concept of Student Curriculum Hours or Student Contact Hours (SCH). These rates are usually low and reflect an assumption that there will be a certain number of students in one room learning the same subject. The rates vary depending upon the type of training being done and the amount of resources being used.

3.2 Historically, education revolved around the delivery of training from a single source because the knowledge was codified and relatively stable. The SCH model for funding therefore assumes this that knowledge is codified in that VET training is funded as if it is always ‘teacher-centred’ and where a sufficient number of students gather in the same place with the one teacher at the same time and all students learn the same subject. This works well within entry-level environments where there are enough individuals who wish to participate and who are assumed to have little prior knowledge of the subject being taught.

3.3 This model of ‘teacher-centred’ learning is slowly being replaced with the concept of ‘student-centred’ learning developed as an outcome of Carl Rogers’ approach to counselling, where the individual is granted control over the process rather than being directed by the counsellor. This is the emerging model for education and training where ‘contracts’ are developed between the student and the teacher. Mismatching occurs where the teacher is assumed to be using a only ‘teacher-centred’ model.

3.4 Strain is being placed upon both teachers and lecturers as a result of the mismatch between ‘teacher-centred’ funding and the delivery of training that uses a ‘student-centred’ model which while offering greater flexibility to the learner requires a greater resource allocation. The ability to tailor training to meet the needs of the individual student is therefore limited.

3.5 Training in new technology often requires sessions with small numbers of students in attendance because of the lack of popularity of a new technology in the early stages of its adoption. The hourly rate provided by the SCH model requires that a training provider have a minimum number of students enrolled. Some reports indicate that this needs to be around 15 to 20 students. Therefore, training in new technology with its ‘thin market’ is more difficult to arrange. This is because there is the requirement for a relatively large number of students to be studying the current funding philosophy of low-rate SCH and the ‘teacher-centred’ training philosophy. Frequently, training providers are not able to provide this training due to the relatively low numbers of students available.

3.6 The recommendation to be made here is that there be a consideration of different hourly funding rates for “entry-level and static-knowledge” training and new technology training that requires greater involvement by training providers and assumes that there will be fewer numbers in training.

4. Proposal for differential funding

4.1 New technology, if it is adopted, eventually becomes 'old' technology and is absorbed by society. Computer skills are an expected literacy component in today's workplace but twenty years ago were considered to be an advanced skill and only applicable to specific professions.

4.2 In order for the newest technology skills to be learned, an individual must gather and assemble the knowledge for themselves. These 'innovators'[4] are usually individuals who are willing to risk social comment and financial resources in order to gain these new skills.

4.3 Training in most new technologies in the early stages of development is usually provided only through a commercial arrangement with industry specialists who have researched the area in advance of formal, codified and accepted texts and other resources. Therefore training in new technologies will not initially occur through the current formal, publicly-funded training.

4.4 There is a need for VET to be able to easily access and absorb training in new technology. At present, many publicly-funded VET training providers accomplish this through commercial training provision where there is a business need for this training which is built upon the assumption of a profit-centred activity. This process is in direct philosophical contrast with publicly funded training where 'profit' is achieved through large numbers in training. Often the individuals who are responsible for the profit-centred training do not communicate readily with the volume-centred publicly-funding training staff as there are differences in assumptions of process and performance assessments.

4.5 The adoption process for "innovations" follows an initial path in which very small numbers of individuals cooperate in developing a collective understanding of the innovation. New technology training in the early stages assumes that there will be few attendees until the technology becomes more popular. Therefore, training in new technology where large numbers of students are required to attend is usually not possible and, so publicly-funded VET providers do not usually offer this training outside of commercial arrangements.

4.6 In order to facilitate the process of absorbing training in new technology more rapidly into the publicly-funded system, there needs to be a profitable link between training in emerging and new technology which comes through the commercial environment into the publicly-funded system. One way of accomplishing this task is to provide higher rates of funding per student hour for new and emerging technology training. By doing so, the publicly-funded VET provider could make training in new technology available with smaller numbers of students enrolled.

