

# Change, work and learning: aligning continuing education and training

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GRIFFITH UNIVERSITY

NATIONAL VOCATIONAL EDUCATION  
AND TRAINING RESEARCH AND  
EVALUATION PROGRAM  
WORKING PAPER



Australian Government

Department of Industry, Innovation  
Science, Research and Tertiary Education





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# About the research

## *Change, work and learning: aligning continuing education and training*

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This working paper is the first publication to emerge from a three-year program of research investigating how Australia's tertiary education and training system might best cater for continuing education and training requirements. The authors argue that the current training system is geared towards entry-level provision. They further contend that a range of training models are likely to be required to accommodate the diverse training needs across workers' lives.

The paper sets the scene for the next stages of research. It provides a description of current models of education and training, in this way presenting a framework for understanding the continuing learning needs of Australian workers across their working lives.

The following are covered:

- the purposes of continuing education and training – for the individual, employers and government
- current education and training models
- the various pedagogic practices that support the various education and training models.

The next stage of research involves engaging two industries – health and community services, and transport and logistics – with the aim of appraising how useful the current training and education models are to the continuing training needs of workers in those industries.

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# Executive summary

Continuing education and training is an emerging priority for the nation's tertiary education and training system. Changing work and work requirements, an ageing workforce and longer working lives are some of the factors now shaping this priority. Yet, currently, most of the objectives and structures of Australia's tertiary education system are focused on entry-level provision – preparing people for their occupational roles. However, this kind of provision may not always be compatible with the continuing education and training requirements that ensure the successful functioning of the twenty-first century workplace. It is important therefore to identify the elements – the objectives, structures and processes, and the types of provision – that constitute an effective national continuing education and training system.

The continuing education and training provision appropriate for the twenty-first century workplace is likely to be as much based outside educational institutions as in them and be supported equally by workplace-based practitioners and classroom teachers. In addition, training in educational institutions is likely to be integrated with work activities as much as based around study activities, with a stronger emphasis on individuals' learning than on their being taught. It follows that, within the various models, that is, the different sets of arrangements for provision, the approaches to curriculum and support for learning (as in pedagogies) may well be quite different from those focusing on entry-level training. Furthermore, central to the effective provision of continuing education and training will be individuals directing their own learning in ways that meet their needs.

A national continuing education system that is responsive to individuals, their work requirements and their increasingly longer working lives may require the reshaping of the current tertiary education system; it may also demand a higher level of engagement by Australian workplaces across workers' lives. It is important, therefore, that such changes are informed and facilitated by models and approaches that meet the continuing education needs of the twenty-first century worker and which can be enacted within the current system and Australian workplaces.

This working paper offers some early outcomes of a research project whose central aims are to identify and evaluate potential models and approaches to the provision of continuing education and training. The project is underpinned by the following research question:

*What models and practices of continuing tertiary education and training can best meet workplace demands and sustain Australian workers' ongoing occupational competence and employability across their working lives?*

It is informed by two sub-questions:

- i) What models and practices can support on-the-job learning, allowing workers to acquire the kinds of experiences and expertise that are valued by industry?*
- ii) How best can workers be prepared as active learners to engage in productive learning in the workplace and meet the skill demands of industry?*

The concern here is to identify how best the tertiary education and training system; that is, vocational education and training (VET), adult and community education (ACE), higher education and learning in the workplace, can sustain Australian workers' employability across their longer working

lives and maximise their contribution to the settings in which they work, and, collectively, to the nation's productivity.

It follows that the focus of continuing education and training is likely to be ongoing development across a range of contexts (for example, work, home, colleges etc.) and by means of accessible activities that workers find engaging and meaningful. The approaches adopted are likely to differ according to the scope and extent of learning required by individuals and much continuing education and training provision is likely to take place outside educational institutions and in learners' workplaces. Consequently, a range of models for learning of different kinds and in different contexts and an array of pedagogies to accommodate these diverse conditions are required.

The range of models and pedagogic practices previewed in this working paper constitute a starting point for considering the kinds of models and practices that suit particular continuing education and training needs and which can also be broadly embraced as part of a national provision. The usefulness and applicability of these models and practices is currently being evaluated in two industry sectors, with more sectors to be engaged shortly. A key concern of this evaluation is identifying how the models might assist individuals to maintain their employability across their working lives, including being able to respond to new and emerging workplace challenges, while developing the capacity required for individual advancement (for example, promotion).

The set of models advanced in this paper have the potential to meet localised needs and the capacity to be customised for particular groups of worker—learners, while meeting the needs of industry and training providers. The models are complemented by teaching practices that support learning and which, in different ways, facilitate workers' ongoing development. These models provide an early framework for representing and understanding approaches to the continuing learning needs and requirements of Australian workers across their working lives.

