

Chapter 11

Continuing Education and Training: Needs, Models and Approaches

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11.1 Continuing Education and Training

This chapter sets out the context, framing, procedures and broad outcomes of a 3-year investigation of continuing education and training (CET) in Australia. The investigation sought to identify what might comprise approaches to and models of CET that could be applied across Australia, its regions and industry sectors to: (i) assist individuals sustain and develop further their workplace competence and secure advancement across lengthening working lives; (ii) address the needs of competent industry workforces, (iii) make workplaces safe and productive sites of employment and learning, and (iv) provide communities with the kinds of skills they require (Billett et al., 2012a, 2012b). In this way, the goals for CET are about supporting individuals' employability and sustaining the social and economic viability of workplaces, industry sectors and communities. Specifically, the challenge for the investigation described and discussed here was to identify a set of models through which a national CET provision could be planned, implemented, supported and evaluated to achieve these kinds of goals.

By way of preview, the practical aspects of the investigation (i.e. how the research was conducted, data gathered, from whom and how it was analyzed) were initially informed by a consideration of what these models might comprise and be structured. This included identifying a range of what could constitute models through which CET provisions might be enacted. As a starting point for engaging worker and employer informants, the researchers elected to depict a continuum of models ranging from those that are wholly based within workplace settings through to those which are based wholly in educational settings. Following this initial work, the practical elements of the investigation were undertaken through surveys and

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interviews with workers in a variety of roles and across a range of occupations and industries, as well as their managers. Later in the investigation, focus groups were conducted with adult and vocational education practitioners from both vocational and higher educational institutions and in both metropolitan and regional centres across four Australian states. These focus groups were presented with initial findings and tentative outcomes for them to evaluate the worth of the models preferred by workers and managers and how tertiary education institutions would be able to support these kinds of CET provisions.

A key finding of the investigation was a strong preference, by most categories of workers interviewed, for learning through work and as part of work activities. These informants reported that much of this learning was secured by individuals through their everyday work activities, but often supported by other workers or experts present at the work site. Models of CET that emphasized training or educational interventions were also identified. Some of these were held to necessarily occur within the workplace so that what was being provided as CET provisions was richly contextualized in the work setting, but also engaged with by workers in the circumstance of their actual practice. Nevertheless, it was also found that when workers needed to reskill or change occupations, unsurprisingly, their workplaces were not able to offer the kinds of experiences that were required to develop the capacities for that reskilling or the process of initial occupational preparation. Moreover, some worker informants reported that they would not wish people in their current workplace to know of their plans and continuing education efforts, as this might compromise their current employment. Consequently, this kind of CET would need to be provided by educational institutions. To take one example, a graduate electrical engineer working on a fly in and fly out basis in a remote gas field was undertaking his certificate of electrical installation by distance from a vocational education provider. So, because of the particular requirements for developing those skills, this needed to be undertaken through a vocational education institution, albeit by distance in this case. Put simply, he would not have been able to learn those skills and importantly, receive certification in his current work circumstance.

In contrast to workers' preference for workplace-based learning support, the employers and managers who were interviewed as part of this investigation typically reported a preference for their employees engaging in stipulated training programs. This preference was reported as being premised upon a desire to bring about specific changes and secure particular kinds of learning required for the effective operation of the workplace. It is inferred from data from employers and managers that this preference for training programs and courses was seen to offer greater certainty in outcome than skill development processes in the workplace because these experiences could be intentionally organised to achieve pre-specified goals.

This chapter elaborates what has been presented here. It also sets out the context, processes and then overviews the findings of that investigation, aspects of which are then elaborated in the subsequent three chapters. It proposes that there is no single model of CET that can be presented as a national approach or one which is to be mandated to achieve the goals of learning across working life. Instead, depending upon the particular point in individuals' careers, the issues they confront with

employability and their ability to secure the kind of experiences they need to be supported in their learning across working life, particular approaches or combinations of approaches will be most appropriate. However, in all of this, the focus on experiences that constitute individuals' working lives, those afforded by workplace activities and interactions, stand as a first point of consideration, perhaps more than the orthodoxy of educational programs. That is not to deny the importance of the latter, but positions workplace learning experiences as being central and worthwhile, yet ones which require particular forms of interventions to have their potential optimized.

