Continuing education and training models and strategies: an initial appraisal

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NATIONAL VOCATIONAL EDUCATION
AND TRAINING RESEARCH PROGRAM

RESEARCH REPORT

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About the research

Continuing education and training models and strategies: an initial appraisal

Stephen Billett, Amanda Henderson, Sarojni Choy, Darryl Dymock, Ann Kelly, Ray Smith, Ian James, Fred Beven and Jason Lewis, Griffith University

This report arises from a three-year program of research that aims to investigate how best the tertiary education and training system might be organised to maintain the employability of Australian workers across their working lives. Through an investigation of two different industry sectors — community services and health and transport and logistics — the authors evaluate a number of potential training models and strategies that might constitute a national approach to continuing education and training.

Practice-based learning at work with guidance from co-workers was overwhelmingly the preferred model of learning for the workers interviewed and was the most commonly used. Four basic requirements were found to support practice-based learning to enable workers to gain the expertise valued by industry: workplace experience, direct support from experienced others, individualised support for learning and learner engagement.

The authors tentatively propose that an effective continuing education and training system should encompass the following six elements:

- organisation and provision of learning experiences: to assist individuals to gain the knowledge and skills required for their work

- support for developing occupational capacities: includes guidance by experienced and knowledgeable others

- active participation by learners: individuals need to be engaged in learning to improve outcomes

- development of learner agency: managers and those in supervisory roles need to promote the active participation of learners, especially in the absence of more expert partners

- nationally recognised occupational certification: to provide recognition of an individual's capability to perform a particular occupation

- fulfilment of particular workplace requirements: the proposed continuing education and training system needs to accommodate the variability inherent in occupational practice.

In the next phase of the project, workers and managers in other industries and representatives of tertiary education and training organisations will be interviewed to assess the ideas developed in this research.

Tom Karmel
Managing Director, NCVER

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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, new work requirements, an ageing workforce and lengthening working lives are some of the factors now influencing this priority. Yet, many of the purposes and processes of the Australian tertiary education and training system are focused on entry-level provisions — preparing people for initial employment in their chosen occupation — which may not adequately meet the education and training required to respond to changes in work and the requirement for workers to remain employable. Therefore, identifying and establishing an effective national continuing education and training system that meets the needs of Australian workers, workplaces and communities is crucial. This research aims to establish the purposes, processes and provisions for continuing education and training; this involves identifying how best the tertiary education and training system can sustain Australian workers' employability across lengthening working lives.

The kinds of arrangements that support this sustained contribution — 'models' for continuing education and training — comprise the curriculum and pedagogical strategies that support workers' ongoing learning and are likely to be different from those for entry-level training.

This document describes the early findings of a three-year research project, whose aim is to identify and evaluate the potential models and strategies that might constitute a national approach to continuing education and training. The project is shaped 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 further informed by two sub-questions:

- *What models and practices can support on-the-job learning, allowing workers to acquire the kinds of experiences and expertise valued by industry?*

- *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 first phase of the project focused on the generation of a set of models and strategies for continuing tertiary education and training. The models are described in *Change, work and learning: aligning continuing education and training: a working paper* (Billett et al. 2012). This report presents findings from an initial appraisal of these models and strategies undertaken by workers and managers from two industries — community services and health and transport and logistics. The appraisal focused on:

- a range of continuing education and training models and strategies currently used in these industries

- the strengths and limitations of the models in sustaining contemporary workers' occupational competence and employability

- the models and practices that are best suited for workers in the community services and health and transport and logistics industries.

A sample of 51 workers and 26 managers, representing both industries, participated in semi-structured interviews and responded to a written questionnaire.

Findings

Three of the nine models proposed by Billett et al. (2012) stood out as the most common and appropriate for the community services and health and the transport and logistics industries. These are:

- practice-based experiences with direct guidance (for example, shadowing, mentoring)

- opportunity-based experiences (that is, as work events permit)

- practice-based experiences with educational interventions (for example, action learning, action research, project work).

Guidance at work, augmented by practice, was consistently identified by workers as their most significant form of learning. They prefer and value learning that occurs through authentic activities and is delivered by co-workers. The workers and managers also highlighted four practices they considered appropriate for supporting learning in these industry sectors:

- individuals working alone; for example, engaging with resources; individual projects; tertiary/higher education studies

- dyads; for example, expert—novice; peer-sharing; joint project; mentoring; coaching; guided learning in the workplace

- facilitated/expert guided group processes, and as in teaching (for example, action learning; group facilitated discussion; learning circles)

- integration of the experiences delivered in practice and education settings (for example, support provided before, during, and after educational and practice experiences).

These preferred models for supporting learning indicate the need for accommodating more learning experiences in the workplace rather than in an educational institution. Workers suggested that the combination of practice-based experiences with guidance from more experienced others (that is, by experts, co-workers, teachers, trainers) promotes and supports effective learning.

The research also found a high level of alignment in actual and preferred approaches to workers' existing continuing education and training. Workers report largely engaging in learning experiences in their workplaces, supported by other workers and/or external experts, and in ways that can be described as interpersonal. Many manager informants are aware of this preferred approach to learning and support these within their respective enterprises; they see it as viable, sustainable and favoured by the workers. However, this model is practised differently across the two industries, given the circumstances of work activities.

Overall, the data from these two industry sectors suggest four basic requirements for supporting practice-based learning experiences that allow workers to gain the expertise valued by industry. These are:

- *Workplace experiences*: the provision of experiences, including sequencing and access to and engagement in workplace activities that constitute a developmental pathway. For instance, experiences from orientation to the workplace and/or work, to initially working alongside others

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and being provided with guidance, through to opportunities to engage in activities associated with extended forms of employment, and later for advancement.

- *Direct support from experienced others*: this is needed to learn the elements required to perform occupational tasks effectively. Well-known strategies such as modelling, coaching, scaffolding etc. play a key role here. It may be necessary to develop the capacities of those performing these roles to ensure the support provided is effective.

- *Individualised support for learning*: high-quality individualised support is preferred and valued. Associated with this is reaffirming the worth, standing and status of individuals as effective workers and learners.

- *Learner engagement*: the degree to which individuals engage in their learning will be central to its richness and quality. An emphasis on developing them as active learners will be helpful.

These four requirements are integral to the effective provision of practice-based experiences that support workers to actively engage in the processes of working and learning.

Implications

From these initial findings, it is tentatively proposed that effective models of continuing education and training would encompass the following six elements:

- *Organisation and provision of learning experiences*: particular kinds of experiences will need to be organised and provided to assist individuals to gain the knowledge and skills they require for their specific occupation. This might include orientation, followed by a sequence of experiences in which the levels of guidance are gradually decreased and where opportunities are provided for reinforcing what has been learnt and for extending learning to encompass new work requirements.

- *Support for developing occupational capacities*: guidance by experts, teachers and more experienced co-workers is required to assist individuals to learn how to perform specific procedures and engage in strategic activities and to understand the requirements of work. Close engagement with those who can assist individuals to learn appears to be paramount.

- *Active participation by learners*: beyond what is provided for individuals, ultimately it is essential they are deliberately engaged in the process of learning. Individuals decide how they respond to what is provided for them and the degree of effort they exercise in learning both through experiences in practical and educational settings.

- *Development of learner agency*: the promotion of learner agency is essential to achieving 'active participation' in ongoing continuing education and training. The majority of learning across the working life will be in the absence of more expert partners, which requires individuals to be active, focused and capable of initiating their learning. Managers may have a vital role here in encouraging active learning.

- *Nationally recognised occupational certification*: certification of learning is required for all classes of workers to fulfil the needs for employment and the recognition of occupational capability. It needs to be employer- and industry-endorsed to provide a base for securing employment and for career advancement and development within and across industries. Furthermore, it needs to be embedded in the Australian Qualifications Framework (AQF) or allow transition into a qualification at various levels in the framework.

- *Fulfilment of particular workplace requirements*: the proposed national certification needs to accommodate the variations of occupational practice required to meet the needs of particular work situations. While there are sets of stipulated occupational requirements, there are also variations of how those requirements need to be enacted for effective practice.

Introduction

Background

As workplace requirements change, workforce needs are transformed and workers now have lengthening working lives, it is increasingly necessary for Australian workers to continue to develop their skills and employability across their working lives. Australian tertiary education and training has largely focused on initial occupational preparation (that is, entry-level training), and its provisions and structures reflect that emphasis. This pattern is evidenced by a large number of courses at the certificate level, higher levels of funding for these courses and the age cohort of largely school leavers that dominates enrolments in these courses. That focus now needs to be broadened since current models and approaches may not be appropriate for meeting the kinds of continuing education and training needed for adults that enable them to respond to changes in work and workplace requirements. Effective educational provision for this group is likely to be as much based outside educational institutions as in them and supported equally by workplace practitioners and classroom teachers. In addition, to be effective, any training delivered by educational institutions may be integrated with work activities and emphasise individuals' learning, as opposed to focusing on teaching. Elements of these requirements exist in traineeships and apprenticeships (that is, entry-level training), but need to be extended to the provision of continuing education and training.

Because continuing education and training involves sustaining, extending and advancing the existing occupational competencies of working adults, it is necessary to consider educational 'models' that may be quite different from those used in entry-level training. These models may be described as the kinds of arrangements that support sustained learning for employability and which emphasise individuals directing their own learning in ways that meet their needs. For instance, individuals may want to attain certified or non-certified skill sets, with the processes for acquiring them made available through models of continuing education and training. These factors form the rationale for carefully and critically evaluating the alignment between existing approaches to continuing education and training provisions in the Australian tertiary education and training system and current and emerging workplace, workforce and worker requirements.

The three-year research program

Through a three-year project, 'Change, work and learning: aligning continuing education and training', a research team from Griffith University is attempting to systematically appraise how continuing education and training provision might be best ordered, organised and enacted in both education and workplace settings. The project will identify educational models and strategies with the capacity to sustain workers' employability across their working lives and which also meet the workforce development goals of employers and industry sectors. This program of research is guided by the following 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 further informed by two sub-questions:

- *What models and practices can support the on-the-job learning, allowing workers to acquire the kinds of experiences and expertise valued by industry?*

- *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 aim is to identify how the tertiary education and training system (that is, vocational education and training [VET], adult and community education [ACE], higher education, learning in the workplace) can effectively sustain Australian workers' employability across lengthening working lives and maximise their contributions to their workplaces, and, collectively, to the nation's productivity. The first part of the project involved generating a summary of potential models and strategies (see Billett et al. 2012). Nine possible curriculum models were identified for appraisal:

- wholly practice-based experiences

- practice-based structured experiences (for example, acting up, rotational)

- practice-based experiences with direct guidance (for example, shadowing, mentoring)

- opportunity-based experiences (that is, as work events permit)

- practice-based experiences with educational interventions (for example, action learning, action research, project work)

- sandwich/block release experiences

- structured dual experiences (for example, cadetship, apprenticeships)

- structured experiences in educational programs

- wholly educational institution-based experiences.

Learning through these models can also be supported in different ways by worker—learners, experienced workers, workplace trainers and teachers in tertiary education and training institutions that include:

- individuals working alone; for example, engaging with resources; individual projects; tertiary/ higher education studies

- dyads; for example, expert—novice; peer-sharing; joint project; mentoring; coaching etc.; guided learning in the workplace

- self-managed and directed group processes; for example, peer-learning; electronic communications and coursework provisions, learning circles

- facilitated/expert guided group processes, as in teaching (for example, action learning; group facilitated discussion; learning circles)

- integration of experiences in practice and education settings (that is, before, during, after)

- facilitated collaborative processes in educational programs (for example, group work, projects, inter-professional working)

- tutorial processes (for example, face-to-face, distance etc.)

- didactic teaching (for example, lectures, webcast etc.).

Together, these distinct kinds of experiences and means for supporting learning stand as key components of a framework that sets out what might constitute effective models and strategies for continuing education and training.

This report documents an initial investigation with workers and their managers in the community services and health, and transport and logistics industries undertaken in the second half of 2011. The aim of the investigation was to identify how learning experiences and the means for supporting learning are being provided and experienced in these industries and how this learning could be enhanced by action taken by industries, employers and the employees themselves.