The paper begins by presenting the purpose and focus of the research project being undertaken and then discusses the significance and purposes of continuing education and training in Australia. Following this, a range of curriculum models and a typology of teaching practices are advanced as starting points. To indicate ways in which the different needs and requirements might be translated into a system of continuing education and training, the paper concludes with a framework that takes account of global, national and situational factors that shape this important provision.

# Introduction

*Change, work and learning: aligning continuing tertiary education and training* is the title of a three-year project being undertaken by a team of researchers from Griffith University. The purpose of the project is to identify how best the tertiary education and training system in Australia can support workers' employability across increasingly longer working lives and maximise their contributions to their workplaces, while at the same time meeting their individual learning needs and preferences.

Importantly, the project is concerned not with entry-level training for school leavers, but with the continuing education and training of paid workers already employed in all sorts of jobs.

## Vision statement

The future provision of continuing education and training is likely to be as much based outside educational institutions as in them and supported equally by workplace-based practitioners and classroom teachers. In addition, training in educational institutions is likely to be more integrated with workplace activities, with a stronger emphasis on individuals' learning than on their being taught. With this reconceptualisation of continuing education and training, it follows that approaches to curriculum and support for learning (as in pedagogies) may need to be quite different from those that focus on entry-level training. Moreover, individuals directing their own learning in ways that meet their needs is likely to be a central feature of future provision of continuing education and training.

## Outcomes

At the completion of the project, a set of curriculum models and learning support processes, whose usefulness and applicability have been evaluated across a range of industry sectors and workplaces, will be presented. The models will offer an indication of the ways in which tertiary education providers, employers and employees can work together to improve and develop ongoing learning that effectively meets the needs and circumstances of a range of Australian workers and their workplaces. In all, the project will provide an informed view of how the provision of continuing tertiary education for a range of occupations and kinds of work can best be aligned with individual employability, enterprise and workplace requirements and national workforce development objectives.

## Research approach

The research process comprises interviews, focus groups and consultations with employees, employers, education and training providers and other stakeholders in selected strategic industry sectors to understand and appraise approaches to continuing education and training. Data are being gathered from workers, their employers, practitioners from registered training organisations and from key agents in both regional and metropolitan centres in a number of Australian states. These informants will also help to verify the tentative conclusions and provide advice and recommendations about approaches to continuing education and training.

# Background

The ongoing development of the skills and employability of Australian workers across their working lives is of interest, with both the workplace and workforce requirements changing, and with workers increasingly having to remain workplace-competent (that is, employable) well into the seventh decade of their lives. To date, Australian tertiary education has largely focused on initial occupational preparation, that is, entry-level training, and the objectives, structure and organisation related to this type of provision. Yet, given the necessity for ongoing development, the focus on entry-level training now needs to be broadened to meet the changing skill requirements of Australian workplaces, including an increasing reliance on a mature-age workforce and the probable need for most Australians to have longer working lives (ABS 2008; Ryan & Sinning 2009).

While these imperatives emphasise the need for a shift from a focus on initial preparation to one that also systematically supports continuing education and training, it is far from clear exactly how such a system might be constituted. In this paper it may be useful to assess the efficacy of the existing institutionalised provisions of continuing tertiary education and training to determine how they might be reshaped to meet the challenges of a national system with a focus on sustaining workers and ensuring their employability across their working lives. Indeed, Skills Australia (2010, p.63) claims:

Education and industry service providers who work with businesses ... need to address the use of people's capabilities and skills from the perspective of an enterprise's business strategy and performance imperatives while simultaneously considering the learning needs and outcomes for individual workers.

Skills Australia (2010, p.6) also acknowledges that there is a reciprocal responsibility for industry:

It was ... widely recognised that Australia needs to address not only skills supply (the competence of the workforce) but skills demand (the effectiveness of the workplace in harnessing skills) as shaped by employer practices.

In all likelihood, industry responsibility extends beyond concerns about costs and sponsorship, to active engagement in and the support of continuing education in Australian workplaces. This indicates an initial need to carefully and critically evaluate the alignment between the existing approaches to this provision in the Australian system and current and emerging workplace, workforce and worker requirements.