11.2 The Project for Continuing Education and Training

As is the case in most countries with advanced industrial economies, Australian workplaces are constantly challenged by changes in the requirements for the production of goods and the provision of services. Responding effectively to these challenges impacts on their ability to be productive and remain viable, and, collectively, to sustain national economic and social prosperity. That is, workplaces need to be competitive both domestically and internationally. Consequently, to remain competitive in an economic environment which is often no longer constrained by geographical borders, workplaces require workers who are skilled sufficiently to be adaptable and innovative in responding to these changes, and to sustain those capacities across their working lives. Hence, workers need to constantly renew their work practices in response to market demands, improving quality, and innovation and to cope with changes (Fakhfakh, Perotin, & Robinson, 2011). Likewise, workplaces that support their employees' continuous learning potentially have much to gain (Silverman, 2003). The simple point is that post school initial occupational preparation will be insufficient to accommodate the constant changes in occupational and workplace requirements across individuals' working lives. These changes emerge from developments in a range of domains influenced by deregulation, opening up of markets, new technologies, work re-designs, licensing and legislations, and business work processes and systems (Misko, 2008). So, all classifications of workers need to remain competent and employable to maintain and sustain their employability and also societal and social wellbeing, and, at the same time, contribute to high productivity in a competitive global market (Skills Australia, 2011). Consequently, there is a need for learning across working lives, and some of this can be provided by structured CET provisions, such as taught courses offered by tertiary education institutions. However, it is also important to include the kinds of learning that occur through workers' every day workplace activities as these are a key source of ongoing development across working life (Billett, 2008).

It follows then that, provisions of CET needs to respond to emerging changes, extending workers' current capacities and appropriately so they can contribute to improved quality and productivity. In particular, as much of this advancement is enacted through working life, these provisions need to focus more on 'learning' than

'teaching', albeit include an amalgamation of work and study activities (Tennant & McMullen, 2008). Consequently, individuals and their workplaces need to play active roles in directing learning that is personally relevant and aligned to work goals. Potentially, provision of CET located in the circumstances of work, with onsite support, can be more effective than provisions in educational institutions alone. Yet, pedagogical arrangements that are distinct from those designed for entry level training are needed to support continuing education and training in the workplace (Billett, 2001).

Currently, the provisions of post-school education and training system in many countries are focused largely on preparing students for specific vocations. That is, these provisions are providing foundational knowledge associated with specific occupations, mainly to school-leavers. Yet, such provisions, their content, how these experiences are provided, and where and when this occurs may be inappropriate for the continued development of workers' capacities across lengthening working lives. So, for instance, it is claimed that the Australian vocational education system, which was established for initial occupational preparation (training for entry into employment), can no longer adequately serve the changing skill requirements of Australian workplaces (Harris, Simons, & Maher, 2009). The efficacy of its educational institutions is being challenged by all categories of workers and industries experiencing changes in workplace and workforce requirements (Skills Australia, 2010). Yet, all workers are now needing to continually upskill to maintain high standards for certification and licensing (Beddie, Creaser, Hargreaves, & Ong, 2014), and in ways that are accessible to and through experiences that are well aligned with the required learning outcomes. So, although provisions of support for workers' ongoing learning and development can be found within the current vocational education and training system, these provisions may be insufficient. That is, support for learning will necessarily need to extend beyond traditional classroom and distance study modes to embrace opportunities such as those that are accessible during engagement in work activities. Accordingly, the scope of investigations into CET systems, models and approaches needs to account for and appraise experiences that go beyond the orthodoxy of institutional-based tertiary education and training system.