Initial investigation of models and strategies

The usefulness of the models and strategies for sustaining workers' occupational competence and employability (reported in Billett et al. 2012) was investigated through discussions with selected informants in metropolitan and regional communities across the community services and health and transport and logistics industries.

Data collection from the two industries concentrated on identifying:

▪ a range of continuing education and training models and strategies currently used in these industries

▪ the strengths and limitations of these models in sustaining contemporary workers' occupational competence and employability

▪ the models and practices that are best suited for workers in the community services and health, and transport and logistics industries.

The sample

A total of 13 organisations, six in aged and disabled care in the community services and health industry (CS&H) and seven in the transport and logistics industry (T&L) participated in the investigation. Nine of these organisations were located in the Brisbane metropolitan area, with the remainder in regional towns and cities in southeast Queensland. The two selected industries have quite distinct work practices, occupational standing and educational linkages, yet both play important strategic roles in national social and economic goals and provide many Australians with employment and careers, in both regional and metropolitan centres.

The community services and health industry was selected because of its significant and growing role in Australia and because it encompasses all the various elements of tertiary education and training. There is also growing interest in skill development nationally through the newly formed Health Workforce Australia, initiated by the Council of Australian Governments (COAG). The Australian community services and health industries employ almost 1.2 million workers, and in the decade to 2009 the industry experienced the fastest workforce growth of all Australian industries — 20% of all new jobs. Furthermore, in a 2010 submission on workforce productivity, the Community Services and Health Industry Skills Council (2010) proposed there should be more innovative partnerships between enterprises and training providers and that the use of workplaces as learning environments should be maximised: 'As reforms in the community services and health industries take hold in the form of new service models, the VET workforce and practitioners will need to effectively understand and facilitate this relationship through their training and assessment process and in partnership with enterprises and industry stakeholders' (Community Services and Health Industry Skills Council 2010, p.4).

The transport and logistics industry was selected because of its strategic importance, its employment of high levels of mature-age workers and its strong small-business profile (90% of 165 000 businesses) (Transport and Logistics Industry Skills Council 2010). With almost half a million employees nationally, the transport and logistics industry network comprises ports, roads, railways, freight terminals,

airports and distribution and materials handling centres. The industry is characterised by diversity of mode, size, freight type, ownership, location, employees' skills and infrastructure requirements.

Within the 13 organisations, data were collected from a total of 71 individuals, comprising 51 employees, or 'workers', and 26 managers or senior training coordinators. About two-thirds of these informants were located in Brisbane, with the remainder in regional towns and cities in southeast Queensland. Most workers were aged between 20 and 50 years, with more workers aged over 50 in the transport industry. In the community services and health industry there was an equal number of workers employed full-time and part-time, while most workers in transport were engaged full-time. All informants had previous work experiences ranging from one to 25 years, which contributed to the richness of the data about their experiences with continuing education and training, as distinct from entry-level training. Over half had been employed in their current jobs between one and five years, with the remainder between six and 40 years. Their workplaces varied in size: between six and 200 or more employees. More transport informants reported working in large organisations than those in community services and health. However, many of the aged care facilities comprise small units of large organisations.

The gender distribution of participants reflected the two industries: community services and health had a higher number of female workers (86%) and managers (73%) and there were more males (82% workers and 73% managers) in the transport and logistics industry. Most of the worker sample (41%) held a qualification at the vocational certificate level and others (6%) had a trade certificate, primary/secondary school certificate (19%), advanced diploma/diploma (18%), bachelor degree (8%) and postgraduate degree (4%). All workers had already met the entry requirements for their current employment. A majority of participants (72.5%) indicated that courses and formal qualifications were very important or essential for developing their ability to do their job and to obtain advancement or other jobs. However, they still prefer learning to occur in the workplace. Employment practices in both these industries are subject to regulatory and licensing requirements, and, while the informants reported engaging in mandatory training programs designed and enacted specifically to meet these requirements, these programs did not necessarily lead to certification that could be used to advance their careers. Nevertheless, these workers were required to engage in continuing education and training to maintain currency of knowledge to meet legislative requirements as well as respond to changes in work.

The informants participated in face-to-face semi-structured interviews using specified schedules of questions (see appendices A and B). The interviews were of 30—40 minutes duration. Most interviews were conducted one to one, but occasionally because of workplace operational requirements small groups were also involved. The sample also responded to written questions containing tick boxes and scales. The NVivo software was used to analyse the interview data and SPSS was used to analyse the quantitative data from the tick boxes and scales.

In the following sections, findings on workers' and managers' perceptions of continuing education and training are reported and discussed and then compared. From these findings, continuing education and training models and support strategies currently used in these industries are identified. The conclusions focus on how the models might be improved in regional and metropolitan communities and across the two industries in one state.

Workers' perceptions of the contributions of workplaces to their learning and development

The informants were asked about how experiences in the workplace supported their learning and development. Their responses consistently indicated that the key emphasis was on the provision of experiences to achieve work goals, rather than on processes directed towards meeting personal learning goals, such as gaining a qualification. This is not surprising, as much ongoing occupational development is aligned with and arises from the provision of specific kinds of experiences in their workplaces (that is, training courses, training programs, specific training interludes, job rotation and guidance etc.). Workers often saw those training programs and intentional learning support as important and legitimate means for learning their occupational practice 'properly'.

Nevertheless, consistently the most common reference to learning was as a product of both a workplace and personal need or imperatives, but mainly realised through everyday work activities. These imperatives arose from a personal concern about the need to learn or be able to do something in the workplace that the individual could not yet perform. For instance, one worker discussed his learning processes after taking up employment in a road transport company:

> I already have most of my things, I mean you learn something new every day, but yet I have the basic knowledge and knowhow, and you learn each day as you're doing it.
>
> (Barney, worker, transport and logistics)

In terms of learning to sustain their current employment, the informants collectively expressed a strong preference for this being realised through guidance and support in their workplaces and while performing their work. Moreover, some work activities had these qualities inherent in them. Those engaged in shared work or teamwork often reported having inbuilt guidance and support and also opportunities for 'shadowing' more experienced workers and gradually engaging in more demanding tasks under their guidance. For instance two interview respondents noted:

> Coming here and working here was a big change for me, not as in driving a vehicle but as in the freight, the freight side of things and knowing produce and what they do at the site. There's been blokes here and they have always pointed out the wrongs and rights.
>
> (Barney, worker, transport and logistics)

> I have a buddy shift, somebody else teaching me and how to do things well.
>
> (Noela, worker, community services and health)

Similarly, Breena, an aged care worker, stated that a supervisor taught her the tasks that she needed to undertake on her first day in the workplace, and her learning continued to be supported because she worked alongside more experienced co-workers and 'just learnt other things from my partner' and because 'we always work in a team'. She observed that these practices were quite standard because aged carers work together, as they habitually require the assistance of others to use the lifting hoist or otherwise move elderly residents. Buddy shifts in aged care are used deliberately to assist individuals to learn effective practice, as are the rotational procedures identified by Ruth (worker, community services and health), in which workers are given shifts in different kinds of work to broaden their knowledge. Queenie, another aged care worker, suggested that working with others and in small groups in the workplace is helpful because 'you learn from others' perspectives and experiences'. Furthermore, Tamara suggested that if you do not know something there is always somebody around you can ask and discuss the issue with.

However, such easy access to guidance may be quite different between the aged care sector and the transport industry. Even where the circumstances of shared work do not exist, as is often the case in road transport, there is evidence of intentional processes being enacted to support learning. For instance, Ivan reported that:

> Sending you out with other drivers, didn't have the same driver every day and they would take you to, they would show you where the jobs were and what to do ... [E]very place you go to is different and you just watch and follow and you picked it up as you went along, and helped along as much as you could and did it yourself. (Ivan, worker, transport and logistics)

In these ways, deliberate attempts are being made in their workplaces to help them understand the goals for work performance and to be effective in the conduct of their work. Certainly, these ways of working provide access to more informed and experienced co-workers who assist other less experienced workers learn through work. Indeed, a key limitation of learning through work is when such support is unavailable. For instance, Brianna, an aged care worker, reported the difficulty of learning to operate a computer system in the absence of manuals and interpersonal support and guidance:

> It would have been a lot easier to learn the job if I had been shown by somebody. Especially somebody who's done it, like the previous lady I replaced. She had been there 15 years. If I'd had a week with her I would have known the job.

Cary, a transport worker, similarly claimed to have no access to support and learnt how to drive a new vehicle independently ('You just had to get in and do it yourself'). It is also evident that consistently across these accounts, more than direct guidance the importance of engaging in work is emphasised as being essential, and that learning the capacities required for their work other than through that work would be very difficult. Again, as Brianna said:

> For this particular job, everything changes every day so ... unless you're doing it on the job, there's no way of learning this position.

Such learning from authentic work activities can be seen as being both the curriculum (work experiences) and workplace pedagogies (support for learning) that facilitate learning. Of course, this ordering of experiences is primarily directed to meet workplace goals. Yet, it also offers workers a means of engaging in and learning about new work roles in structured and reasonably organised ways, and through being permitted to actively engage, and, therefore, learn richly, but at a pace commensurate with their development needs. Indeed, when Ivan (worker, transport and logistics) was asked about how his learning might best be supported, he suggested that the existing arrangements were effective and should not be changed.

Informants repeatedly referred to the effectiveness of the workplace as an environment to continue to develop their employability. Everyday work activities were claimed as being preferable in many instances to organised instructional activities, as Geoff, a truck driver, stated:

> In the truck driving game you've got to do it at work. You really do because online is no good to you ... my main reason for it is quite simple, you are not on the road. The classroom is not going to do the job ... Well, you're not at school, you're out that in an environment which has got nothing to do with the classroom to start with it.

He then elaborated how learning is an ongoing process and arises through undertaking work tasks ('getting on the road'), meeting clients and responding to the changing needs, to new equipment and driving environments (that is, avoiding accidents). Yet, Geoff also referred to learning from others,

including those younger than himself — 'younger fellas' — as a source of learning new concepts and effective practices. As an example, he described how he assists others to learn how to reverse a large truck. He identifies an environment where there is no danger to the driver or of damaging other vehicles (for example, in open car park, paddock), then lets drivers know what they have to do and the parameters for its performance (for example, placing traffic cones to indicate the place into which the truck needs to be reversed) and then leaving the novice driver to engage in self-directed practice. So, the approach adopted here is to set up an environment, but not necessarily to engage in direct teaching. Rather, he establishes a situation in which the drivers learn independently and then he promotes their practice and learning. He also discussed how experts can most effectively engage with drivers for other kinds of learning; that is, in the truck cabin sitting alongside the driver and providing advice.

> If you are going to have a trainer they've got to be in the truck with you, and that's simple …
> Well, to teach them the right way of doing the job and that's how it's got to be done, personally.
> You cannot just send somebody to teaching academy or some dumb thing and a few times around
> the block, which I see going on, like the major trucking driving outfits.
>
> (Geoff, worker, transport and logistics)

Again, he provided a situation-specific activity related directly to the work learners are undertaking, and emphasises effective workplace trainers as being those who can provide relevant and purposeful support for learners. Geoff's approach was supported by other informants from the transport industry. Hayden claimed that the combination of guidance and practice is essential and without the guidance of a more expert partner, the task of learning to sustain skills and employability becomes more difficult. He stated that even accredited driving schools cannot teach you everything. As the demands of work have increased, the requirements for learning for work are now greater, and he suggests that this guidance is even more essential. Ivan stressed this point when claiming that more experienced drivers make an essential contribution to individuals' learning. Once individual drivers have developed initial capacities, he claimed, they can then learn more independently through their work activities.

A sectoral approach to learning was also evident in the views of aged care workers. Like others in the industry, Georgina referred to the need to engage in work activities while being supported by a more experienced co-worker. Her particular emphasis was on a combination of engaging in activities and being guided by a more expert partner. Similarly, Ivy referred to the importance of mentoring and how more experienced workers' mentoring of novices extends to how they organise and conduct their work. So, she said, there are strategic learning outcomes as well as task-specific outcomes that can be learnt through mentoring.