# Significance of continuing education and training

As workplace and workforce requirements change, continuing education and training becomes a necessity for all kinds and categories of workers across their working lives (Noon & Blyton 2002). These changes include: the kinds of work available; how that work is organised and practised; the occupation-specific requirements of that work; and the people with whom workers need to interact to understand and successfully complete their work (Billett 2006). These changes apply to all occupations and workplaces in various ways. While emerging and dynamic forms of work are accepted as being subject to constant change in the technologies and concepts that underpin them (Barley & Batt 1995), other occupations are equally subject to change (Cervero 2006). Moreover, the pace and extent of these changes are also increasing.

These changes are driving the need for significant transformations in tertiary education and training provisions. Ray (2001), Robinson (2001), Cully (2006) and Karmel (2006) have summarised four imperatives that have shaped the need for such provision:

- the need, prompted by technological change and industrial restructuring, for skilled labour to be competitive in a global market. This need has extended employment-based training from mainly occurring in the regulated trades to other occupations and industry areas
- the upskilling or reskilling of the workforce, partly in response to an ageing workforce and increasing global competition. For example, traineeship and apprenticeship schemes have been extended beyond their normal school leaver cohorts
- the extension of part-time apprenticeships and traineeships and the administration of work-based training through group training organisations to keep pace with changes in how work is organised through outsourcing, casualisation and an emphasis on specialisation
- the review and updating of higher-level VET qualifications to meet changing technologies and increase productivity and competitiveness.

A further initiative designed to transform tertiary education and training provisions and encourage continuing education is the Council of Australian Governments' (COAG 2006) agreement on a package of additional measures to reinvigorate entry-level training and skills recognition in the national VET system.

## Educational purposes and processes

Across most of its history, tertiary education and training has largely focused on initial preparation for occupations (Billett 2011). However, the changes outlined above signal the growing realisation of a need to address the education and training requirements associated with ongoing development across working lives, which will inevitably become more important as the frequency of change increases and working lives lengthen (Ryan & Sinning 2009). Yet, there are distinct purposes towards which the provision of this continuing learning for occupations and working life needs to be directed and particular processes through which this learning might best be managed that are not the same as for those who are preparing to work in an occupation at their entry into working life. These factors need

to be taken into account when considering models of continuing education and training to support learning across working lives.

Firstly, with respect to purposes, the most common difference is focus: whether it is on the individual or on the workplace, although these often come together by degree. In their workplaces, workers consciously or unconsciously engage in learning while performing daily work tasks, although they may not always recognise their development in knowledge, skills, attitudes, values, emotions, beliefs, senses etc. as learning per se (Billett 2001). Arguably, this kind of learning services both the individual and their workplace, as it is directed towards achieving the objectives of the workplace, albeit through developing individuals' capacities to do so. It is likely that any future continuing education and training measures would continue to utilise – and enrich – these ongoing learning experiences and in doing so support learning that benefits both workers and their workplaces.

Some consideration of lifelong learning processes is also relevant to this discussion. Essentially, as most theories of human development propose, individuals learn continuously across their lives; that is, all of the time and in all situations (Sigelman 1999). Hence, the term 'lifelong learning' should be seen as referring to the continuous process of learning that arises as humans think and act, not just as some intentional programmatic approach to learning, as in participating in an educational program. For instance, much work-related learning occurs throughout everyday working life as individuals engage in their work activities and in interactions which require them to improve their existing performance and learn new tasks and roles (Billett 1994). Yet, for the emerging requirements for work practice to be realised, this everyday learning can and needs to be promoted and enriched by additional forms of support (Billett 2001).

The sources of work-related learning thus extend beyond experiences in educational institutions and through deliberate programs (for example, professional development activities) and include such experiences as short-term engagements (for example, acting in new roles, rotational work arrangements) and through activities and interactions in workplace settings. There is also a range of programs offered through the tertiary education and training system, including those presented by private providers, professional bodies and industry associations, usually in facilities and locations away from places of employment.

However, there is also that learning which occurs through experiences in the home, community and social settings, through social media networks, and also across combinations of such settings.

Continuing education and training, when broadly conceptualised in these ways, has important objectives which are associated with sustaining workers over longer working lives through:

- promoting and directing individuals' learning in particular ways
- enabling access to knowledge that might not otherwise be accessible to individuals in their workplace
- promoting particular kinds of learning through intentionally targeted curriculum and pedagogic practices in either educational or workplace settings
- certifying individuals' learning for employment-related purposes.

Continuing education and training, through the provision of relevant experiences, pedagogic practices and administrative arrangements, needs to address objectives such as these.

It follows, therefore, in establishing the scope of this project it is important to understand the:

- purposes for individuals' participation in continuing education and training
- expectations and interests of employers
- expectations and interests of government.