Indeed, the idea that adult workers, can and will become students within the vocational education system and attend and engage in the ways which school leavers do is fanciful and impractical, not to mention being resource-impossible.

11.3 Context for the Investigation

All the above factors prompt a reconsideration of how learning experiences should be organised and engaged with by workers to most effectively support their learning across working lives. Therefore, it is not surprising to see heightened interests in models of CET that can maintain workers' ongoing occupational competence and employability, but in ways that are effective and accessible for those workers. It was this interest that motivated the funding of a national study to identify and appraise a

range of models by which effective and accessible provisions of support for workers' ongoing development could be appraised. To understand the approaches taken, the overall processes and findings of a 3-year study to identify and evaluate potential models and strategies for an effective national approach to continuing education and training are overviewed here. The investigation commenced by identifying what constitutes the purposes, processes and provisions for an effective national CET system that meets the current and emerging needs of Australian workers, workplaces and communities. Given the diversity in the needs of workers, changing occupational requirements and specific workplace practices and work requirements, it was necessary to identify a set of models of continuing education and training that could serve as platforms to be evaluated by informants in terms of their efficacy in meeting a range of learning needs. Hence, the investigation reported here systematically appraised approaches to best order, organise and enact continuing education and training provisions for the Australian economic and societal context.

Having established the rationale and context for the study, an overview of the purposes, research focuses, methodology and general findings of the 3-year investigation are now presented.

11.3.1 Purposes and Processes

There are particular purposes that models of CET need to address, and specific processes that are most likely to achieve those outcomes. As noted, with the requirements for work and workplaces transforming and occupations changing or discontinuing, workers need to engage in ongoing learning for work, broadly referred to here as continuing education and training, to maintain the currency of their workplace competence, and, thereby, remain employed and employable. This engagement in lifelong learning can also secure the development required for career progression and realise new occupational roles. Moreover that learning needs to be directed towards the kinds of performance requirements of their workplaces. Hence, CET models are required that respond to these purposes of learning, whilst at the same time being accessible, especially if that learning is best located in the context of their workplace, and when any provision of workplace support is expected to bring returns in terms of productivity increases.

Furthermore, models of continuing education and training need to be inclusive enough to support that through arrangements offering distinct kinds of opportunities for a range of different types of engagements in different sites (e.g. workplaces, educational institutions, in the community, online etc) (Smith, Dymock, & Billett, 2013). Hence, whether the required learning is voluntary or mandatory, workers may require experiences that can extend what they know, can do and value, and have the ability to integrate learning from various experiences. That is, it needs to accommodate their readiness to engage and learn and be aligned with the expected performance requirements. Consequently, CET provisions can stimulate and foster learning through at least four means: (i) learning pathways and opportunities that

stimulate and advance individuals' learning; (ii) access to knowledge that is not easily accessible; (iii) intentional pedagogic practices to promote particular kinds of learning; and (iv) certification of learning.

However, what and how much individuals learn also depend on their interests and agency to secure and engage with the support and guidance that is afforded through CET models. Hence, issues of accessibility and appropriateness also need to be aligned properly with what will form the basis for engagement by these individuals. All of these then become considerations for the models' purposes and processes, and lead to the obvious conclusion that there will be no single model or approach which could meet all of these needs.

