

A STUDY OF DESIGN EDUCATION IN THE AUSTRALIAN VOCATIONAL EDUCATION AND TRAINING CONTEXT

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ABSTRACT

In this thesis, the TAFE design education system, within the Australian Vocational Education and Training (VET) context, has been investigated with reference to the views, concerns and aspirations of teachers, as one of the important groups of stakeholders influencing the quality of the design programs and their outcomes for graduates. From a critical review of the literature on recent developments in VET, and TAFE design education practices, it is found that there is a clear need for conducting an empirical investigation into the views of TAFE design teachers, especially with respect to their influence on the current, and future, design and operation of TAFE design education. The purpose of this investigation is to identify, from experimental research, the parameters and related variables, which may affect the design and operation of the noted system. With respect to design thinking and processes, it is found that a number of models of the design process exist, and that it is possible to adapt a selected model and use this, at least in general terms, to describe typical developmental phases of a TAFE design education system, all in the context of a systems design/engineering context. This research has developed a novel parametric model and related constituent variables, and carried out a pragmatic experimental program to collect data using one-on-one and focus group interviews. These data have been analysed using NVivo and Leximancer qualitative data analysis software combined with recursive parsing techniques. These software tools have been used to develop a systematic method for classifying, organising and analysing empirical data. From the analysis of these data, it is found that an enhanced parametric model of the noted system can be proposed that is populated with important parameters, and their constituent variables, and informed by the views of the design teachers serving in the participating TAFE institutes. The findings of this research show that the parametric model and pragmatic approach used in this study provide a useful framework for analysing the TAFE design education system, which may also be adapted to study the views of other stakeholders of similar systems. A substantial database of original, empirical information about the noted TAFE design education system has been compiled, which may be applied to inform the current and future design and operation of such systems. Finally, recommendations are made for future research.

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Appendix 2: Full interview transcripts (on DVD in PDF format)

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Appendix 4: NVivo project – software is required to read this project, however it is not essential for reading and understanding of the thesis, as the project data analysis and results have been explained. A trial version of this software may be downloaded from <http://www.qsrinternational.com>

Appendix 5: Leximancer maps – software is required to read these maps, however it is not essential for reading and understanding of the thesis, as the project data analysis and maps have been explained. A trial version of this software may be downloaded from <https://www.leximancer.com>

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DEDICATION AND ACKNOWLEDGEMENTS

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GLOSSARY

This glossary is a selected extract from the VET Glossary that has been compiled by Radhika Naidu¹⁰⁶ [106] and is available as a source on the NVCER website.
www.ncver.edu.au sighted 01/03/2010

Accelerated training

A period of intensive vocational training or re-training which enables individuals to obtain the necessary qualifications in a much shorter period than usual in order to enter an occupation at the required level.

Acceleration

Progression through an education or training program at a faster rate than usual.

Accreditation

The formal recognition of a vocational education and training course by the State or Territory course accrediting body, in accordance with the Standards for State and Territory Registering and Course Accrediting Bodies.

Accredited course

A course that is developed to meet training needs that are not addressed by existing training packages. The National Training Information Service (NTIS) provides details of nationally accredited courses and the training providers that deliver these courses.

Adult education

Education programs designed for adults, often incorporating approaches to education which draw on the learner's life or work experiences, involve learners in planning the learning activities, encourage learning in groups, as well as more self-directed learning.

Adult learning

The processes by which adults learn and build on their existing knowledge and skills.

Australian National Training Authority - ANTA

An Australian government statutory authority established in 1992 to provide a national focus for vocational education and training. From 1 July, 2005, all its responsibilities were transferred to the then Department of Education, Science and Training (DEST).

¹⁰⁶ Naidu, R., (2008), *VET Glossary*, NVCER, Adelaide, SA

ANTA Agreement

A ministerial agreement between the Commonwealth, state and territory governments that provided the basis for joint partnerships between governments, with industry, in the development and refinement of a national vocational education and training system. From 1 July, 2005, the responsibilities of the Australian National Training Authority (ANTA) were transferred to the then Department of Education, Science and Training (DEST).

ANTA Ministerial Council - MINCO

A body, comprised of the Commonwealth, state and territory ministers responsible for vocational education and training, which decided national policy, objectives and priorities for vocational education and training. Now called the Ministerial Council for Vocational and Technical Education (MCVTE).