4.7 This proposal of differential funding acknowledges the limits of the public purse and does not suggest that total funding be increased (although others may have valid arguments for such a case) and assumes a 'zero-balance' equation. Therefore it is suggested that funding bodies re-assess the total funding by the *type* of training being provided. The types of training proposed here are 'blended

[4] Rogers, E. M. 2003, *The diffusion of innovations*. Free Press. New York, NY.

learning', psycho-motor training, and training in new technology. These are discussed below.

4.8 Emerging models of training are evolving and include the new learning technologies such as e-learning and m-learning (learning using mobile devices such as mobile phones and personal digital assistants, PDAs). These emerging models are known as 'blended learning' and include elements of traditional classroom-based processes such as face-to-face contact, seminars and teleconferences as well as e-learning.

4.9 The match between the emerging cohort of learners and the use of these new training models is becoming closer as younger learners become more familiar with using computers for learning. Additionally, the flexibility of this method of learning for the individual closely resembles the philosophical approach of 'learner-centred' learning.

4.10 It is possible that the cost of blended learning that uses generic learning materials that have been shared across Australia can reduce the cost of providing 'static-state' and entry-level knowledge. This may be the main area through which the increased funding for new technology training could be found.

4.11 The second area of training which remains important for VET is psycho-motor skill development. In this case there would need to be through a dedicated physical environment with specific mechanical items available through which the student would be able to develop these skills under supervision. Examples of this are the development of hand-skills with power tools for the trades, lifting infirm persons for health care, or industry-specific skill development such as welding. These training arrangements would require close supervision and comparatively greater resource consumption than for blended learning.

4.12 For training in new technology, there are even greater costs involved. These include the higher hourly cost for knowledgeable individuals who are competent to deliver this training, the cost of assembling the teaching and learning materials from scratch as well as the necessary physical equipment upon which the new technology can be learned. All of these costs are expected to be higher than the areas mentioned above (blended-learning and psycho-motor skills). Additionally, there are fewer students through which the costs of training can be recovered. Therefore, it is imperative that higher hourly rates be made available for this training.

4.13 As new technology is usually made available only through commercial arrangements, it is important that the publicly-funded training provider also incorporate this training with 'fee-for-service' training. In this case there should be the opportunity for publicly-funded students to participate in commercial training at the same time as privately-funded students. Often legislation prevents these two types of students participating in the same training sessions. If this arrangement were to be available, greater numbers of students in training could be realised and increase profitability.

4.14 It is also acknowledged that employers of apprentices and trainees often seek to have their employees learn enterprise-relevant skills. The current funding models and high costs for training in new technology may prevent this subject matter being made available to low-rate publicly-funded students. Therefore, there should be the opportunity for employers and individual students (such as those who wish to up-skill) to provide additional funds which would be additional to the publicly-funded component in order to gain these skills.

4.15 Finally it is important to encourage liaison between publicly-funded training providers and private trainers. As most training in new technology would originate from private trainers, the ability to establish relationships between these 'leading edge' trainers and the public system needs to be encouraged. Managers of publicly-funded training providers should be encouraged to look towards private training providers as collaborators rather than competitors. Therefore flexible arrangements for private training providers to have access to public funding should be encouraged for training in new technology.

5. Restructuring of publicly-funded VET

5.1 The traditional structure of many publicly-funded VET providers follows a militaristic hierarchy where the individual with the least power over the scope of decision making is the person who delivers the training. Directions relating to training administration emanate from the Executive Officer (EO) who has, as a primary concern, the accountability for public funds. Therefore, the spending of these funds and the compliance to funding arrangements meets those of the funding bodies and is usually based on SCH rather than on the actual needs of the person who delivers the training.

5.2 The individuals delivering training are often more concerned with outcomes of individual students and their future welfare than the compliance issues of the EO. As the cohort of students change and as these cohorts require different contributions from lecturers and trainers, these people delivering the training are sometimes required to work outside of the normal processes. This additional effort in 'going the extra mile' is unsustainable.[5 & 6]

5.3 A problem that currently exists within publicly-funded training providers is that the structure is based upon subject areas rather than on service delivery. Therefore if a department within a VET college provides training in a certain knowledge area, this training is not accessible for students from outside that department. The result is that the knowledge is held in 'silos' and each department then needs to develop its own understanding of the topic area resulting in duplication of services.