Another model of learning particular workplace requirements was proposed by Larry. It comprised new employees initially working for a few days in the workshop to learn about basic mechanics, then accompanying another driver, before being put in the driver's seat and guided by a more experienced driver. Coaching and mentoring are key elements of this model, as are the structuring and organisation of a set of learning experiences. These strategies progress from a focus on understanding the goals for work, to learning how the work is undertaken. Larry's approach, like others, emphasises the importance of learning from actively engaging in work (that is, hands-on), as novices learn what they have been taught and/or shown. The emphasis on engaging in actual practice was mentioned repeatedly. What is consistent in these accounts of support for learning is the combination of guidance at work, augmented with practice and opportunities for accessing these experiences and forms of support.

Geoff also referred to the limitation sometimes placed on his work, including how it is learnt, suggesting that sometimes less-informed others intervene in ways that make both working and learning more difficult. He referred to individuals in positions of power or authority who lacked the understanding that a skilled worker like him possesses. He also referred to work practices that constrain the range of his activities and thereby limited his learning. These links between work activities and learning are reminders that, beyond intentional learning experiences, a range of factors shapes the potential of the workplace as a learning environment. They also suggest that training programs might well be developed through engagement with those who are to be subject to them, that is, the workers, rather than others who are speaking on their behalf.

Workers' perceptions of the contributions of education and training providers

What is evident in the data is that learning through education and training providers is a key element in the development of occupational knowledge and skills. Such learning experiences, when fully supported by the employer and enacted in small groups both on and off site under the instruction of experts, seem simultaneously expected, accepted and preferred by the informants.

In both industries, a practice of employer-supported and -funded continuing training focused on employer requirements, particularly for the care of the aged and persons with disability. This type of support was reported as causing workers to focus more on their employers' practices than on those for the industry (as reflected in what the training providers offer). Yet, it is the degree and nature of support afforded by their workplaces that was reported as having most impact on workers' learning for current employment through educational providers. This support takes different forms. It varies from workers being fully funded and paid to engage in training specific to their immediate work tasks during their usual working hours, to work activities presenting opportunities to apply skills and knowledge accessed in external training programs, even when undertaken by workers at their own expense and in their own time. This privileging of workplace provisions over those offered by educational providers raises two distinctions which are discussed in the following sections.

Educational provisions at work

Learning experiences (that is, courses) organised through external educational providers were held to be optimum when undertaken at work, during work hours and at no cost to workers. This was the most common form of such educational provision, and was generally enacted by: staff from external providers (registered training organisations) coming to the workplace; or, where the employer was an enterprise registered training organisation, internal trainers providing these experiences 'on the floor'. At work, training by registered training organisations was typically described as formal, planned, regular, specific to immediate work needs, undertaken in groups and enabling workers access to 'new', 'best' and 'proper' practice they could not otherwise learn through work activities alone, as illustrated by this comment:

> Every month we're having training and it's good. I mean we can learn more things and how to do the proper way … They arrange two days in the month so everyone can attend … for all training you get a certificate. (Breena, worker, community services and health)

However, programs offered by educational providers were also held to be desirable by some when they were conducted external to workplaces, albeit during work hours and were employer-funded, including workers' wages. This external provision of educational programs ranged from short two-to-four-hour workshops during the work day at nearby facilities, through to two-to-three-day and even

week-long courses at regional and metropolitan centres, where all costs (that is, fees, wages, accommodation) were paid by employers, sometimes as a reward. Such opportunities are widely appreciated by those who were afforded the experience, as explained by this worker:

> They actually paid my wages for the two days I was down there and they actually paid for me to stay down there.　　　　　　　　　　　　　　　(Karen, worker, community services and health)

The external provision of educational programs typically involved classroom and workshop activities, which were supported by trainers. Importantly, the activities were perceived as directly relevant to the participants' work. Furthermore, the experiences allowed them to appraise current work practices and improve their performance.

Role and efficacy of certified courses

Markedly different from these fully employer-supported short courses are the AQF-certified courses undertaken by workers. These included engaging in certificate III, IV and diploma-level provisions, and were predominantly undertaken through TAFE (technical and further education) institutes. These courses were between six months and three years in duration, usually with some requirement for weekly attendance at a TAFE institute. Employer support of workers ranged from paying fees only, to paying fees and providing time off, to paying fees and wages during training. Engagement in these courses through TAFE and other registered training organisations was advanced through mixtures of on- and off-the-job training experiences, ranging from one-on-one to group and classroom activities, which also required additional activities outside these events (that is, reading books and study guides) when completing online modules. Some respondents noted the difficulty of studying alone in this way. Despite the sentiment expressed consistently throughout the interviews that certificate courses were more demanding than training at work that is not part of a course, respondents typically reported favourably on their experiences in these courses.

> You have to be very disciplined to do study at home on your own without the support of teachers. On the job training is good, but … you do need to go to a classroom with other people around you doing the same thing so you've got support, your peer support and your teacher support as well.
> 　　　　　　　　　　　　　　　　　　　　(Kate, worker, community services and health)

These courses and delivery by TAFE institutes or registered training organisations were generally described as personally encouraging, partially relevant to current employment, but, importantly, more directed to entry into future employment and facilitated by supportive and accessible training staff both on and off the job. They also provided the foundational theory underpinning daily work practices. For the community service and health workers, engaging in and continuing to engage in certificate courses were seemingly considered part of the culture of work. One respondent captured this sentiment well when stating that, on top of all the ongoing training:

> I've done heaps of training here. Just in the last three or four years I've done a Cert IV in Workplace Training and Assessment. I've also done a Cert III in Service Co-ordination but that certificate is now a Diploma course so that's good. Prior to that I've done a Cert IV in Disability which also gave me the skills to do relief supervising work occasionally. Cert IV in Disability I did primarily distance ed. The Cert IV Training and Assessment I actually went to the place, and my Service Co-ordination I did online and distance ed as well.
> 　　　　　　　　　　　　　　　　　　　　(Kayla, worker, community services and health)

The data suggest that educational providers offer opportunities for workers to meet their personal learning goals and offer flexibility in training and delivery. Despite these positive aspects, there were

some reported limitations in educational provision, including lack of access and limited delivery options in some cases. When engaged in these programs, workers also have preferences for particular kinds of activities, particularly group work. Moreover, there was a strong preference for learning from and with others. Perhaps not surprisingly, there was little preference from a cohort that prefers and values learning through authentic activities and co-workers for online and computer-based provision of learning support.

Workers' perceptions of other forms of learning support

Beyond what was provided through work and in educational programs, three other contributing sources were reported as assisting workers' learning: the internet; professional development bodies or outside trainers; and trade magazines, manuals and newsletters. Briefly, accessing the internet on a regular basis (for example, once a week) was reported by the informants as being a common source of new knowledge for a range of purposes but principally to maintain knowledge currency. For example, one respondent stated:

> So there's opportunities for me everywhere if I want. I can do a lot more. It's just a matter of doing a lot of Googling to find out what's going on and what you can get through different services. (Kate, worker, community services and health)

In other cases, useful information came through emails from professional, trade or community organisations. Workers had taken out subscriptions to these organisations or attended training sessions through them. One point about these kinds of contributions is that they require the learners to actively initiate, engage and seek out information and join list servers and access other social media to secure the knowledge they required.

Another source and contribution to learning for some workers was through attendance at professional development activities, including conferences, which, although not accredited training, were considered to be useful because of the applicability and currency of what was learnt. A feature of attendance at conferences was the sharing of information that occurred following their participation at these events (for example, reporting back to colleagues etc.). This practice was particularly evident in the aged care sector. An important role that professional associations serve is to bring workers' attention to new legislation and policies:

> We're involved in different transport groups … so they make us aware of requirements to a certain degree and so we can follow up on information that they supply us for what government regulations are, and that keeps us up to date with training and different technologies that are coming in and all the rest of it. (Hamish, worker, transport and logistics)

In a slightly different way, one worker stated that unions contributed to learning, particularly in addressing issues immediately via telephone. Another reported the contribution of industry representatives who explained the purposes of and/or practices for using new products. One informant commented on the generosity of product suppliers in providing useful information to a degree that was beyond expectations:

> With our product training, our suppliers are very good. They freely give away information that they could basically keep under their own chest, on their own chest. But they're very free; they hand out knowledge, which really helps us in our work here.
>
> (Quade, worker, transport and logistics)

Hard copies of texts (that is, text books and manuals) were not reported as making helpful contributions by the interviewees, although for a few truck drivers, trade magazines provided valued information about changes in legislation that impacted on their driving practices and assisted them to avoid fines. Trade manuals were cited as a source of technical learning, as were company newsletters. These newsletters served two purposes. Like the trade magazines, the former reported changes in the industry, and managers used them to organise meetings to advise about these changes. Because many drivers work on rostered shifts, the means of communication about issues such as legislative changes need to be flexible and easy to access. In one workplace, newsletters were placed in a location that drivers regularly visited. However, overall, these kinds of information sources were not preferred as a way of advancing their knowledge.

Workers' perceptions of imperatives for learning

As indicated above, there were distinct motivations for individuals' participation in continuing education and training. The interview data identified some relationships between intentions for learning and the particular kinds of learning experiences provided. For instance, certified training programs were consistently reported as addressing requirements for external regulation and certification. Workplace support was reported as aiming to meet specific enterprise needs or requirements, while individually directed learning was associated with meeting personal needs (for example, to secure employment or career advancement). Taking this analysis a little further, it is possible to identify four sets of imperatives: mandated or regulated requirements; workplace-specific needs; demands for new equipment or tasks; and personal needs. These imperatives and the kinds of provisions and experiences likely to be implemented to achieve intended outcomes are presented in table 1.

While the first three imperatives in table 1 are mandated by external agents and distinguishable as such, the fourth suggests why individuals might need to engage in the first three.

Table 1   Workers' perceptions of imperatives and practices

Imperative	Instances	Continuing education and training practices
Mandated or regulated requirements	Licences, medication dispensing, driver fatigue, safety, restrictive practice, retention of workers	Participation in training programs that are certified, time off from work to attend programs, workplace sponsorship of those programs
Workplace-specific needs	Particular kinds of equipment, particular approaches to work activities, ways of working	Orientation programs (2–3 days), shadowing, regular update training, buddying, non-certified training programs/sessions, partnering, mentoring, rotations
New equipment or tasks demands	New truck or lifting equipment	Vendor training, engaging with vendor staff, working with more experienced co-workers
Personal needs	To get a job, to remain employed, to secure an advancement, to feel confident in accomplishing tasks	Any of the above depending upon particular needs

There are also some nuances worthy of mention. In the transport industry, it was suggested that employer support for training programs that led to certification (that is, externally mandated) also encompassed imperatives of retention (that is, workplace-mandated). That is, in a labour market characterised by a shortage of skilled workers, beyond ensuring those workers met licensing requirements, the support for training was a means of rewarding and retaining employees. Such is the balance in the labour market situation that employers are using access to training and

attendance in training programs as incentives for drivers to remain with the company and as rewards for effective performance.

> When looking at the turnover rate, and the most common feedback we get is that they leave because they don't feel appreciated, they don't feel as though they can go anywhere with the business. So ... [the company] have taken that on board ... Go back 10 years ago, everyone was operating pretty much the same way. But there wasn't that need [for] a piece of paper ... attitudes towards the need for a piece of paper. Now, in the last 10 years so that has certainly changed in very dramatic way. We said to them, 'We don't want to give you a piece of paper so you can go and find a job elsewhere, but this is saying "thank you" for working with us and doing a great job. This is what you get to stay with us'. (Fiona, manager, transport and logistics)

Similarly, the personal interest and engagement in learning for advancement is also shaped by the willingness of the employer to support access to educational provisions and time off etc. As Bianca states:

> Well, I'm doing a workshop soon. We're constantly doing training to update our skills like that. If I'm eager to upskill they'll send me off to a computer course, or a management course, things like that. Usually, whatever you want there is something available there.
>
> (Bianca, worker, community services and health)

So, it is not just personal interest and engagement that leads to effective ongoing learning, it is also the willingness of employers to support and sponsor these efforts. In this way, the combination of workplace support or positive workplace affordances and engagement are seen as being central to effective learning and meeting both workplace and employee imperatives for work and learning.