These key elements, which are introduced briefly below, are important because the insights developed through this project will have implications both for the roles of providers of tertiary education and the extent of public and private resources which need to be made available and accessible. These aspects will be examined as the project develops, but are foreshadowed in this working paper.

## Purposes for individuals' participation in continuing education and training

Continuing education and training is largely concerned with maintaining and developing individuals' employability. In this context, there appear to be three broad key objectives for individuals' participation in continuing education and training for work-related goals. These are:

- sustaining employability: continuing to remain employable
- securing employability: transforming occupational role
- developing further individual employability: seeking advancement and promotion.

### Sustaining employability: continuing to remain employable

As occupational and work requirements change, as they constantly do (Barley & Batt 1995; Noon & Blyton 2002), there is a need for workers to develop further their work-related capacities to ensure their ongoing competence and to sustain their employability across their working lives. To this end, individuals need to be supported with continuing education and training across their working lives.

### Securing employability: transforming occupational role

A key change likely to be encountered across the working life is a fluctuating demand for particular occupations. Some occupations increase in demand while others experience reduced demand and some are fundamentally transformed (for example, the printing industry). Consequently, many and perhaps the majority of workers either need or elect to change their occupations during their working lives. This kind of change requires their engagement in continuing education and training to enable employability in new occupations and may include individuals having to learn a new occupation or significantly extending the knowledge base of their existing occupation to enable them to remain in the employment market. Again, in all probability this provision will occur in ways that are quite distinct from the entry-level training undertaken by school leavers.

### Developing further individual employability: seeking advancement and promotion

The educational provisions that assist individuals to meet the goals associated with advancement and promotion also need to be considered. Many individuals seek to engage in new tasks and secure higher levels of remuneration. Therefore, beyond sustaining their employability, individuals might engage in continuing education for advancement and promotion within their occupations, and to position themselves for more secure or preferred working conditions. This provision must have the capacity to

assist individuals to develop further their occupational knowledge or assist them to develop the kinds of capacity required to achieve their career aspirations.

## Summary

Within and across these three objectives, some reasons for undertaking continuing education and training learning activities will be voluntary and directed by individuals' interests and aspirations, while others may be compulsory (for example, occupational or legislated requirements or those imposed by the employer).

Regardless of the three main purposes of participation in continuing education, engagement is based on the assumption that worker—learners:

- are building upon their existing occupational knowledge
- are mature in terms of age, interest and their capacity to be self-directed in their learning
- will have some capacity to autonomously integrate their learning from various sources.

Certainly, there is often a strong imperative for these individuals to exercise interest, discretion and personal agency in the conduct of their learning episodes. This may facilitate a move away from learning being wholly centred on enterprise needs and serve a more individual goal: that of elevating their standing through continuing education.

## Expectations and interests of employers

As proposed above, while some of the concerns about continuing education that engage workers and employers are often shared, in some instances they differ. For instance, employers are likely to be chiefly interested in the improvement of approaches to workforce capacity and enterprise performance to meet current challenges and adapt to emerging challenges in service requirements and/or future markets (Billett & Hayes 2000; Smith & Billett 2003). Curiously, although much is made of employer concerns about the cost of training, studies indicate that employers are mainly concerned about their organisations' capacity to achieve their strategic goals, rather than with cost—benefit analysis (Carnevale & Schulz 1990; Smith & Billett 2003). Of course, this may be truer for larger Australian enterprises than smaller ones. But for both, issues of continuity are important and it is important therefore to understand how the intentions of the worker—learners and the employers align.

## Expectation and interests of government

As a major promoter, sponsor and regulator of tertiary education and training, both federal and state governments are interested in educational provisions that will serve state and national interests, largely through an adequate supply of skills within industry sectors and through the profitability and continuity of individual enterprises (Rubenson 2009). Imperatives here include the continuing education and training system being able to respond to demand-side requirements of an adequate supply of skilled workers, including those that fluctuate at relatively short notice, and being positioned to respond adequately to meet national and state strategic workforce goals (Billett 2000). For instance, there is currently a concern about the availability of skilled workers for the mining sector, upon which Australia depends largely for its export earning capacity. Hence, governments might consider the worth of continuing education and training provisions to address this kind of need.

There is also the issue, noted earlier, of an increasing proportion of the workforce of the future being aged over 45 years. Along with the aged pension entitlement being advanced to age 67, there will be a need for continuing education provision to support a growing proportion of workers who are both older and who need to sustain their employability (including resisting redundancy) longer than for previous generations (Dymock & Billett 2009; Meyers, Billett & Kelly 2010; Ryan & Sinning 2009). Workers who are unable to sustain their employability not only cease to make contributions to the social wage through taxation, they also become recipients of the social wage. Governments are keen to ensure that individuals are able to access the kinds of continuing education and training that will enable them to be productive in the workplace, assist them to transfer to occupations that are in high demand, and support them into their seventh decade.