Australian Quality Training Framework - AQTF

A set of nationally agreed quality assurance arrangements for training and assessment services delivered by Australian training organisations. The AQTF comprises standards for registered training organisations (RTOs) and standards for State and Territory Registering and Course Accrediting Bodies. The first version of AQTF was implemented in 2002. It was revised in 2005 and again in 2007 (AQTF 2007).

AQTF 2007

The current version of the Australian Quality Training Framework (AQTF), effective from 1 July 2007. It comprises: AQTF 2007 Essential Standards for Registration; AQTF 2007 Standards for State and Territory Registering Bodies; and AQTF 2007 Excellence Criteria.

Articulation

The arrangements which facilitate the movement or progression of students from one course to another, or from one education and training sector to another.

Assessment validation

A process where assessors collaborate to compare and evaluate their assessment methods, tools, procedures and decisions against relevant competency standards to ensure quality and consistency in the assessment event.

Australian Qualifications Framework - AQF

A unified system of national qualifications in schools, vocational education and training (TAFEs and private providers) and the higher education sector (mainly universities). The qualifications are: Senior Secondary Certificate of Education; Certificate I; Certificate II; Certificate III; Certificate IV; Diploma; Advanced Diploma; Associate Degree; Bachelor Degree; Vocational Graduate Certificate; Vocational Graduate Diploma; Graduate Certificate; Graduate Diploma; Masters Degree; Doctoral Degree. URL: <http://www.aqf.edu.au/>

Australian Standards Framework - ASF

A set of eight competency levels established by the National Training Board to serve as reference points for the development and recognition of competency standards. The Australian Standards Framework is no longer in use.

Basic skill

A fundamental skill that is the basis of later learning or is essential for employment. The skills and competences needed to function in contemporary society, including listening, speaking, reading, writing and mathematics.

Competency

An individual's demonstrated capacity to perform a task or skill, i.e. the possession of knowledge, skills and personal attributes needed to satisfy the special demands or requirements of a particular situation.

Competency standard

An industry-determined specification of performance which sets out the skills, knowledge and attitudes required to operate effectively in employment. In vocational education and training, competency standards are made up of units of competency, which are themselves made up of elements of competency, together with performance criteria, a range of variables, and an evidence guide. Competency standards are an endorsed component of a training package.

Competency-based assessment - CBA

The gathering and judging of evidence in order to decide whether a person has achieved a standard of competence.

Competency-based training - CBT

Training which develops the skills, knowledge and attitudes required to achieve competency standards.

Contextualisation

Tailoring a unit of competency or module to make it relevant to the specific needs of enterprises, industry sectors or particular client groups. Contextualisation rules are stated both within training package qualifications and accredited courses.

Core competency

A unit of competency within a competency standard that an industry has agreed is essential to be achieved if a person is to be accepted as competent at a particular level. All units may be core, but in many cases competency at a level will involve core units plus optional or specialisation units of competency. Core competencies are normally those central to the work of a particular industry or occupation.

Credit transfer

The granting of status or credit by an institution or training organisation to students for modules (subjects) or units of competency completed at the same or another institution or training organisation.

Current competency

A competency which continues to have currency in an industry or occupation. People can lose competence over time and may need further training and practice to demonstrate current competency.

Department of Education, Employment and Workplace Relations - DEEWR

This new Commonwealth department was created following the 2007 election. It replaces the former Department of Education, Science and Training (DEST) and the Department of Employment and Workplace Relations (DEWR).

Department of Education, Science and Training - DEST

The Commonwealth department that was responsible, from 2001-2007, for school education, career development, training and skills, higher education, research, international education, Indigenous education, and science and innovation. Former Commonwealth departments responsible for education and training were the Department of Employment, Education and Training (DEET), the Department of Employment, Education, Training and Youth Affairs (DEETYA) and the Department of Education, Training and Youth Affairs (DETYA). Following the 2007 election, the newly formed Department of Education, Employment and Workplace Relations (DEEWR) replaced DEST and the Department of Employment and Workplace Relations.

Deveson report

A landmark report prepared by an independent review committee chaired by Ivan Deveson and published in 1990. The report established the concept of the open training market which encourages diversity and competition amongst vocational education and training providers. Its formal title is 'Training costs of award restructuring: report of the Training Costs Review Committee'.