The analysis of the workers' interview transcripts suggest that the informants from the two distinct industries are quite consistent in identifying an approach to continuing education and training premised upon the dual provisions of workplace activities and guidance by a more experienced practitioner. These preferences emerge as elements of work practice, particularly within the aged and disability care industry and, as such, are inherent in work activities and interactions. In other circumstances, these provisions, while desirable, cannot always be accessed and are missed when they are not available. Even the provision of education and training programs is most valued when enacted within the work setting and as part of work activities. As noted, these kinds of provisions serve individual, workplace and regulatory requirements, which are often intermingled. That is, individuals need the kind of certification required to work, they prefer to learn in circumstances where they are supported (that is, materially and instructionally) by the workplace, and in doing so meet their employer's obligations and requirements and, by achieving these outcomes, are also able to sustain their employment.

The key exceptions to this overall pattern are in individuals' engagements in lengthy external courses which do not occur in the workplace. Yet, here, the personal imperative is often quite different, in that it is associated with achieving goals which are not a part of or dependent upon the particular workplace situation. That is, the individuals seeking to study for a course are considering career trajectories that might take them away from their current work and workplace. All of the above then can be explained in terms of different imperatives for learning and also processes of learning that emphasise engagement in goal-directed activities with close guidance to secure those goals. These data not only report aspects of what constitutes effective practice in learning to work, but also assist in outlining what constitute some instances of practice-based curriculum and pedagogies in these workplaces.

Having identified these overall trends, it is now necessary to conduct a finer analysis to elaborate further on what kinds and combinations of experiences and forms of support are evident and have the capacity to inform models of continuing education and training.

Workers' considerations of kinds of learning experiences and support

In this section, the informants' responses to a series of options for the organisation of learning experiences and the desired forms of learning support are used to identify what constitutes effective provision of continuing education and training. The workers' experiences are used as a basis for judgments about the effectiveness of a range of models for organising learning experiences and the means of supporting further their learning (that is, strategies). In particular, comparisons between how they initially learnt before commencing their current job; how they would prefer to engage in that learning; how they are currently continuing to learn; and the ways they would prefer to learn are used as the basis for judgments about the quality of those learning experiences. In this way, the data go beyond describing what is currently occurring and takes on the role of suggesting how the provision of continuing education and training should be organised.

Kinds of learning experiences

There were similarities in the patterns of responses from workers in both industries about their kinds of learning experiences; what they would have preferred to have undertaken during their initial learning and currently in their ongoing learning for their working lives. Table 2 presents the aggregated data. In the left-hand column the learning experiences identified in the earlier working paper are listed (see Billett et al. 2012). The informants could indicate one or more kinds of experiences. The columns to the right present data for initial and then continuing occupational learning. Within each of these columns are: those which indicate the responses to the kinds of experiences they had in initially learning their occupation; what their preference for these experiences would have been; those experiences in which they are currently engaging to maintain their employability; and those in which they would prefer to engage. The far right column captures the differences between the actual and preferred.

Table 2   Workers' actual and preferred forms of experiences for initial and ongoing learning

Kinds of learning experiences	Initial occupational learning			Continuing learning		
	Actual n (%)	Prefer n (%)	Diff.	Actual n (%)	Prefer n (%)	Diff.
Everyday learning through work – individually	39 (77)	28 (55)	-11	40 (78)	34 (67)	-6
Everyday learning through work individually – assisted by other workers	40 (78)	36 (71)	-4	42 (82)	36 (71)	-6
Everyday learning + group training courses at work from employer	26 (51)	23 (45)	-3	29 (57)	28 (55)	-1
Everyday learning + training courses away from work (off-site)	23 (45)	19 (37)	-4	18 (35)	20 (40)	-2
On-site learning with individual mentoring: one-to-one	23 (45)	31 (61)	+8	23 (45)	30 (59)	+7
Small group training at work – external provider	24 (47)	25 (49)	+1	24 (47)	29 (57)	+5
Individual training at work – external provider	11 (22)	17 (33)	+6	8 (15)	16 (31)	+6

The experiences these learners have had in the past, how they are currently learning and their preferences for ongoing learning align in some instances. There were three areas where these aligned. First, the respondents indicated a strong preference for both initial and ongoing learning at work in a range of forms, as opposed to having experiences off-site (that is, programs in educational institutions). Second, *Everyday learning through work individually — assisted by other workers* was not only the way workers learnt for their current job, it was the way they were learning now and also a preferred way for learning and maintaining competency for their current jobs. Third, and augmenting the previous point, the informants expressed preferences for individualised experiences or learning in groups and for their learning to be supported by experienced workers in the workplace or by experts from external organisations. Indeed, although not many informants (15%) had experienced *Individual training at work that is supported by an external provider*, noteworthy is the proportion of informants (31%) who prefer this kind of experience. What is not clear from these data is why the emphasis on individualised arrangements with external providers was so prominent. Looking to the data presented earlier, issues of confidence, sense of self, and meeting person-particular needs potentially emerge. However, perhaps not surprisingly, some kinds of experiences were poorly represented and not highly valued by the informants (for example, *block release training off the worksite, apprenticeship type learning*, and *all training done in external training organisations*). Such experiences require time away from work.

These findings highlight two specific demands for alternative arrangements to the current provisions offered by education providers. First, provisions that are different from those organised for entry into employment are required (for example, *individual training at work that is supported by an external provider, block release training off the worksite, apprenticeship type learning* and *all training done in external training organisations*). This finding is perhaps not surprising because the occupations represented by the informants in this investigation are not those which commonly use apprenticeship and traineeship arrangements. Nevertheless, the kinds of practices that are valued in apprenticeship models of learning through work activities while being guided by a more expert counterpart are characteristic of the valued and preferred set of experiences for the workers interviewed. However, where these preferred experiences appear to differ is in the components provided in educational institutions. Second, the findings suggest for existing workers engaged in continuing education and training the need to accommodate more learning experiences in the workplace as opposed to in an institution. This kind of experience can be characterised as *Practice-based experiences with educational interventions*. Certainly, this kind of provision seems to be working effectively in the aged and disability care facilities where instructors from registered training organisations engaged with employees in the workplace. Yet, as noted, there may well be some aspects of the required knowledge that cannot be acquired in this way. However, the data infer the need for educational provisions being extended into the workers' workplaces; that is, to provide for both occupational and workplace needs.

Processes that support learning (pedagogical practices)

The worker informants were also asked to indicate how they were being assisted in their learning for their current job and how they preferred to be assisted for this learning. Again, they were presented with a list of types of support, which had been identified earlier (Billett et al. 2012) and were requested to indicate one or more types they had experienced or would prefer to experience. Table 3 shows the frequencies of their responses. Although the informants were encouraged to indicate provisions other than those on the list in order to explore any novel forms of support, no responses were recorded.

Table 3   Frequencies of actual and preferred means of learning support for current work

	Support for learning	Actual	Rank	Prefer	Rank
		n (%)		n (%)	
1	Direct teaching in a group (e.g. a trainer in a classroom)	31 (61)	3	25 (49)	4
2	Direct teaching by workplace expert	32 (63)	2	34 (67)	2
3	Learning in a self-managed group in the workplace with facilitator	23 (45)	6	24 (47)	5
4	Learning in a group in workplace without facilitator	18 (35)	7	15 (30)	7
5	Group activities in a classroom, guided by trainer or facilitator	24 (47)	5	28 (55)	3
6	Working and sharing with another person on the job	43 (84)	1	39 (77)	1
7	Learning totally online individually with trainer	6 (12)	9	4 (8)	9
8	Self-directed learning individually – online, books, etc	26 (51)	4	17 (33)	6
9	Learning in a classroom or online + applying the new learning in the workplace	18 (35)	7	13 (26)	8
10	Other: by teaching, demonstrations, shadowing employees	2 (4)	10	2 (4)	10

The three most frequently reported forms of learning support were those associated with direct engagement with a co-worker (84%), workplace expert (63%), or trainer in a classroom (61%).This is consistent with the preferences reported in previous sections by workers who wanted engagement with somebody who knew more and with whom they could directly engage. The three most frequent forms of preferred strategies for supporting learning were *Working and sharing with another person on the job* (77%), *Direct teaching by a workplace expert* (67%), and *Group activities in a classroom, guided by a trainer or facilitator* (55%). The frequencies for the first two responses support the preference reported consistently about being based in the workplace and supported by other and more experienced workers. Both these types of practices were common among community services and health workers. *Direct teaching in a group (for example, a trainer in a classroom)* was preferred by 49% and *Learning in a self-managed group in the workplace with a facilitator* was preferred by 47%. About half of the respondents (51%) said they learnt by engaging in *Self-directed learning individually — online, books, etc.* More workers (61%) in the community services and health industry had learnt this way compared with those from transport (41%). However, fewer workers (33%) reported a preference for this kind of self-directed approach to learning. *Learning in a group in workplace without a facilitator* was preferred by 30% and *Learning in a classroom or online and applying the new learning in the workplace* by 26% of the workers. The least preferred way for both industries was *Learning totally online individually with trainer*. This emphasis is consistent with what was reported earlier and is the opposite of what has been experienced. The caution here is that sometimes these modes of learning support are favoured by educational providers for being cost-effective and convenient.

In sum, the combination of practice-based experiences and guidance by more expert others forms the basis of a model that is being used, albeit in distinct ways, across these two industries and is seen to be effective and preferred over others. Even then, the various sources of guidance (that is, by experts, co-workers, teachers, trainers) suggest that this arrangement can be adapted to a range of sources of learning support and is worth including as the basis of a model. Interestingly, what is reported here is well founded in contemporary accounts of learning. Evidently it is the kind of

approach which is operable and sustainable and one that workers would want to engage with. However, such a model differs in its implementation across the two industries: community services and health features opportunities for closely working together and direct guidance, while transport and logistics does not. This suggests that variations of these approaches are required for continuing education, depending upon the circumstances of work and work practice.

Having considered and discussed the perspectives of the workers, it is now appropriate to consider those of managers, supervisors and business owners who make decisions about how best to develop and sustain the skills they require for the effective operation of their business, including how they expend resources.

Managers' perspectives on continuing education and training

A total of 26 managers (11 from aged and disability care and 15 from transport) were interviewed in the first phase of this project. They responded to the same kinds of questions and requests that were made of the workers, with some small variations that accommodated their different roles (see appendix B).

Managers' perceptions of the contribution of the workplace

As might be expected, the managers and training supervisors (hereafter referred to as 'managers') interviewed tended to discuss the place of learning and training through work in terms of their management roles and the expectations of their employing organisations. Consequently, they talked less about employees' individual learning needs and more about the purposes and value of training for their organisation and how it was organised and monitored.

There is considerable consensus amongst managers in both the community services and health and transport and logistics industries on the purposes of learning and training, albeit with some differences in emphases, given the different characters of the two industries. For example, both industries have concerns about recruiting and retaining staff, and training was seen as helping to attract and retain employees. One community services manager said:

> As part of the strategic plan, we basically created a very clear statement that we were looking at developing our workforce, which included significant improvements in the number of people who have qualifications.   (Manager, focus group, community services and health)

Another commonality is a focus on compliance with appropriate practices — safety in the transport industry and following correct procedures in aged and disability care facilities — as exemplified by the following two comments:

> We spend more and more time with our people to teach them the safe practices and also for them to inform us if they think that something needs to be fixed up or can be better, it's a two-way street. We educate everybody and they educate us, to make this a safer place to work.
> (Caleb, manager, transport and logistics)

> We're proactive about trying to make sure that we're up to date and contemporary and following the correct processes.   (Sue, manager, Community services and health)

Differences in emphases arise because of the distinct purposes and practices of the two industries. Transport and logistics is a commercially oriented industry, so the 'bottom line' is always a significant consideration. Hence, as explained by one transport manager, training was provided on the basis of

the organisation's needs for improved productivity. Another described a particular instance of such needs:

> It plays a big part to have a multiskilled workforce. It enables us to be flexible in our operation. It also helps to secure and maintain contracts by having a diverse range of operators being able to swap round.   (Don, manager, transport and logistics)

The community services and health industry, conversely, is more concerned with outcomes for the people cared for by their employees:

> We've got to retrain ourselves all the time because our residents are changing.
>   (Samantha, manager, community services and health)

> I can tell the difference between the staff that have attended things like the [specialist] training;
> I see better outcomes for residents.   (Sue, manager, community services and health)

Yet, despite these distinctions, continuing education and training is becoming increasingly important for both industries because of increasing government legislation and regulations, coupled with a growing requirement for accredited qualifications and other changes to practice. The managers' views presented above reflect the changing nature of workplaces as sites of ongoing learning — out of necessity. Their comments show support for learning in the workplace moving from an ad hoc 'pick it up as you go along' approach, often accompanied by peer support and supervisor mentoring, to a more structured approach, where managers are proactive in promoting, organising and facilitating support for learning and monitoring the outcomes of their support and employees' learning.