The interests of employers, on the other hand, are often primarily those that can meet the imperatives of the workplace, which are typically those associated with increased levels of productivity and understandably, economic returns (Smith & Billett, 2003). Although a common interest of workers and employers is in continuity, it may be manifested on different premises – the first to maintain employability and the other for productivity (Bratton, Mills, Pynch, & Sawchuck, 2008). Continuing education and training models, therefore, need to support both personal and workplace imperatives. There are also purposes associated with meeting government regulations for safe working, hygiene, handling perilous materials or requirements for caring for the weak, infirmed or very young. In terms of industry-wide or national skills supply, there are also expectations associated with supporting the quantum and quality of skills to be learnt (Rubenson, 2009). Like those of workers and employers, industry-sector spokespersons and government interests also need to focus on current and future skills needs. Government sponsorship of continuing education and training might also align with intentions to support a growing population of older workers who need to remain employed throughout an extended working life (Billett, Dymock, Johnson, & Martin 2011). All of this suggests that models of CET need to be able to respond to a combination of complementary and competing purposes, and in ways that may be distinct from educational provisions designed for entry level occupational preparation. A key issue is that the design of the processes for these models' needs to be founded on how workers can and prefer to engage with them and how managers agree to support that learning.

It became necessary at the beginning of the research that development of continuing education and training models be directed to serve specific educational purposes and processes of learning that forms an integral component of on-going development across working lives of workers. As mentioned, it was elected to utilise a continuum of models ranging from those which are wholly based within workplace settings through to those which are based wholly in educational settings, as a platform to incite and capture responses from informants. This approach is elaborated below.

11.3.2 Developing Continuing Education and Training Models

The central question guiding the investigation was: *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?*

The aim of the study was achieved through two sub-questions:

1. *What models and practices can support on-the-job learning, allowing workers to acquire the kinds of experiences and expertise valued by industry?;* and
2. *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 noted, the investigation commenced with the identification and development of a set of models that represent how workers might typically engage in continuing education and training. That is, the conditions, situations and processes required for continuing tertiary education and training and were initially reviewed by identifying six factors that guided the development of nine tentative models: (i) scope within a curriculum framework; (ii) encompassing pedagogical qualities; (iii) appropriateness for regional and national delivery; (iv) accommodating employer motivations and strategies; (v) meeting workers' motivations to engage in continuing education and training; and (vi) aiding the roles of tertiary education and training providers. The nine models based on a continuum between wholly based in practice and in educational institutions were:

1. Wholly practice-based experiences
2. Practice-based structured experiences (e.g. acting up, rotational)
3. Practice-based experiences with direct guidance (e.g. shadowing, mentoring)
4. Opportunity based experiences (i.e. as work events permit)
5. Practice-based experiences with educational interventions (e.g. action learning, action research, project work)
6. Sandwich/block release experiences
7. Structured dual experiences (e.g. cadetship, apprenticeships)
8. Structured experiences in educational programs
9. Wholly educational institution-based experiences (Billett et al., 2012a, 2012b).

Learning through these curriculum models can be supported by a range of practices including working and practising alone, dyads, group processes, integrating learning in education settings into work practices, and didactic teaching. The nine models were used as an evaluative framework during data analysis. That is, these models were used explicitly to identify what kinds of provisions were currently being adopted by workers and workplaces and also which ones were most valued.

11.3.3 Data Collection

Data were gathered through engagement with key stakeholders including workers, employers, industry, educational institutions and government agency representatives. The project applied a mixed method approach and followed three consecutive phases as follows:

- Phase 1 – Generation of models and approaches
- Phase 2 – Refining models and approaches
- Phase 3 – Aligning and implementing models and approaches to continuing tertiary education and training.

In all, 135 workers and 60 workplace managers from health and community services, transport and logistics, mining, finance, service/hospitality industries contributed data through face to face semi-structured interviews and a survey, sharing their experiences with continuing education and training provisions including their strengths and limitations, current practices and preferences for what is most efficacious. They also were asked to suggest CET provisions that would enhance their capacity for current and emerging work demands. The five industries selected for the project provided particular qualities of work (i.e. service work – personal interactions, transport and logistics – solitary, mining – technology) or they contribute significantly to social (i.e. aged care) and national economic goals (i.e. mining) and also employ workers of all ages in regional and metropolitan regions. Beyond workers and managers, 62 vocational education and training professionals participated in roundtable discussions held in the capital cities of Melbourne, Adelaide, Brisbane, and in three regional centres – Kyabram (Victoria), and Gold Coast and Gladstone (Queensland) to gauge their views on the worth and sustainability of models that were favoured by work and manager informants. Then, during the final phase of the project seven representatives from key workforce development and training agencies participated in interviews. Findings from the roundtable discussions and interviews with the seven agency representatives are reported in Chap. 15. All interview data were digitally recorded then transcribed and de-identified for analysis using the NVivo software. The survey data was entered in the SPSS software for mainly descriptive analyses.