The major purposes for sustaining, securing and developing employability by each of the three main stakeholders are summarised in table 1.

**Table 1 Stakeholder purposes for sustaining, securing and developing employability**

Stakeholder	Purposes		
	Sustaining employability	Securing employability	Developing employability
Individual	Continuing to remain employable	Transforming occupational role	Seeking advancement and promotion
Employer	Competent workforce to meet current and emerging skills needs	Workforce development – re-engineering workforce	Succession planning
Government	Continued employment and resisting redundancy	Developing the capacities for occupations in demand	Having systems with the capacity to contribute fully and for a long working life

The section that follows considers in more detail some of the potential models and approaches to providing continuing education and training.

# Possible curriculum models

The sections below present a range of models through which continuing education and training currently is, or could be, offered. This is followed by some approaches (pedagogic practices) by which the intended learning outcomes might be secured. As indicated, continuing education that meets the needs of a future workforce is likely to be based more outside educational institutions than in them, to be supported by both workplace-based practitioners and teachers, and involve work activities as well as study activities, with a stronger emphasis on individuals' learning. Indeed, curriculum support for learning will necessarily be quite different from that for entry-level training. Furthermore, individuals will need to be able to direct their own learning so that it fulfils their needs.

This working paper sets out a range of curriculum models, which will be evaluated in particular workplaces or industries, although other models that emerge during the project will also be investigated. Overall, there are three basic modes of continuing education and training provision. These are:

- wholly practice-based
- practice-based experiences with educational interventions
- wholly education institution-based.

However, each of these three models has the potential for distinct variations. Here we have elaborated on the three basic models to arrive at nine variants, each of which has strengths and limitations for particular continuing education and training purposes. The set of models proposed could readily be expanded or reduced in number. What is attempted here is a reasonable scoping of a range of approaches that provide some detail to the three major modes listed above.

## Wholly practice-based experiences

For many, perhaps most, workers, much of the learning across their working life is realised through wholly practice-based (on-the-job) experiences, that is, through the opportunity to engage in everyday activities and interactions in the workplace, whereby they develop further their knowledge often directly or indirectly, through access to more experienced co-workers. Yet, optimising wholly practice-based learning requires worker–learners to have an interest in and capacity to learn actively, to be able to access the learning opportunities available in the workplace, and be self-directed in their work and learning, albeit in independent or interdependent ways. After all, unlike educational institutions, the focus of workplace activities is on securing service and production-based outcomes, and learning is a potential by-product of these activities, not their central purpose.

## Practice-based structured experiences (acting up, rotations)

Individuals' learning across their working life can be supported and promoted by workplace practices which allow them to engage in activities that extend the scope of their work roles and experiences; for instance, the opportunity provided by acting in a different role or by rotating through different work roles. Such organised experiences can develop further individuals' capacities and assist them to engage in learning-related activities that are intrinsically rich, because they are new to the individual. The internal human resource development initiatives such as the performance review

process, workforce development and succession planning afford opportunities for individuals to initiate and engage in this type of practice-based structured experience.

### Practice-based experiences with direct guidance (shadowing, mentoring)

Individuals' learning within their working life can also be enriched by direct guidance by more expert partners. These opportunities can be organised with the intention of increasing the capacity of workers through joint problem-solving and engagement in activities. For example, when developing working teams for addressing new tasks in the workplace, the use of shadowing and mentoring approaches allows novices to learn new skills and thus strengthen the capacity of teams. Although this approach is often seen as typifying what occurs in apprenticeships, it can be used for sustaining individuals' employability and also for supporting their personal or professional advancement.

### Opportunity-based experiences

The nature of some workplaces means that particular opportunities are available for rich learning. These particularly pedagogically rich experiences are well recognised in some occupations, for example, the doctors' grand rounds in hospital wards and the daily handovers in hospital wards by nurses and others. These routine events are an effective means for developing employability capability. In addition, from time to time novel events or interactions occur from which individuals may well benefit, whether through observation or direct participation. For instance, when the 'crash squad' of nurses engages in the resuscitation of a patient in a hospital ward, novice and also experienced nurses and others may observe and learn more about the processes they use and the outcomes of their activities.