This increasingly systematic approach has also resulted in the improved recording of learning achievements, although it seems to be more consistently done in transport and logistics than in community services and health, again because of compliance requirements. Nevertheless, despite the increasing significance of qualifications, 'hands-on' learning on the job continues to be important in both industries. Consequently, peer support for learning and mentoring is likely to continue to be supported in the training and development processes. Also, because of regulatory requirements and the low educational base of many of these workers (that is, 61% with a primary/secondary or vocational certificate), there is a need to ensure that foundational education and certification are in place. Indeed, one community services and health manager was keen to make the point that:

> We've got longer-term care staff here who haven't got any kind of qualification, but you would never even think of trading them for anyone else because they know the job, they know the residents, they've got that drive as well.   (Harriet, manager, community services and health)

Another issue arising from the managers' views about learning through work is the significance of learning across working lives. Employers consider they have a responsibility to maintain and develop their employees' competence, not only to meet mandatory requirements, but also to meet changing clients' needs in transport or in community services and health, as well as to retain staff. Examples were provided of the growing recognition of the need for learning to continue throughout working lives, which led to such initiatives as the development of enterprise registered training organisations, and to employers using access to training to attract and retain employees. Perceptions that industry and organisational cultures may need to change to embrace a broader view of what constitutes 'training' also reflected their social obligations towards lifelong learning. The driving forces behind the increasing involvement of management in encouraging and supporting training are discussed in the next section.

Managers' perceptions of imperatives for learning

Three sets of imperatives emerge from the purposes for training as identified by managers: mandated or regulated provisions; workplace needs; and the introduction of new technologies, practices or systems. Examples of these imperatives and the associated continuing education and training practices are presented in table 4. The middle column provides instances of these imperatives and indicates whether the examples come from transport and logistics or community services and health. The right-hand column aligns a particular kind of continuing education and training practice with the particular instance of required learning.

Table 4   Managers' perceptions of imperatives, instances and continuing education and training practices

Imperative	Instances	Continuing education and training practices
Mandated or regulated requirements	Safety first (13 modules) (T&L)	On-site classroom + practical
	Safety, manual handling, dangerous goods knowledge and skills, pickup and delivery skills, professional driver and forklift operations (T&L)	In-house trainer
	Duty of care; chain of responsibility; drug & alcohol awareness (T&L)	Monthly toolbox meetings
		Occasional 'check-rides'
	Standards training (CS&H)	Regular meetings
	Working with particular client (CS&H)	Key worker + others depending on client type
	Updating practices (CS&H)	Computers + peer support + practice soon after
	New standards (CS&H)	Meetings
	Safe work instructions (T&L)	Demonstrate and practise on the job
New equipment or tasks or systems	New computer scanning system (T&L)	External courses
	New procedures (CS&H)	Manager chats with group of staff
	Kitchen issues (CS&H)	Monthly meeting
	New products (CS&H)	Information sessions from suppliers
	Changes to GPS tracking system (T&L)	One-on-one demo (individually to avoid embarrassment in group)
Workplace-specific needs	Report claims & damages (T&L)	Weekly meeting
	Orientation (T&L)	New employee placed with experienced one
	Admin. training (T&L)	Group training offsite as a block
	Orientation (T&L)	Online programs
	Specialised training (T&L)	External
	Specialised e.g. tanker driving (T&L)	Initial buddy system (3 days to 2 weeks)
	Putting together a load; tying it down (T&L)	Learn more by doing
	In-house software (T&L)	On-site learning
	Dementia & palliative care (CS&H)	In-house + external provider
	All non-accredited training (T&L)	Toolbox meetings; memos
	Client's use of walker (CS&H)	One-on-one or in group – clients learn as well
	Organisation's policy changes (CS&H)	Intranet
	Infection control (not mandatory) (CS&H)	Meeting & handovers (all staff informed)
	Client information (CS&H)	Handover
	Practical skills (bed making, showering etc)	Learned on job
	Safety at work, defensive driving theory (T&L)	Classroom
	New computer system (T&L)	In-car training or bulletin

Managers reported employing different strategies for mandatory training. In transport and logistics, these strategies included: using accredited modules for training purposes, but permitting drivers to elect to complete the remainder of the modules required to qualify for a certificate; having a yearly operational compliance plan; maintaining a central register of new legislation about which depot managers were advised; drivers signing to formally acknowledge they are aware of new legislation; and addressing insurance requirements that limit the kinds of in-truck training that younger drivers can access. In community services and health, one facility closed every year for a week's training to

ensure that all staff met current mandatory training requirements. A strategy employed in both industries was to send selected staff to a training or information session and, on their return, for those staff to share what they had learnt with other staff.

According to managers in both industries, all mandatory training was undertaken in work time, with staff paid to attend in the workplace or externally. Training was increasingly tracked for individuals, particularly in transport, in one case through a learning management system. Health and community care agencies varied between careful tracking at the facility level to ad hoc recording by the unit manager. In both industries, managers said that accidents and other workplace incidents often highlighted a training deficit and triggered retraining for both groups of staff and for individuals.

Among the manager roles reported as being associated with training were: assessing training needs; training and mentoring workers; monitoring training; providing individual support for workers as learners; responding to staff-expressed learning needs; convincing workers of the need for change; and encouraging staff to take advantage of training opportunities. One manager described his role as:

> You're constantly monitoring what training you're giving people to make sure that it's the right training for the right task. (Barry, manager, transport and logistics)

Another manager in the same industry said, 'My role is to point out where they're lacking, and making sure that they pick their game up to be at that level'.

Added to this, a manager in community services and health found that not all employees were keen to engage in training other than what is sponsored:

> Staff still don't go out looking for their own training unless they really want to move ahead and move somewhere else, so it is certainly driven by management or the [sponsoring body] itself. (Irene, manager, community services and health)

On the other hand, another manager in the same industry said: 'Staff are very keen to learn, particularly if they feel it's something that's relevant'.

It seems that the roles of these informants as managers inherently extend to the management of learning opportunities and certification, including motivating staff who are reluctant to participate. Given the very engaged role that has been outlined by them, it becomes clear that managers are now very essential agents in the provision of continuing education and training in these two industry sectors. Their involvement is claimed to be a function central to the effective management of worksites in both industries. Consequently, these managers' perceptions about what constitute worthwhile learning experiences and support, and worthy of sponsorship, underpins affordances by their workplaces.

Managers' perceptions of the contribution of training providers

Two divergent positions are evident in the managers' responses on the role of educational providers in supporting continuing education and training. The first is acknowledgment of the valuable role of registered training organisations, often realised through a partnership based on a relationship with a particular individual or organisation. The second is a perception that some training organisations are more concerned with financial outcomes than with the quality of the training and qualifications they offer. In particular, there were concerns that certificate III qualifications are almost worthless because, either the recipients cannot demonstrate their learning at a practical level, or the certificate does not encompass the learning the managers considered essential for effective workplace performance. Satisfaction with the role of educational providers seems to arise most

consistently when a trusted trainer is involved in the workplace to undertake the training and monitor the outcomes. For example, a manager in a transport company stated:

> The trainer has been in the transport industry so she's very well aware, she's very down to earth. She's able to relate to the staff very well and I think you know, for what work she does, she does a bloody good job.
> (Don, manager, transport and logistics)

Similarly, a manager of a disability care facility stated:

> The RTOs that I've dealt with I've have good working relationships with … They actually came to our workplace and consulted on material that was delivered. It was delivered in the context of the work that we did, and I knew the provider.
> (Eve, manager, community services and health)

The worth of training was also considered in terms of convenient delivery options, availability of staff, and the kinds of learning required. Sometimes staff undertook a course at a TAFE college, although in general on-site training was preferred because finding and paying for replacement staff is a significant challenge. Critics of the accredited training process objected to certain training organisations' inflexibility in tailoring certificate-level courses to a particular workplace and also to their willingness to grant 100% recognition of prior learning (RPL) in cases where no training at all had been undertaken, but staff were certified as meeting the requirements for the qualification level. There was also reference to 'poor quality learning outcomes' in transport and logistics and reported instances of workers in aged and disability care who had completed certificates (particularly certificate III), yet had no practical skills and low levels of English, as exemplified in these two comments:

> I've got one supervisor here who has got so many pieces of paper and she can't even read. She sits at report time everyday and she struggles to read. She's got about four qualifications. I think how can this be, who has assessed her?
> (Eve, manager, community services and health)

> There's this glut of Cert IIIs out there that can do nothing and barely speak English.
> (Katrina, manager, community services and health)

At a transport company, a manager was scathing about the quality of a particular provider:

> It took two years to get 13 people through a Cert III and they came and saw us twice. They didn't do anything else in between, so why did it take them two years? It took them two years to get a trainer to come out and spend one day with each person doing RPLs.
> (Kelly, manager, transport and logistics)

The cost of training through registered training organisations was also a concern for many managers in both industries and influenced how they managed the training:

> The biggest problem that we have, the biggest cost we have is not so much … certainly for that one-off training, it's not so much affording for the person to present the training, it's actually affording the wages of the people who are going to participate in the training.
> (Kim, manager, community services and health)

In both industries, shift work and staggered hours of working caused difficulty in balancing the need for training, the availability of staff and the cost of external providers. Group training on-site is the preferred mode by these managers, but there were also instances of employees undertaking a TAFE course off-site and a cohort enrolled by distance education, with the manager acting as an ad hoc mentor. Some managers also commented on occasional worker resistance in both community services and in transport to undertaking accredited training, particularly among older and, therefore, typically more experienced, workers. The roles of managers have extended to the management of the training function, which includes selecting training providers, making judgments about the adequacy of the

provisions and the potential return to the organisation, and evaluating the total costs to the organisation of having a particular set of training arrangements.

Managers' perceptions of the contribution of other kinds of learning support

As with the worker informants, managers also considered it important to identify other potential sources of learning support for their employees, apart from experiences in the workplace and engaging with training organisations. Typically, they reported less formal ways of learning in the workplace and a more active role for the employer in the learning process.

When asked about other sources of learning such as the internet, newsletters and conferences, managers referred to employer initiatives (for example, company-funded attendance at industry conferences, using e-learning for training and company newsletters and shed meetings). One aged care manager indicated that staff did not have access to computers at work so went online at home. One transport manager was also aware of drivers searching online for current information about new legislation and other relevant topics in their own time. However, these options were not considered by managers as the most viable continuing education options.

Managers' considerations of the various kinds of learning experiences

Again, in ways similar to the requests made of workers, these managers were asked to indicate the main forms of learning currently used in their workplaces. The frequencies of their responses (in descending order) are presented in table 5.