11.4 Findings

Workers' reported preferences and ways managers were willing to support learning are summarised in the following sections. Preliminary findings indicated an overwhelming preference and support for learning in the circumstances of work, during working hours and through direct support from experienced workers, supervisors or trainers. Furthermore, recognition, encouragement and support for the purposes of learning remain integral to effective provisions of continuing education and training.

Table 11.1 Current ways of learning and preferred ways of learning

Modes of learning	Current %	Rank	Prefer %	Rank
Everyday learning through work – individually	88	1	57	3
Everyday learning through work individually – assisted by other workers	87	2	65	1
Everyday learning + group training courses at work from employer	60	3	59	2
Everyday learning + training courses away from work (off-site)	36	5	25	7
On-site learning with individual mentoring: one-to-one	50	4	38	4
Small group training at work – external provider	35	6	26	6
Individual training at work – external provider	33	7	27	5

11.4.1 Learning Preferences and Support

Workers completed a short survey through responding to a list of items on ways they learnt (derived from literature and the pilot study for this project) to indicate how they were currently learning for their work and also preferred to learn. They were asked to indicate all items that applied to them. Their responses are collated in Table 11.1 which indicates the modes of learning in the left column, the current mode in the next column, followed by its ranking as a frequency, then in the two most right hand columns the informants' preferred approach and its ranking.

From the analysis of their responses, it is clear that workers found learning at their worksites, most importantly, individually in the first instance followed by assistance from others, as being most efficacious. The three most preferred ways of learning are: (i) Everyday learning through work – individually; (ii) Everyday learning through work individually – assisted by other workers; and (iii) Everyday learning + group training courses at work from the employer. Fundamentally, these findings emphasised these workers preferring and relying on practice-based modes for their ongoing work-related learning. These preferences were consistent across the four industries, in regional and metropolitan areas, and by gender and age groups (see Billett et al., 2012b for details).

Similarly, the workers responded to another set of items to indicate how their learning was currently supported and their preference for support for future learning. Table 11.2 summarises these findings. Again, the left hand column is used to indicate the modes of learning and informants' current mode in the next column, followed by its ranking as a frequency, then in the two most right hand columns the informants' preferred approaches and their ranking. Working and sharing with another person on the job; direct teaching by a workplace expert; and learning in a self-managed group in the workplace with a facilitator were the three most preferred forms of support for learning. Workplaces are held to be rich sites for learning because workers experience authentic work activities, can access other co-workers, especially those more experienced, and are able to practice what they learn (Billett, 2001).

Table 11.2 Current ways workers' learning was supported and their preferences for support

Ways learning was supported	Current %	Rank	Prefer %	Rank
Working and sharing with another person on the job	76	1	56	1
Direct teaching by a workplace expert	67	2	52	2
Learning in a self-managed group in the workplace with a facilitator	67	2	45	3
Direct teaching in a group (e.g. a trainer in a classroom at work)	59	3	36	5
Self-directed learning individually – online, books, etc.	47	4	19	6
Group activities in a classroom, guided by a trainer or facilitator	36	5	39	4
Learning totally online individually with trainer	32	6	10	7