Employability skills

The skills which enable people to gain, keep and progress within employment, including skills in the clusters of work readiness and work habits, interpersonal skills and learning, thinking and adaptability skills.

Endorsement

The term used for the formal approval or recognition by the National Quality Council (NQC) of the core components of a training package, i.e. the competency standards, assessment guidelines and qualifications.

Entry-level skill

A skill required to commence employment in an organisation or more generally, to gain entry into the workforce.

Finn report

This landmark report of a committee of the Australian Education Council chaired by Brian Finn, published in 1991, proposed new national targets for participation and levels of attainment in post-compulsory education and training, recommended reform of entry-level training arrangements, and identified six key areas of competence essential for all young people in preparation for employment. Its full title is 'Young people's participation in post-compulsory education and training'.

Flexible delivery

A range of approaches to providing education and training that give learners greater choice of when, where and how they learn. Flexible delivery may involve distance education, mixed-mode delivery, online learning, self-paced learning, self-directed learning, or combinations of these.

Flexible learning

The provision of a range of learning modes or methods, giving learners greater choice of when, where and how they learn.

Formative assessment

Assessment that takes place at regular intervals during a course with feedback provided along the way to help improve the student's performance.

Generic skill

A skill which is not specific to work in a particular occupation or industry, but is important for work, education and life in general, e.g. communication skills, mathematical skills, organisational skills, computer literacy, interpersonal competence, and analytical skills.

Graded assessment

The practice of assessing and reporting aspects of varying levels of performance in competency-based vocational education and training. It is generally used to recognise excellence.

Hilmer report

The report of the Independent Committee of Inquiry chaired by Professor Fred Hilmer, released in 1993, which provided recommendations on the form, content and implementation of a national competition policy in all aspects of government services. In the vocational education and training sector, this resulted in the development of the open training market. The full title of this report is the 'National competition policy'.

Industry organisation

An organisation representing an industry, including peak business and employer organisations and industry advisory bodies such as the industry skills councils.

Industry Skills Council - ISC

A set of 10 national bodies that have replaced the former national Industry Training Advisory Bodies (ITABs). They provide advice to Australian, state and territory governments on the training that is required by industry. The 10 ISCs are: Agri-Food Industry Skills Council; Community Services and Health Industry Skills Council; Construction and Property Services Industry Skills Council; ElectroComms and Energy Utilities Industry Skills Council; Government Skills Australia; Innovation and Business Industry Skills Council; Manufacturing Industry Skills Council; Resources and Infrastructure Skills Council; Service Industry Skills Council; and Transport and Logistics Industry Skills Council.

Industry Training Advisory Body - ITAB

An autonomous industry body which was recognised by governments as the major source of advice from industry on training matters. ITABs existed at both national and state levels. In 2003, following the restructuring of the national industry training arrangements by the Australian National Training Authority, the national ITABs were replaced by 10 Industry Skills Councils. Some state and territory based ITABs continue to exist.

Informal education

The acquisition of knowledge and skills that usually occurs outside the classroom.

Integrated assessment

An approach to assessment that covers multiple elements and/or units of competence from relevant competency standards. The integrated approach attempts to combine knowledge, understanding, problem solving, technical skills, attitudes and ethics into an assessment task to reduce the time spent on testing and make assessment more 'authentic'.

Kangan report

This landmark report of the Australian Committee on Technical and Further Education (ACOTAFE) chaired by Myer Kangan, published in 1974, examined needs and priorities in technical and further education and made a series of recommendations particularly in relation to funding. The report recognised the importance of technical and further education as an integral part of the nation's education system, and saw its primary role as the development of the individual rather than the development of skilled manpower. The full title of this report is 'TAFE in Australia: report on needs in technical and further education'.

Key competency

Any of several generic skills or competencies considered essential for people to participate effectively in the workforce. Key competencies apply to work generally, rather than being specific to work in a particular occupation or industry. The Finn Report (1991) identified six key areas of competence which were subsequently developed in the Mayer Report (1992) into seven key competencies: collecting, analysing and organising information; communicating ideas and information; planning and organising activities; working with others and in teams; using mathematical ideas and techniques; solving problems; and using technology.