Table 5   Managers' accounts of learning experiences enacted in their workplaces

	Learning experiences being enacted	CS&H	T&L	Total
		(n = 11)	(n = 15)	n (%)
1	Everyday learning through work individually – assisted by other workers	11 (100)	14 (93)	25 (96)
2	Everyday learning through work – individually	9 (82)	12 (80)	21 (81)
3	On-site learning with individual mentoring: one to one	6 (55)	15 (100)	21 (81)
4	Everyday learning + group training courses at work from employer	9 (82)	9 (60)	1 (69)
5	Small group training at work – external provider	8 (73)	9 (60)	17 (65)
6	Everyday learning + training courses away from work (off-site)	5 (46)	6 (40)	11 (42)
7	Training at work + training away from work	3 (27)	6 (40)	9 (35)
8	Block release training off worksite	4 (36)	4(27)	8 (31)
9	Individual training at work – external provider	2 (18)	5 (33)	7 (27)
10	Apprenticeship-type learning	0 (0)	2 (13)	2 (8)
11	All training done in external training organisation	0 (0)	1 (7)	1 (4)
12	Other – partnership	1 (9)	0 (0)	1 (4)

Everyday learning through work individually — assisted by other workers is the kind of learning experience most frequently reported in both industries. Overall, as shown, there is similarity in the patterns of frequency of the use of these different kinds of learning experiences in the two industries. However, there are some nuances. In the transport industry, all workplaces (100%) are engaging in *On-site learning with individual mentoring: one to one*, compared with only 55% of workplaces in the community services and health industry. Twelve workplaces (80%) in the transport industry and nine (82%) in the aged care sector also use *Everyday learning through work — individually*. As reported by these managers, both industries appear to rely more on individual learning with support from other

workers and mentors as a fairly standard provision. *Everyday learning + group training courses at work from employer* is the fourth most popular model used in both industries. A slightly higher percentage of community services and health workplaces (73%) used *Small group training at work — external provider*, with 60% of transport workplaces using this model. Less than half (42%) of the managers (46% from community services and health, 40% from transport) said their workplaces used *Everyday learning + training courses away from work (off-site)*. Overall, given the earlier claims about a highly systematic approach to organising continuing education and training for their workplaces, the accounts of actual learning experiences are very much aligned with the kind of organic approach to learning support which exists in most workplaces, rather than any intentional activities provided and ordered by the workplace.

About a third (27%) of the managers from community services and health and 40% from transport said their workplaces used the model, *Training at work + training away from work*. According to the informants, *Block release training off worksite* was used more frequently in the aged care workplaces (36%) than in transport (27%). Fewer workplaces in community services and health (18%) compared with 33% in the transport industry used *Individual training at work — external provider*. *Apprenticeship-type learning* was not used in community services and health, but in the transport industry, 13% of workplaces used this model. While apprenticeships traditionally meant entry-level training from school, the introduction of mature-age apprenticeships and the need for some workers to retrain for new careers means that apprenticeships can also be a model for continuing education and training. Only one workplace (transport) used the *All training done in external training organisation* model. One manager from the community services and health industry indicated another sort of model, *Partnership*, which is seemingly based upon the kinds of productive working relationships and understandings that characterised accounts of effective on-site trainers, as reported above.

Managers' considerations of the various kinds of learning support

As with the workers, managers were also asked to identify the kinds of learning support currently used in their workplaces. The frequencies of their responses (in descending order) are presented in table 6.

Table 6   Managers' responses to the various kinds of learning support being enacted in their workplaces

	Kinds of learning support being enacted	CS&H	T&L	Total
		(n = 11)	(n = 15)	n (%)
1	Working and sharing with another person on the job	10 (91)	14 (93)	24 (92)
2	Direct teaching by a workplace expert	11 (100)	11 (73)	22 (85)
3	Direct teaching in a group (e.g. a trainer in a classroom)	8 (73)	13 (87)	21 (81)
4	Group activities in a classroom, guided by a trainer or facilitator	6 (55)	8 (53)	14 (54)
5	Learning in a self-managed group in the workplace with facilitator	4 (36)	6 (40)	10 (39)
6	Learning in a classroom or online + applying the new learning in workplace	5 (46)	5 (33)	10 (39)
7	Learning in a group in workplace without facilitator	2 (18)	7 (47)	9 (35)
8	Self-directed learning individually – online, books, etc	3 (27)	4 (27)	7 (27)
9	Learning totally online individually with trainer	0	0	0
10	Other	0	0	0

Working and sharing with another person on the job is the most frequently mentioned kind of learning support used in the workplaces in both industries (91% in the community services and health care and 93% in the transport and logistics industry). Again, this kind of learning support rises organically in most workplaces and is not necessarily the product of intentional planning and enactment by the

workplace management. Yet, it appropriately complements highly systematic approaches to developing the skills of the workforce and retaining those skilled workers.

Notably, all managers from the community services and health industry indicated they used *Direct teaching by a workplace expert*, while 73% of managers from transport indicated this in their responses. In the transport industry, more workplaces (that is, 87%) adopted *Direct teaching in a group (for example, a trainer in a classroom)*, with 73% of the workplaces in the community services and health industry using the same approach. Just over half (53%) of workplaces in the transport industry and 55% in the aged and disability care workplaces also use *Group activities in a classroom, guided by a trainer or facilitator*. Fewer workplaces in community services and health (36%) use *Learning in a self-managed group in the workplace with a facilitator* compared with the 40% in the transport industry who offer this type of support. More managers from community services and health (46%) indicated that *Learning in a classroom or online + applying the new learning in the workplace* is used in their workplaces, compared with 33% from the transport industry. *Learning in a group in workplace without a facilitator* is more commonly used in the transport industry (with 47% workplaces using this approach) than in community services and health (with only 18% workplaces using this approach). *Self-directed learning individually — online, books etc.* is the least common approach used in community services and health (27%) and in transport (27%). None of the managers indicated *Learning totally online individually with trainer* as a learning support in their workplaces.

In sum, it seems that there is a great deal of similarity between what these managers claimed is most frequently being used in the workplace and what workers in these organisation said they had experienced. However, there are some divergences between workers' preferences and managers' practices, which are elaborated in the next section.

Comparing managers' and workers' responses

There is a high level of consistency between how this sample of workers and managers identified the kinds of learning experiences being utilised in their workplaces. The managers' responses are to the question: 'What are the main models of continuing education and training currently used in this workplace?', while the workers respond to: 'In what way(s) are you learning to remain competent in your current job?' An aggregation of these responses is presented in table 7.

Table 7   Workers' and managers' responses to the various kinds of learning experiences

	Kinds of learning experiences	Managers	Rank	Workers	Rank
1	Everyday learning through work – individually	21 (81)	2	40 (78)	2
2	Everyday learning through work – individually assisted by other workers	25 (96)	1	42 (82)	1
3	Everyday learning + group training courses at work from employer	18 (69)	4	29 (57)	3
4	Everyday learning + training courses away from work (off-site)	11 (42)	6	18 (35)	6
5	On-site learning with individual mentoring: one to one	21 (81)	2	23 (45)	5
6	Small group training at work – external provider	17 (65)	5	24 (47)	4
7	Individual training at work – external provider	7 (27)	9	8 (16)	8
8	Training at work + training away from work	9 (35)	7	14 (28)	7
9	Block release training off work-site	8 (31)	8	2 (4)	9
10	Apprenticeship-type learning	2 (8)	10	1 (2)	11
11	All training done in external training organisation	1 (4)	11	4 (8)	10
12	Other	1 (4)	11	4 (8)	10

As can be seen from table 7, there is consistency in workers' preferences for particular kinds of learning experiences and those their manager reports are currently occurring. The findings suggest that workers are largely engaging in learning experiences in their workplaces, supported by other workers and/or external experts and in ways which can be described as interpersonal; that is, a one-on-one or individual relationship with those who are supporting their learning (more experienced co-worker, external expert etc). Engagement with other workers reinforces the practice. The continuing education experiences that are valued are: situated in authentic circumstances of practice; guided by more informed partners; and perceived by workers as meeting and advancing their needs for learning and progress through individually focused means. The factors comprising key elements of an apprenticeship approach to learning — immersed in practice, being guided by more expert partners who monitor learners' progress, and demanding their participation — are also evident here. Nevertheless, the questions and discussions clearly related to continuing education and training, not entry-level occupational learning.

To understand further these kinds of learning experiences, worker and manager informants were also asked about the current means of supporting that learning. Managers were asked to respond to the question: 'What are the main strategies for teaching and learning currently used in this workplace?', while the workers were asked: 'What way/s are already used to assist your learning for your current job?'. Table 8 presents data comparing aggregated responses to these items.

Table 8   Support for learning

	Support for learning	Managers	Rank	Workers	Rank
1	Direct teaching in a group (e.g. a trainer in a classroom)	21 (81)	3	31 (61)	3
2	Direct teaching by a workplace expert	22 (85)	2	32 (63)	2
3	Learning in a self-managed group in the workplace with facilitator	10 (39)	5	23 (45)	6
4	Learning in a group in workplace without facilitator	9 (35)	7	18 (35)	7
5	Group activities in a classroom, guided by trainer or facilitator	14 (54)	4	24 (47)	5
6	Working and sharing with another person on the job	24 (92)	1	43 (84)	1
7	Learning totally online individually with trainer	0	9	6 (12)	9
8	Self-directed learning individually – online, books, etc	7 (27)	8	26 (51)	4
9	Learning in classroom or online + applying new learning in workplaces	10 (39)	5	18 (35)	7
10	Other: by teaching; demonstrations, shadowing employees	0	9	2 (4)	10

The highest ranked means of support for learning across both sets of data are the same. Both managers and workers indicated that *Working and sharing with another person on the job*; *Direct teaching by workplace expert*; and *Direct teaching in a group (for example, a trainer in a classroom)* as being the three most frequent strategies providing and securing support for learning. *Group activities and learning in group* within the workplace was also commonly highly ranked. Having a facilitator for group activities was more common than without a facilitator. None of the managers reported that their workers engaged in *Learning totally online individually with trainer*, although 12% of workers indicated that this was an approach used in their workplace. While about half (51%) of the workers said they engaged in *Self-directed learning individually — online, books etc.,* only 27% managers were aware of this. Strangely, managers were mainly aware of and more interested in learning provisions that were observable in the workplace. Just over a third of the workers (35%) and

managers (39%) said that *Learning in classroom or online + applying the new learning in the workplace* was commonly used.

All of this is consistent with the data provided across the separate analyses reported here and emphasises a strong concurrence between what is being provided to support ongoing learning and what provisions or opportunities are being taken up and preferred for learning. While such concurrence can be dismissed as being merely what these informants are used to and are experiencing, the strong consensus across the two cohorts is also emphasised in workers' accounts of their preferences for particular learning experiences and support for their learning. These patterns are providing consistent evidence of perceptions of efficacy in modes of ongoing development.

Appraisal of models and strategies for the two industries

Three models from a list of nine potential models suggested by Billett et al. (2012) as being most appropriate for these two industry sectors satisfied the expressed requirements of workers and managers in relation to the various approaches to continuing education and training, the desirable types of support for learning and the strengths and limitations of current provisions. These are:

- practice-based experiences with direct guidance (for example, shadowing, mentoring)

- opportunity-based experiences (that is, as work events permit)

- practice-based experiences with educational interventions (for example, action learning, action research, project work).

Guidance at work, augmented by practice and opportunities for accessing these experiences and forms of support, were consistently reported and illustrated by worker informants. They prefer and value learning through authentic activities and from co-workers. However, it is the combination of the benefits of these workplace activities and worker engagement that is central to effective learning and, seemingly, to meeting both the workplace and employee imperatives for work and learning. Engagement in continuing education and training in the workplace is mainly aimed at achieving immediate work goals, rather than meeting personal learning goals, such as gaining a qualification for future employment. Yet, arrangements that were organised and approved by the workplace were important and legitimate means by which workers could learn their occupational practice 'properly', not only for engaging in their work, but also as part of the process of ongoing development required for sustaining these workers' employment.

The three models identified above are considered to be the most appropriate for meeting the continuing education and training needs of the workers in both industries. The data also highlighted four practices that the sample indicated are most appropriate for supporting learning within these three models and for these industry sectors.

- individuals working alone (for example, engaging with resources; individual projects; tertiary/higher education studies)

- dyads (for example, expert—novice; peer-sharing; joint project; mentoring; coaching etc.; guided learning in the workplace)

- facilitated/expert guided group processes, and as in teaching (for example, action learning; group facilitated discussion; learning circles)

- integration of experiences in practice and education settings (that is, before, during, after).