### Practice-based experiences with educational interventions (action learning, action research, project work)

Commonly associated with practice-based professional development is the use of educational activities to assist workers to consider, analyse and further develop their understandings of their work. Perhaps most commonly, workers are asked to engage in action learning or action research projects which allow them to consider aspects of their work either procedurally or critically; this enables them to improve their understandings and enhance their practice. This model also includes project-related activities, which are used to achieve workplace goals by developing the capacities of those who participate in them (for example, work improvement projects, quality enhancement projects, training and development projects). For this model the new skills sets and qualifications offer a 'mix and match' of competencies from various training packages and Australian Qualifications Framework (AQF) qualifications to suit particular job descriptions. Successful achievement of these competencies, along with credits gained through recognition of prior learning, can lead to formal credits towards a qualification in the AQF.

Choy et al. (2008) propose two employment-based training models to serve as examples here. The first is an *extension model of entry-level preparation* intended for mature workers or those who are entering a particular occupation after, or on the basis of, success in another (for example, child care centre directors). It is proposed that the employment-based experiences be augmented by an extension education provision (for example, in the evening, at weekends or by distance) to assist the worker—learners to develop their occupational capacities. Their second model, an *extension model*

*for further development*, is intended for ‘mature<sup>1</sup> workers or those who already have completed their initial occupational development and have some experience’ (p.9). It focuses on employment-based experiences, supported by educational activities largely occurring outside work time and not requiring workers to attend the educational institution during the working day. The responsibility for securing such a rich integration of experiences needs to be shared among the educational provider, the workplace and the worker.

## Sandwich/block release experiences

While the ongoing development of workers’ skills can require participation in programs largely based in educational institutions, increasingly these programs are enabling periods of release from the institution into workplaces for a reasonably long period of time, for instance, up to a year. This kind of experience is often referred to as a sandwich program, because the practice-based or workplace component sits in its middle. However, in another model the period of experience takes place at the end of the educational program. For instance, after nurses graduate it is quite common for them to have a 12-month period in hospital settings, engaged in nursing work, before they can be registered as a nurse. This is often referred to as the graduate year or clinical practice (such as for pharmacists). Similar kinds of experiences are required of lawyers and doctors before they can be registered for their particular occupational practice.

## Structured dual experiences (cadetship, apprenticeships)

A common form of initial preparation for an occupation is structured engagement in both the workplace and in an educational institution across the period in which the specific occupational learning takes place. Perhaps this is most commonly understood as the contemporary apprenticeship model, where the apprentices spend time in structured experiences during their indenture in both the workplace and the educational institution. In some situations this comprises a day release program (one day away from work attending an educational institution during the semester) or, alternatively, a block release, when an employee is released to an education institution for a short period of time. A more industry- and individual-focused provision of this approach can also be organised, with workplace-based learning activities focusing on the particular enterprise requirements. The sample in Choy et al.’s (2008) research sought greater control over the workplace component because indentured contracts generally restricted the application and learning to enterprise-specific tasks, thereby limiting their application in other workplaces.

## Structured experiences in educational programs

Some educational programs include periods of structured experience in work settings and are designed to assist students to understand, and subsequently practise with confidence, the particular occupation or the skills that comprise it (for example, practicums, clinicians’ experience in health care settings). These kinds of experiences are becoming increasingly demanded or required across tertiary education and training. Note, for example, the interest in foundation degrees, work-integrated learning and service learning, which feature these kinds of experiences as part of students’ higher education programs. Typically, these sorts of experiences are directed towards individuals becoming employable (that is, developing initial occupational capacities). Whatever the form of structured experiences in educational programs, there is a demand for stronger links between the ‘on

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<sup>1</sup> Maturity = personal maturity, which is combination of age and record in conduct of responsibilities and autonomy of action, which typically comes from adulthood or adult-like roles.

and off' the job training components – linking theory to practice (Choy et al. 2008). Stanwick and Saunders (2004) suggest that, unless there is a strong correlation between qualifications and employment outcomes, uptake of continuing education and training will be limited, especially at higher-level qualifications. They suggest a more structured indenture designed specifically for associate professionals, for instance. In their view, an indentured approach better defines and enhances security of employment during training.

Recent research on employment-based training models found that worker–learners who intend to upgrade their formal qualifications through continuing education and training are interested in gaining holistic experiences (Choy et al. 2008). They prefer to negotiate what is taught, not follow a curriculum or program dictated by their workplace and employer. These worker–learners report preferring to learn from best practice approaches available in their industries and from more experienced others. Hence, training providers may need to organise varied experiences based in different sections of the same worksite or in different workplaces within the same industry. Overall, Choy et al. (2008) contend, that to be effective, the employment-based component needs to uphold five identified requirements: demonstrate pedagogical soundness; be functionally operational; provide quality skills for employment; achieve quality outcomes; and be sustainable over time.