Learning pathway

A path or sequence of learning or experience that can be followed to attain competency. Learning pathways may be included as part of the non-endorsed component of a training package.

Learning strategy

A non-endorsed component of a training package which provides information on how training programs may be organised in workplaces and training institutions. This may include information on learning pathways, model training programs, and training materials.

Lifelong learning

The process of acquiring knowledge or skills throughout life via education, training, work and general life experiences.

Logbook

A record kept by a person of the knowledge, skills or competencies attained during on- or off-the-job training.

Mayer Report

This landmark report of a committee chaired by Eric Mayer, released in 1992, developed the concept of key competencies recommended in the Finn report (1991). The full title of this report is the 'Key competencies: report of the Committee to advise the Australian Education Council and Ministers of Vocational Education, Employment and Training on employment-related key competencies for post-compulsory education and training'.

Multiskilling

Training of workers in a number of skills which enables them to perform a variety of tasks or functions across traditional boundaries. Multiskilling may be horizontal (broad skilling), vertical (upskilling) or diagonal (contributory skilling).

National Framework for the Recognition of Training - NFROT

A framework which established national principles for accreditation of courses, registration of training providers, credit transfer, recognition of prior learning, and assessment. It was replaced by the Australian Recognition Framework (ARF), now the Australian Quality Training Framework (AQTF).

National Training Information Service - NTIS

Developed by federal and state governments to provide access to current and emerging training market information and products in vocational education and training, it comprises a database of vocational education and training accredited courses, competency standards, training packages, and training providers.

Off-the-job training

Training which takes place away from a person's job, usually off the premises, e.g. at TAFE, but may also be on the premises, e.g. in a special training area.

On-site training

Training conducted at the work site (e.g. in a training room) but not on the job.

On-the-job training

Training undertaken in the workplace as part of the productive work of the learner.

OTTE

Office of Training and Tertiary Education in the Victorian Department of Innovation, Industry and Regional Development (DIIRD). Now called Skills Victoria, its role is to plan, regulate and deliver a range of education and training programs and services in Victoria.

URL: <http://www.otte.vic.gov.au/>

Outcomes-based education

An educational system focussed and organised around clearly defined outcomes which students are expected to demonstrate upon completion.

Packaging

The process of grouping competencies in a training package into combinations which represent whole jobs or key functions that are relevant to the workplace.

Performance criteria

The part of a competency standard which specifies the required level of performance to be demonstrated by students to be deemed competent.

Portable skill

A skill or competency that can be transferred from one work context to another.

Prerequisite

In vocational education and training, a requirement for admission to a particular course or module, e.g. satisfactory completion of a specific subject or course, at least five years in the workforce, etc.

Qualification

Certification awarded that recognises the successful completion of a course that has prepared a person for employment and or further education and training.

Quality endorsement

The formal recognition awarded by a state or territory registering or training authority to a registered training organisation (RTO) on the basis of its implementation of a quality system.

Re-training

Training to facilitate entry to a new occupation.

Recognition

The formal approval of training organisations, products and services operating within the vocational education and training sector (as defined by state and territory legislation).

Recognition of prior learning - RPL

The acknowledgement of a person's skills and knowledge acquired through previous training, work or life experience, which may be used to grant status or credit in a subject or module. It can lead to a full qualification in the VET sector.

Reverse articulation

Also called: Reverse transfer

Movement of students from higher education into vocational education and training.

Skill

An ability to perform a particular mental or physical activity that may be developed through vocational training or practice.

Skill development

Also called: Skill formation

The development of work-related skills or competencies through vocational education and training.

South Australian Tertiary Admissions Centre

Acronym: SATAC

Processes and accepts applications for courses on behalf of the four universities in South Australia and TAFE SA.

Structured workplace learning - SWL

Also called: Vocational placement
Work placement

The on-the-job or work placement component of a VET in Schools program. The competencies or 'learning outcomes' commonly reflect nationally recognised, industry-defined competency standards. The student is not paid by the employer.

Summative assessment

Assessment that occurs at a point in time and is carried out to summarise achievement at that point in time. Often more structured than formative assessment, it provides teachers, students and parents with information on student progress and level of achievement.