The suggested models and support practices indicate a need to accommodate more learning experiences situated in the workplace as opposed to campus-based training for existing workers engaged in continuing education and training. Aspects of the required knowledge that cannot be acquired in this way can then be augmented by other means. Therefore, variations of the suggested models and practices will need to be considered for different circumstances of work and work practice.

Overall findings and conclusions

In this section, the overall findings and conclusions are mapped against the three research questions:

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 the community services and health and transport and logistics industries?

From the initial findings of this first phase of practical inquiry, it is tentatively proposed that the overall set of models and practices needs to encompass an effective system that includes six elements as follows:

- *Organisation and provision of learning experiences*: particular kinds and sets of experiences will need to be organised and enacted in ways which assist individuals to gain the knowledge and skills they require for the occupation and for the specific workplace requirements of the occupation. These experiences might include orientation, a sequence of experiences with gradually decreasing levels of guidance and the utilisation of opportunities for both reinforcement of the required learning and for extending it.

- *Support for developing occupational capacities*: guidance by experts, teachers and more experienced co-workers is required for assisting individuals to learn how to undertake specific procedures and activities, to develop an understanding of the requirements of work and their specific needs as learners. The requirement for close engagement between learners and those supporting them is paramount. Furthermore, the facilitation skills of those assisting co-workers also need to be developed and promoted in workplace settings as these are the key sites of learning.

- *Active participation by learners*: it is essential that workers are deliberately engaged, active and intentional in their engagement because it is individuals who learn, decide how they respond to what they are provided with, and the effort they will expend to learn both through their experiences in practice and educational settings.

- *Development of learner agency*: to achieve 'active participation' in continuing education and training, promoting learner agency is essential. The vast majority of learning across the working life will be in the absence of more expert partners and therefore requires the individual to be active, focused and effective in their learning, and capable of initiating it. Managers and supervisors will play a vital role in supporting the development of an environment in which workers can exercise their agency in both their work and learning.

- *Nationally recognised occupational certification*: certification of learning is required to fulfil the needs for employment and the recognition of occupational capability for all classes of workers. Having this recognition provides a basis for securing employment and for the formation of occupational identity, the advancement of a career within and across industry sectors, and a platform for individuals' ongoing development across their working lives. The certification needs to be endorsed by the industries that employ individuals in a related occupation and to be seen as

being legitimate for employment and advancement within it. Furthermore, it needs to be embedded in the AQF or allow transition into a qualification at various levels in the framework. A key question here is which institutions are best placed to organise and administer that certification and which agencies are best placed to make these assessments and award certification.

▪ *Meeting particular workplace requirements*: the proposed national certification needs to both tolerate and accommodate the kinds of variations of occupational practice required for particular work situations. While there are sets of stipulated occupational requirements, there are also variations in how those requirements need to be enacted for effective practice in workplaces. Occupational performance is far from uniform because the requirements for work are distinct across different workplaces.

An overview of the evidence for these six elements is presented in table 9.

Table 9   Key elements of a continuing education and training system

Key elements of a continuing education and training system	Evidence
Organisation and provision of learning experiences	Different kinds of experiences need to be organised, ordered and provided depending upon learners' needs or the work requirements to be addressed. Initial workplace orientation, followed by guidance by more experienced workers, followed by independent practice, and later opportunities to engage in training, assist others to learn progressively.
Support for developing occupational capacities	Repeatedly informants emphasise the importance of one-on-one or small group interactions with a more informed counterpart. Much of this enables access to the kinds of procedures and understandings required to perform work tasks effectively via those who are competent, understand its applications and could share it.
Developing learner agency	As much of the learning was occurring through work, these individuals would need to be actively engaged in promoting learning and direct their learning in the absence of support from teachers. This agency is also central to sustaining employability, and seeking advancement and other opportunities for learning and development.
Active and effortful participation by learners	Individuals will need to engage productively and maximise the opportunities provided for learning and development.
Nationally recognised occupational certification	Need for occupational certification and/or licensing that meets industry and government guidelines. Portability of workers within and across industries in demand and where much of the continuing education provisions are work-based and workplace-situated.
Meeting particular workplace requirements	Performance requirements of particular work and workplaces are likely to be distinct (i.e. residential, disability, aged care; haulage, parcel, refrigeration, dangerous good, routes and roads).

What models and practices can support on-the-job learning, allowing workers to acquire the kinds of experiences and expertise that are valued by the community services and health and transport and logistics industries?

The findings from this initial work suggest that, for the workers and managers interviewed, four broad models and practices are most appropriate for the provision of experiences and the acquisition of skills:

▪ *Workplace experiences*: this practice is associated with the organisation, including sequencing, access to and engagement in the workplace activities through which individuals learn. As reported in the data, albeit in different ways across the two industries, there is evidence of the efficacy of the organisation and sequencing of experiences: from orientation to the workplace and/or work, working alongside others when initially engaging with the work, and being provided with guidance from them, through to opportunities later to either assist individuals or to engage in activities associated with advancement and different aspects of employment. In this way, engagement in experiences of work can be organised to promote learning in much the same way as occurs in educational settings.

- *Direct support for learning*: direct support from more experienced partners is needed to develop the capacities required to perform the occupational tasks effectively. Much of this knowledge will not be learnt by discovery alone because it arises from the social world and often take the form of highly specific procedures developed over time. In addition, not all concepts, propositions and other kinds of understandings are easily observable and engaged in. Consequently, it is necessary to have the direct support from an individual who possesses that knowledge. Well-known strategies such as modelling, coaching, scaffolding etc. play a key role here. It may be necessary to develop the capacities of those in the workplace who are providing direct support to assist them to impart this support effectively.

- *Individualised support for learning*: a key and frequently requested element for ensuring the quality of continuing education and training is direct and individualised support for learners. It is repeatedly emphasised in the data that the informants clearly value working closely with those who are providing support to enable the learners' needs and preferences to be understood and addressed. At least part of this requirement is associated with reaffirming the worth, standing and status of the individuals as effective workers and learners. Some of the support will extend to enhancing learner engagement.

- *Learner engagement*: the extent to which individuals engage in this learning will be central to its richness and quality. On occasions these individuals may need some support to engage effectively in both work and learning. In particular, an emphasis on developing their personal epistemologies as active learners will be helpful.

These four interrelated practices might provide the foundation for what should occur in workplaces in terms of the organisation of work-related learning. In all, these practices encompass workers learning through engagement with those who are directly supporting their learning (that is, trainers, co-workers, managers etc.) and the pedagogic practices they are applying to assist that learning. Those whose role is to support learners expressly and actively attempt to meet the needs of those learning in the workplace, who, in turn, are actively engaged in the processes of working and learning. Workplace and individual practices that promote learning through work are depicted in figure 1.

Figure 1   Workplace and individual practices promoting learning through work
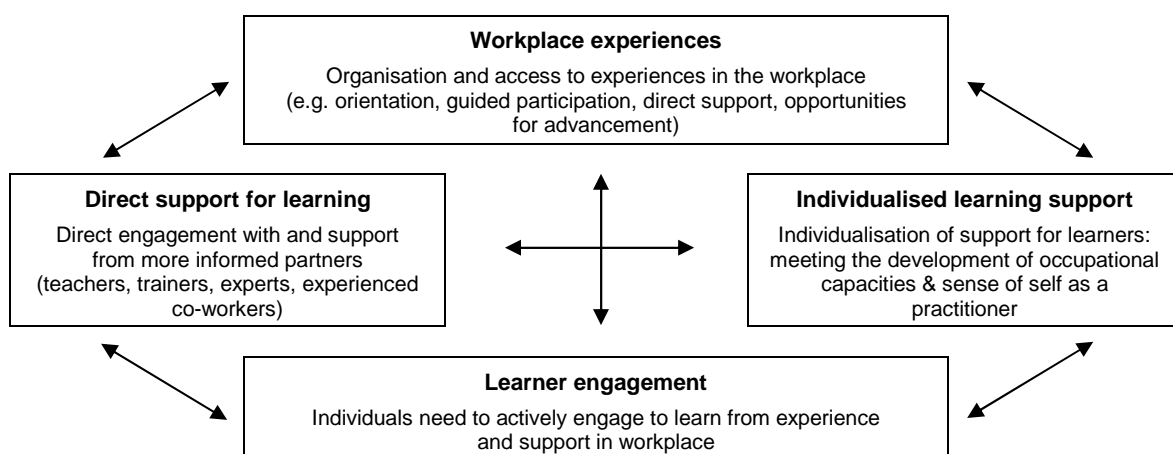
In these ways, on-the-job learning will allow workers to productively acquire the kinds of experiences and expertise valued by industry.

How best can workers be prepared as active learners to engage in productive learning in the workplace and meet the skill demands of industry?

As proposed above, one of the key qualities for individuals effectively continuing to learn about their occupation, to respond to inevitable changes, to take up opportunities and to extend their knowledge into new areas of occupational expertise is premised upon workers being active in their work and learning. Beyond what is provided for workers, there is the necessity for them to become active and engaged learners. This is essential not only for the effective learning of new roles, tasks and responsibilities, but also to maximise opportunities, including those for advancement and extending occupational capacities, as well as engage in new capacities. However, particularly for cohorts of workers such as those interviewed in the two industries, much of the experience required to engage effectively in ongoing learning experiences may be missing because this has not been part of their work-related or educational history. Consequently, it may be necessary to explicitly prepare such individuals as active learners.

Such preparation is effective when it is embedded in meaningful learning for workers. This promotes interest and engagement not achieved when the preparation is directly unrelated to the learners' aims. Embedding such experiences in workplace settings may be the most expedient and effective means to promote this kind of development. This would include an understanding of the importance of learning through observation and imitation (for example, mimesis); how these processes contribute to their learning; and the active role they need to play. Beyond that, strategies associated with active engagement, including questioning the importance of practice and reflecting on recently completed tasks, may well serve as the kind of premise from which effective learning might best progress.

The findings of this appraisal overwhelmingly stress the necessity for continuing education and training to be largely situated in the workplace and to be assisted by co-workers, suggesting that all workers have a role to play in the continuing education and training of the workforce in any one workplace. It becomes necessary then to develop workers' capacities for assisting each other in meaningful ways. A basic understanding of how adults learn and the use of common strategies to support their learning would be useful for workplace-based learning for continuing education and training.

Further appraisal and confirmation of models and strategies

In the next phase of the project, workers and managers in other strategic industries and in selected states will be interviewed to appraise the models and strategies suggested by Billett et al. (2012), as will personnel from tertiary education and training organisations. Conclusions on how the models might be improved in regional and metropolitan communities and across industries will be drawn from discussions with stakeholder groups represented by workers, managers, tertiary education and training practitioners and policy-makers, and industry training bodies.

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Appendix A:
Worker interview schedule

Griffith UNIVERSITY

CET **Continuing education and training research project**

SECTION 1: You and your work

[Please fill in Section 1 ahead of the interview if possible]

1. Name: …………………………………………………………… 2. Gender (M/F) [ ]

NOTE: Names and personal details will not be shown in the research report

3. Age group: [ ] 15-19 [ ] 20-29 [ ] 30-39 [ ] 40-49 [ ] 50-59 [ ] 60-69 [ ] 70+

4. Current job: ……………………………………………………… 5. No. of years in that job [ ]

6. Industry: …………………………………………………………7. Location: [ ] Brisbane [ ] Townsville

8. Employed: [ ] Full-time [ ] Part-time (_ hrs per wk) [ ] Casual (__ av. hrs per wk) [ ] Self-employed

9. Approx No. employees where you work: [ ] 1-5 [ ] 6-10 [ ] 11-20 [ ] 21-99 [ ] 100-199 [ ] 200+

10. Previous job: …………………………………………………… 11. No. of years in that job [ ]

12. Highest qualification (please tick one only)

Postgraduate Degree		Primary or Secondary Education (Final Year or Grade: ___)	
Graduate Diploma or Graduate Certificate		Plus Other (e.g. trade certificate/s) _#1_____	
Bachelor Degree		_#2_____	
Advanced Diploma or Diploma		_#3_____	

In Section 2 that follows, the researcher will ask you questions about your training and learning for work purposes. As shown on the Information Sheet, this interview may be audio-recorded and later transcribed, but is confidential to the research team.