## Wholly education institution-based experiences

Some programs are wholly based in educational institutions and the experiences provided are judged to offer the kinds of learning which individuals require for specific activities. Typically, these kinds of experiences enable individuals to maintain their employability through ongoing development in a new or emerging aspect of a work task (for example, vendor training, software training), initial wholly institution-based preparation for an occupation, and also for personal and professional advancement (for example, first line manager course, instructional skills course).

## Summary

The range of potential models for continuing education and training described above include approaches – the pedagogical strategies – by which particular learning outcomes might be secured. It is suggested that, when considering these models and approaches, the focus be on both what is currently occurring in particular industry sectors ('what is') and also on what should be happening in those sectors ('what should be'). These aspects of the models will be addressed in the practical research activities.

# Pedagogic practices supporting continuing education and training

The learning experiences provided in a particular continuing education and training model are necessarily supported, and enriched, by the specific pedagogic practices adopted. This section of the paper categorises and appraises particular pedagogic strategies that may be used to support the provision of continuing education and training. Eight broadly defined sets of pedagogic practices are listed below.

- *Individual working alone*: engaging with resources, individual project, tertiary/higher education studies)

Perhaps the most typical pedagogic model of continuing education and training/tertiary education and training is the individual who works alone and engages with particular kinds of resources (for example, human, text and interactive electronic) or projects, or in individual study in a program offered by an educational institution. In this instance, individuals may be working through a research or evaluation task or a workplace project. A very common form of this type of engagement is assignment work within educational programs.

- *Dyadic processes*: expert–novice, peer-sharing, joint project, mentoring, coaching, guided learning in the workplace

Direct engagement with and guidance by more expert practitioners who possess the desired occupational capacities is a common and well-tested pedagogic practice. The interactions between novice and expert and between peers or individuals engaging in joint workplace activities permit access to other perspectives and joint problem-solving, which has the potential to extend the scope of participant learning. These interactions in workplace settings often occur through mentoring or coaching arrangements and guided learning by experts as part of everyday work activity.

- *Self-managed and directed group processes*: peer learning, electronic communications and coursework provisions, learning circles

Beyond engaging with more informed or expert others, there are also pedagogic processes whereby individuals engage with peers and others to develop their understanding through processes of sharing, discussion, reconciliation and evaluation of the range of workplace learning tasks. Often these kinds of processes are used to develop capacities which go beyond the domain-specific knowledge required for effective practice. Instead, they can be used for reflection on and advancing understandings of a particular occupational practice.

- *Facilitated/expert guided group processes*: action learning, group-facilitated discussion, learning circles

A variation of the group processes sometimes used in the workplace is the situation where the group is led not by peers but by more experienced workers, who are able to encourage interaction, discussion and reconciliation, while guiding the process of learning in productive ways (that is, avoiding the ‘pooling of ignorance’). This guidance can either be associated with the process of learning, as in action learning, or relate to the content of the learning. These kinds of processes

can occur as part of an educational program, through workplace interactions such as consideration of recent activities, or through everyday processes, for example, handovers in hospital wards or morning briefings in call centres.

- *Integration of experiences in practice and education settings: before, during, after*

One way of enriching students' learning across both the education and practice settings is to include distinct kinds of experiences; these would occur before students engage in practice-based experiences, possibly foreshadowing the work experience and then, importantly, again after they have had some work experiences. Before students participate in practice-based experiences it might be helpful, for instance, to discuss with them how they intend to approach their work activities and what their goals might be. Then, they might be guided in terms of how best they can actively engage and learn, and seek support, during their practicum experience. Another element of this process might occur when the students have completed their practice-based experiences. Sessions could be programmed that enable them to reflect on and share what they have learnt, reconcile these work experiences with their learning and develop some shared understandings.

- *Facilitated collaborative processes in educational programs: group work, projects, inter-professional working)*

Another form of activity that might occur within educational programs is collaborative engagement and learning. For instance, students might engage in a project jointly, rather than individually, and work through the range of activities together, resolving issues together and learning through the process. This kind of activity can extend to students in different occupations working together, that is, interprofessionally. For instance, medical, nursing, physiotherapy and social work students might take responsibility for running hospital wards, albeit supervised by more experienced practitioners. In this way, they will need to interact professionally and learn from each other – about their own occupation but also about working with those in related occupations. In Sweden, for example, one of the researchers observed activities in two hospital wards that were run by students from the medical, nursing, and physiotherapy and social work programs. Beyond learning about their respective disciplines through engagement in authentic activities, this kind of collaborative process may well prepare them for the types of team work required when designing a holistic approach to services for clients.