5.4 It is important that the structure of an organisation matches its process of delivery of products and services. It is also important that the organisational structure allow for differing values to be in existence in order for differing goals to be achieved.[7] Following from the proposals of the three distinct funding

[5] McNickle, C & Cameron, N 2003, *The impact of flexible delivery on human resource practices: Survey of TAFE managers*, National Centre for Vocational Education Research, Adelaide, SA.
[6] Palmiere, P 2003, *The agile organisation: Case studies of the impact of flexible delivery on human resource practices in TAFE*, National Centre for Vocational Education Research, Adelaide, SA.
[7] Christensen, C. M. 2003, *The innovator's dilemma*. Harper Business Essentials. New York, NY.

models proposed above (see Sections 4.8 to 4.12) there would need to be a restructuring of the publicly-funded training provider.

5.5 The proposal for restructuring of VET is that it form four separate service delivery sections rather than the current model of a hierarchical and public-service oriented structure. The four sections would be resource development; blended-learning delivery; psycho-motor development; and new technology training.

5.6 The four separate divisions would be coordinated across the institution but would not sit within a *specific* department. The advantage of this arrangement would be that there would be greater flexibility in the delivery of training as it is not attached to a specific department or subject area and therefore only available within these confines. This arrangement would also allow for a greater ability to cross-skill as the workplace requires specific and tailored training to meet specific enterprise requirements.

5.7 Additionally as the current publicly-funded workforce ages, there will be the need to replace these individuals with new staff. If a process of replacing existing staff with similar staff is followed, this method will encounter great difficulty in finding appropriately trained staff. Therefore in order for publicly-funded VET to remain of relevance to the workplace, new methods of training delivery need to be found to counter the growing reduction in available people to fill these positions.

6. Single line access to materials

6.1 *Skilling Australia* suggests that there should be a 'single point of on-line access'[8] for teaching and learning materials. This suggestion is to be welcomed in light of the current fragmented state of these materials. However the practical outcome of such an arrangement would limit this library to those areas which are most popular and those which are willing to be purchased by the entity which holds the documents.

6.2 Teaching and learning materials for new technology are unlikely to be incorporated into this arrangement. The reason for this is that these materials would be in various stages of development and so not in a format which would allow them to be purchased as a final outcome. Therefore, these materials for new technology will remain outside of the formal system.

6.3 A suggestion to overcome the problem of new technology teaching and learning materials being excluded from a formal library would be to establish a collaborative arrangement of interested individuals.

6.4 This might be accomplished by setting up a facility on a web site in which individuals could communicate and share materials while the technology is being refined. Examples of such arrangements are available through various professional bodies. The facilitation of this collaborative exercise by the on-line library could lead to a faster development process than if the various experts remained isolated.

[8] *Skilling Australia: new directions for Vocational education and Training,* February 2005, p, vii. Department of Education, Science and Training, 2005

7. Employability skills

7.1 The units of competency contained in training packages has ,as an underlying component, the Mayer Key Competencies[9] which are used to ensure that the person in training will be able to meet workplace requirements. The document[10] for employability skills is being promoted as a replacement for the Mayer competencies. Therefore, it is important that these employability skills be correctly described.

7.2 The Employability Skill that relates to new technology is labelled 'technology that contributes to effective execution of tasks'. This 'skill' has six elements four of which relate to 'IT' and the other two to health and safety and physical capacity. The title of this employability skill and the elements are inappropriate to the task of being able to convey a clear idea as to what technology is and what the individual should be able to demonstrate.

7.3 Apart from the ambiguity of the title of this Employability Skill (which appears to relate only to technology and not to a person), the elements are focused on 'IT'. This limitation to 'IT' will prevent the training community in applying the Mayer concept of 'use technology' widely. That is, the Mayer construct is not technology-centric. The Employability Skill in question here relates only to 'IT'.

7.4 Therefore if funding is to be made for assessments on the basis of the current form of Employability Skills, then there will be some confusion by the training community as to what this skill actually incorporates. The suggestion made here is that the Employability Skill relating to technology be reviewed and rewritten to more correctly display the intent of the skill.

[9] Mayer, E. 1992, *Putting General Education to Work - The Key Competencies* The Australian Education Council and Ministers for Vocational Education, Employment and Training, 1992.
[10] ACCI 2002, *Employability skills for the future.* Department of Education Science and Training. Canberra, ACT.