TAFE

(1) Technical and Further Education, a government training provider which provides a range of technical and vocational education and training courses and other programs (e.g. entry and bridging courses, language and literacy courses, adult basic education courses, Senior Secondary Certificate of Education courses, personal enrichment courses, and small business courses). Each state its own TAFE system: TAFE NSW; TAFE Queensland; TAFESA; TAFEWA; TAFE Tasmania; Office of Training and Tertiary Education in Victoria. Northern Territory and Australian Capital Territory do not have separate TAFE sectors but provide vocational education through the tertiary education sector. (2) An institution offering TAFE courses; a college or institute.

Tertiary admissions centre - TAC

A state-based central office that receives and processes applications for admission to participating higher education providers (providers). Rather than applying separately to each institution, TACs streamline the application process by accepting a single application from a person that contains a list of preferences. The Northern Territory and Tasmania do not have a central admissions office. The following are the TACs for the other states and ACT: New South Wales and Australian Capital Territory - Universities Admissions Centre (UAC); Queensland - Queensland Tertiary Admissions Centre (QTAC); South Australia - South Australian Tertiary Admissions Centre (SATAC); Victoria - Victorian Tertiary Admissions Centre (VTAC); Western Australia - Tertiary Institutions Service Centre (TISC).

Tertiary entrance rank - TER

A ranking of students (usually based on results in the Senior Secondary Certificate of Education) used by universities and some providers of vocational education and training courses when selecting students who will be offered places in particular courses.

Training package

An integrated set of nationally endorsed standards, guidelines and qualifications for training, assessing and recognising people's skills, developed by industry to meet the training needs of an industry or group of industries. Training packages consist of core endorsed components of competency standards, assessment guidelines and qualifications, and optional non-endorsed components of support materials such as learning strategies, assessment resources and professional development materials.

Unaccredited training

Training that does not lead to a nationally recognised qualification. The training activity must have a specified content or predetermined plan designed to develop employment related skills and competencies. It does not include apprenticeships and traineeships and other nationally recognised training.

Unit of competency

A component of a competency standard. A unit of competency is a statement of a key function or role in a particular job or occupation.

Vocational competency

Vocational competency in a particular industry consists of broad industry knowledge and experience, usually combined with a relevant industry qualification. A person who has vocational competency will be familiar with the content of the vocation and will have relevant current experience in the industry. Vocational competencies must be considered on an industry-by-industry basis and with reference to the guidance provided in the assessment guidelines of the relevant training package.

Vocational education and training - VET

Post-compulsory education and training, excluding degree and higher level programs delivered by further education institutions, which provides people with occupational or work-related knowledge and skills. VET also includes programs which provide the basis for subsequent vocational programs. Alternative terms used internationally include technical and vocational education and training (TVET), vocational and technical education and training (VTET), technical and vocational education (TVE), vocational and technical education (VTE), further education and training (FET), and career and technical education (CTE).

Vocational placement

Also called: Structured workplace learning

Work placement

A period of unpaid work with an employer undertaken by vocational education and training students in order to satisfy the requirements of a course or module, with supervision provided by the employer, the training provider or both.

Vocational qualification

Qualifications that are delivered by registered training organisations such as TAFE, private providers and vocational divisions of universities that are nationally recognised.

Work placement

Also called: Structured workplace learning

Vocational placement

A period of unpaid work with an employer undertaken by vocational education and training students in order to satisfy the requirements of a course or module, with supervision provided by the employer, the training provider or both.

Work-based learning - WBL

Programs for both secondary and postsecondary students which provide opportunities to achieve employment-related competencies in the workplace. Work-based learning is often undertaken in conjunction with classroom or related learning, and may take the form of work placements, work experience, workplace mentoring, instruction in general workplace competencies, and broad instruction in all aspects of industry.

Work-based training

Training provided by an organisation primarily for its own employees using the employer's own staff or external consultants. Work-based training can be conducted either on-site or at an off-site location.

Workplace assessment

The gathering and judging of evidence during normal work activities in order to determine whether a required standard of competence, knowledge or skill has been achieved. Workplace assessment usually involves observation of work in progress, checking the product(s) of a work activity, and receiving oral responses to questions posed while work is in progress.

Workplace learning

Learning or training undertaken in the workplace, usually on the job, including on-the-job training under normal operational conditions, and on-site training, which is conducted away from the work process (e.g. in a training room).