You do not need to write your answers to the questions in Sections 2 and 3, except to tick boxes.

SECTION 2: Learning for work

A. Developing skills for your current job

1. How did you obtain the knowledge and skills you needed for your current job?

2. In what ways did your workplace/employer help developing the skills you need for this job?

3. In what ways did educational providers contribute to that development?

4. In what ways did other people, places, or things have contributed to that development?

5. Looking back, how might any of that support have been improved?

B.   **Maintaining the skills for your current job**

1.   What changes in your current work have required you to learn new things to keep up to date?

2.   Please give me a recent example of how you keep up-to-date for your current job.

3.   How does your workplace support you to remain current in your work skills?

4.   How has any education or training organisation supported you to keep up to date?

5.   What other people, places, or things support your development to keep up to date (e.g. union, prof.

     association, friends, family, internet)?

6.   What changes would you like to see to improve the support you get to keep up to date?

C.   **Skill development to undertake new work roles and seek advancement (promotion)**

1.   Are you undertaking any other development of your knowledge and skills beyond what you need for
     your immediate job?

          a. If **YES**:

     2.   What is your main reason for doing that?

     3.   Who or what provides and supports that development?

     4.   How can any of this additional learning be improved?

          b. If **NO**:

       2.   Why don't you feel you need to undertake further skill development?

       3.   What would cause you to undertake more training for promotion or another job?

       4.   If you do more training for that purpose, how would you like to be able to do that (e.g. at
     work, online)?

D.   **Value of continuing education and training for employability across your working life**

Looking back across your working life so far:

1.   How important have <u>courses and formal qualifications</u> been to you in developing your ability to do your
     job and to obtain advancement or other jobs?

Essential	Very important	Somewhat important	Not very important	Irrelevant

2.   Why have you undertaken those courses in the ways you have (e.g. off-site, on the job, by distance ed)

3.   In what ways have your decisions to obtain qualifications been yours or have been forced on you by
     your employer or other circumstances?

Personal choice	Friends and family suggestions	Employer request	Employer supported	Other:

4.   How important do you think education and training will be to your employability in the future, and why?

3

Section 3: **Models of continuing education and training** [audio-recorder paused]

3a. What <u>were</u> the main way(s) you learnt your current job? (please tick one or more)

Everyday learning through work - individually	Everyday learning through work individually - assisted by other workers	Everyday learning + group training at work from employer	Everyday learning + training away from work (off-site)	On-site learning with individual mentoring: one-to-one	Small group training at work – external provider	Individual training at work – external provider
Training at work + training away from work	Block release training off work-site	Apprenticeship-type learning	All training done in external training organisation	Other – please specify		

3b. What are the way(s) you would have <u>preferred</u> to learn your current job? (please tick one or more)

Everyday learning through work - individually	Everyday learning through work individually - assisted by other workers	Everyday learning + group training at work from employer	Everyday learning + training away from work (off-site)	On-site learning with individual mentoring: one-to-one	Small group training at work – external provider	Individual training at work – external provider
Training at work + training away from work	Block release training off work-site	Apprenticeship-type learning	All training done in external training organisation	Other – please specify		

3c. In what way(s) are you learning to remain competent in your current job? (please tick one or more)

Everyday learning through work - individually	Everyday learning through work individually - assisted by other workers	Everyday learning + group training at work from employer	Everyday learning + training away from work (off-site)	On-site learning with individual mentoring: one-to-one	Small group training at work – external provider	Individual training at work – external provider
Training at work + training away from work	Block release training off work-site	Apprenticeship-type learning	All training done in external training organisation	Other – please specify		

3d. In what way(s) would you <u>prefer</u> to learn to remain competent in your current job? (please tick one or more)

Everyday learning through work - individually	Everyday learning through work individually - assisted by other workers	Everyday learning + group training courses at work from employer	Everyday learning + training away from work (off-site)	On-site learning with individual mentoring: one-to-one	Small group training at work – external provider	Individual training at work – external provider
Training at work + training away from work	Block release training off work-site	Apprenticeship-type learning	All training done in external training organisation	Other – please specify		

3e. What are your reasons for your choices in 3d above of ways you prefer to learn to stay competent? [audio-recorder on]

4. Models of teaching and learning [audio-recorder paused]

4a. What way/s already used to assist your learning for your current job did you like the most (please tick one or more)

Direct teaching in a group (e.g. a trainer in a classroom)	Direct teaching by a workplace expert	Learning in a self-managed group in the workplace with a facilitator	Learning in a group in workplace without a facilitator	Group activities in a classroom, guided by a trainer or facilitator
Working and sharing with another person on the job	Learning totally online individually with trainer r	Self-directed learning individually – online, books, etc.	Learning in a classroom or online + applying the new learning in the workplace	Other – please specify

4b. If you had a choice, what way/s to assist your learning would you like the most (please tick one or more)

Direct teaching in a group (e.g. a trainer in a classroom)	Direct teaching by a workplace expert	Learning in a self-managed group in the workplace with a facilitator	Learning in a group in workplace without a facilitator	Group activities in a classroom, guided by a trainer or facilitator
Working and sharing with another person on the job	Learning totally online individually with trainer r	Self-directed learning individually – online, books, etc.	Learning in a classroom or online + applying the new learning in the workplace	Other – please specify

4c. What are your reasons for your choices in 4b above of ways to assist your learning? [audio-recorder on]

Any other comments about continuing learning across your working life?

Thank you very much for your contribution to this nationally-significant research.

Appendix B: Manager/training supervisor interview schedule

Griffith
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CET **Continuing education and training research project**

SECTION 1: YOU AND YOUR WORK

Please fill in Section 1 ahead of the interview if possible

1.   Name: …………………………………………………… 2.   Gender: M / F
NOTE: *Names and personal details will not be shown in the research report*

3.   Age group (please tick one):

15-19yrs ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60-69 ☐ 70+ ☐

4.   Industry: …………………………………………   5. State: …………….

6.   Current job: ………………………………… 7. No. of years in current job: …. .years

8.   Metropolitan ☐   Rural/Regional ☐

9.   Employment status
  Permanent ☐ Full-time ☐ Part-time ☐ Hrs per wk ……………………..

  Fixed-term ☐ Full-time ☐ Part-time ☐ Length of contract ……………..

  Casual ☐ Full-time ☐ Part-time ☐ Hrs per wk ……………………..

10.   Approx. no. of employees at the site where you work (e.g. factory/mine/care centre/office)

1-5 ☐ 6-10 ☐ 11-20 ☐ 21-99 ☐ 100-199 ☐ 200+ ☐

11.   Previous job………………………………………..12. No. of years in that job: ….. years

13.   Qualifications (Please tick all that apply)

Final Year Grade of Secondary Education					
Vocational Certificate: Certificate I/II		Certificate III/Trade Certificate		Certificate IV	
Diploma/Advanced Diploma		Bachelor Degree		Postgrad qual	

Other: _____

In the sections that follow your responses to the questions will be audio-recorded and later transcribed, but are confidential to the research team.

SECTION 2: YOUR WORKING CAREER BEFORE CURRENT JOB
[Audio recorder ON]

14. Can you please tell me about the qualifications you have acquired since you left school. How did you do that training and who provided it?

15. What other sorts of training and learning have you done, apart from those qualifications, before you started your present job. For example, did you learn other things on the job?

16. Looking back on the period since you left school and before you got your current job, is there anything you would change about how you learned and trained?

SECTION 3: YOUR CURRENT JOB

17. In what ways has your current job changed in recent years?

18. What kinds of changes do you expect to occur in your job in the future?

SECTION 4: WAYS TRAINING IS PROVIDED – CURRENT JOB   [Audio recorder OFF]

19. What kinds of training are provided to keep your knowledge and skills updated in your current job? Please tick all that apply, and indicate three most preferred ways.

Training organised by	Ways training is provided in current job to keep up-to-date	Please tick all that apply	Most preferred (tick up to 3)
Employer	Individual mentoring by supervisor		
	Individual peer support from experienced worker/s (e.g. buddy system)		
	Small group meetings/discussion in workplace with manager, in-house trainer etc (e.g. staff meetings, shed meetings)		
	Small group training in workplace with manager, in-house trainer etc (e.g. classroom teaching)		
	External trainer (e.g. RTO) in workplace		
	External trainer (e.g. RTO, professional association) off-site		
	Training through supplier, manufacturer, etc (on- or off-site)		
	Online courses (developed within organisation or externally)		
Self-selected	Off-site or online education or training through external provider, not arranged by employer		
Some other agency	e.g. training organised by a union, professional association (please state) _____		

20. Are there better ways for you keep up to date? If so, what are they?

SECTION 5: WAYS LEARNING IS ASSISTED – CURRENT JOB

21. What kinds of assistance do you get in order to keep your knowledge and skills updated for your current job? Tick one column at a time.

Ways learning is assisted in current job to keep up-to-date	Please tick all that apply	How often? F=frequently S=sometimes R=rarely	Ways I prefer to learn (tick up to 3)
I do it myself individually – e.g. pick it up as I go, read manuals and journals, go online			
I learn individually from other workers – e.g. ask questions, observe, listen, discuss			
I stay updated through a professional network, or through friends and family			
An experienced person – e.g. supervisor, on-site trainer – trains or mentors me <u>individually</u> in the workplace			
An experienced person – e.g. supervisor, on-site trainer – trains me in the workplace <u>as part of a group</u>			
An external trainer (e.g from RTO) trains me <u>in the workplace individually</u>			
An external trainer trains me (e.g. from RTO) <u>in the workplace as part of a group</u>			
An external trainer trains me (e.g. from RTO) <u>off-site</u> as part of a group			
Other: _____			

[Audio recorder ON]

22. Please tell me why you have ticked those preferences in the right hand column in the two tables above – Item 19: 'Ways training is provided', and then item 21: 'Ways learning is assisted'?.

SECTION 6: LEARNING SOMETHING NEW

Please think about when you recently learnt something specific for your job.

23. What was it that you learned?

24. Who or what assisted your learning?

25. How long did it take you to learn it?

26. In the table below, please indicate how you learned it.

Ways I learned something new at work	Please tick All that apply
I did it myself individually – e.g. picked it up as I went, read manuals and journals, went online	
I learned individually from other workers – e.g. asked questions, observed, listened, discussed	
I learned through a professional network, or through friends and family	
An experienced person – e.g. supervisor, on-site trainer – trained me <u>individually</u> in	

the workplace	
An experienced person – e.g. supervisor, on-site trainer – trained me in the workplace <u>as part of a group</u>	
An external trainer (e.g from RTO) trained me <u>in the workplace individually</u>	
An external trainer trained me (e.g from RTO) <u>in the workplace as part of a group</u>	
An external trainer (e.g from RTO) trained me <u>off-site individually</u>	
An external trainer trained me (e.g from RTO) <u>off-site as part of a group</u>	
Other: _____	

27. Please comment on the effectiveness of the ways you learnt something new.

SECTION 7: ASSESSMENT AND CERTIFICATION

28. What assessment is used in your workplace to certify the skills and knowledge you have learnt?

32. How important is it for your skills and knowledge to be assessed and certified [that is, recognised/ accredited towards a qualification (eg. certificate), as you ticked for Question 13 on Page1]?

Essential		Very important		Important		Not important		Not relevant	

33. Please tell me why you have ticked that particular box about the importance of assessment and certification.
34. How should the assessment of skills and knowledge be undertaken for your work?

35. Who should be responsible for certifying your skills and learning (e,g. a training organisation (e.g. RTO, TAFE), your industry's Skills Council, another industry body, etc, and why?

SECTION 8: FUTURE CAREER

36. Do you have any plans for promotion, or to move from this job into something else?

37. If yes, is training for that promotion or move part of your plan? If so, what sort of training? If training isn't important for it, why is that?

38. If you have no future job plans, do you think learning and training is going to be important to maintain your current job or employment.   If so, in what ways?

OTHER COMMENTS

39. Do you have any other comments about the learning or training you undertake in your work?

Thank you very much for your contribution to this nationally-significant research.