- *Tutorial processes: face-to-face, distance etc.*

Other ways of enriching student learning apart from presentations or lectures include structured experiences designed to encourage students to consider and discuss the issues, topics and content being taught. These pedagogic practices traditionally occur with a small group of students face to face with a tutor – although often not so small these days. The tutor acts as both a content expert and also a facilitator of students' engagement and discussion and raises and addresses issues the learners may not be able to generate without expert assistance. These kinds of experiences can also be provided at a distance through teleconferences and electronic tutorials.

- *Didactic teaching: lectures, webcasts etc.*

When large amounts of knowledge need to be imparted and explained to learners, didactic teaching methodologies such as lectures or webcasts can be utilised. These can be supported by books of readings prepared for students, illustrations and modelling to assist learners to comprehend the ideas being presented. Although probably the most common form of teaching, this approach needs to be augmented by other kinds of activities that enable students to apply what

they know (and/or have been taught) to an issue, context or practice to enhance their understanding of that knowledge.

Together, these eight distinct approaches to facilitating and enriching learning stand as key components of a framework for continuing education and training provision designed to address the challenges of the future workplace. The framework, while meeting the three identified purposes for engaging in continuing education and training, also allows individuals to fulfil their own interests and motivations and those of their employers. For instance, workers may engage in continuing education and training for work, at work and through work as routine practice. Such engagement may be deliberately built into a knowledge management system by employers to ensure multiskilling and to assist in the identification of future leaders in the organisation – as a part of the workplace culture. Nevertheless, three elements underpin learning arrangements for continuing education and training:

- organisation of experiences, that is, activities and interactions – curriculum
- enriching experiences, that is, the pedagogical arrangements adopted
- learners' personal epistemologies.

# Models of and strategies for continuing education and training

The previous sections presented a range of curriculum models and pedagogic strategies through which continuing education and training might be enriched and through which the intended learning objectives might be realised. When deciding which models and strategies to adopt, the concern should be with both what is currently occurring in particular industry sectors and with what should be happening in those sectors.

Figure 1 presents a framework of continuing education and training provision. The three key purposes for engaging in continuing education and training are indicated in the left-hand side; the centre column presents the nine proposed curriculum models, while the right-hand column gives the eight sets of pedagogic practices which might support the learning within these approaches. Surrounding these sets of purposes, approaches and practices are global, national economic and societal factors that shape the form of these continuing education and training provisions and how they are enacted. The figure also indicates some of the relationships between the various elements.

The possibilities and potential of the models and strategies shown in figure 1, the extent to which they will be supported by public and private sector organisations and governments, the bases upon which their enactment will be supported in the workplace and how they will be assessed are subject to global, national and societal factors (Rubenson 2009). Global demands for goods and services will shape the demand for particular occupations. For instance, the current overseas demand for primary resources such as coal, steel and metals is seeing a boom in the Australian mining sector, while the manufacturing sector does not enjoy similar levels of growth.

The form and location of continuing education and training is likely to vary across particular occupations and sectors, for example, mining as opposed to manufacturing. Furthermore, economic and political imperatives are likely to see some occupations enjoying high levels of support and others less so. For instance, the shortage of medical practitioners means that they are able to attract high levels of government support for their ongoing professional development, whereas elsewhere in the healthcare sector (for example, aged care workers) there is less interest by government, despite an ageing population and a growing need for this provision in the community. In the future, these priorities might be reversed and with it the shape and form of continuing education and training. Similarly, although older workers are becoming an increasingly large component of the workforce, society generally privileges youth over age. This attitude shapes the kinds of continuing education available to workers of different ages in Australian workplaces, with continuing education and training provisions currently prioritised for younger workers (Billett & Dymock 2011).



## Advancing the project

The models and learning strategies presented in figure 1 have implications for the future organisation and provision of continuing education and training in Australia. Together, they form a tentative set of ideas which will guide the progress of the project in its investigation of the models and practices of continuing education and training that best meet workplace demands and maintain Australian workers' ongoing occupational competence and employability across their working lives.

The framework will also help to shape the data-gathering questions and the analysis required in the development of models and the practices to support the on-the-job learning that allows workers to acquire the kinds of experiences and expertise valued by industry. The framework will guide our investigations into how best workers can be prepared as active learners who engage in productive learning in the workplace and meet the skill demands of industry.

The arrangements for continuing education and training rely on partnerships between different stakeholders and these will need to take into account regulatory requirements; education and training delivery; and workplace/employment relations. It is likely that these issues will play out differently for the various industry/occupation and enterprise areas.

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