Working and sharing with another person on the job resonates well with the preference for learning at work individually with assistance from other workers; and group training courses at work from the employer. The social and intersubjective nature of learning (Smith & Billett, 2006) where the contributions of co-workers are valued is highlighted consistently across the data. This is perhaps not surprising because it is through interactions with others, that workers mediate and reconcile their experiences and make appropriate meanings in the context of their specific work settings, practices and expectations (Billett, 2008). These interactions enrich workers' occupational specific conceptual and procedural knowledge, and dispositional knowledge, that is, what they know, can do and value, which are also shaped by the organisational history, culture and situational appropriateness (Scribner, 1984). However, ultimately, the efficacy of that learning is directed by individuals' agency, interests, skills and cognitive capacities. According to Smith, Dymock, and Billett (2013) it is the integration of four key elements that effectively support learning for continuing employability. These are: (i) active learning by workers individually and collectively; (ii) support in the workplace; (iii) the facilitation of accredited learning (e.g. by education and training providers); and (iv) effective governance by regulating authorities.

Hence, some worker preferences were consistently reported across sectors and locations. In this way, some patterns emerged about what processes of experiences and support were being offered, how these were engaged with by workers, and the kinds of support for ongoing work-related learning that was valued. All of these findings are important, because whilst being just one perspective, the accounts of workers is important because it is they who elect to engage with what experiences are afforded them, albeit in the work or training setting.

Table 11.3 Ways workers' learning is assisted

Ways learning is assisted in current job to keep up-to-date	%	Rank
Employees learn individually from other workers – e.g. ask questions, observe, listen, discuss	96.7	1
Employees do it themselves individually – e.g. pick it up as they go, read manuals and journals, go online	90.0	2
An experienced person – e.g. supervisor, on-site trainer – trains or mentors employees <u>individually</u> in the workplace	85.0	3
An experienced person – e.g. supervisor, on-site trainer – trains employees in the workplace <u>as part of a group</u>	81.4	4
Employees stay updated through a professional network, or through friends and family	75.8	5
An external trainer trains employees (e.g. from RTO) <u>in the workplace as part of a group</u>	71.2	6
Other: (e.g. onsite conference, vendor training)	45.8	7
An external trainer (e.g. from RTO) trains employees <u>off-site</u> as part of a group	45.0	8
An external trainer (e.g. from RTO) trains employees <u>in the workplace</u> <u>individually</u>	44.1	9

11.4.2 Managers' Responses

Both workers and their managers have a mutual interest in improving productivity and competitiveness through continuing education and training. Indeed, there is an interdependence to meet the challenges of change by employing a range of business-oriented strategies. Among these, managers need to include effective learning support for their workers. Managers of worker participants in the study reported here were invited to complete a short survey and engage in a semi-structured interview to describe how workers were assisted with their learning in their workplaces. The frequencies for the survey on the ways their employees' learning was assisted are summarised in Table 11.3. In the left column are the kinds of means through which that learning was supported, with the middle column indicating the percentage of informants who selected that item, and the ranking of managers' responses.

Responses from the managers indicated the most frequent ways in which workers' learning was assisted included: individual peer support from experienced worker/s (e.g. buddy system) (95.0 %); individual mentoring by supervisor (91.7 %); small group training in workplace with manager, in-house trainer etc (e.g. classroom teaching) (70.0 %); and external trainer (e.g. registered training organisation or professional association) delivering at the work site (70.0 %). Other than these, employers also funded training that was offered by registered training organisations and professional associations off site (78.3 %), and online courses (41.7 %). In addition to the provisions of learning support in the workplace, some informants reported they also accessed self-funded training that was provided by professional associations or other registered training organisations.

The responses from both workers and managers indicate some consonance between how workers reported learning occurs in and through work, and how

managers reported workers were being assisted with that learning. The findings consistently highlight the significance of learning in the workplace, in the context of everyday work, giving further support for their ongoing learning. Hence, there was a strong pattern of responses indicating that models of continuing education based at work and enacted in the context of work were reported as being likely to be the most efficacious. Yet, given differences in the patterns of responses, even continuing education and training models based in work settings may need to be aligned to appropriately meet the needs of individuals at specific phases of their career trajectories, or in addressing particular learning needs that might arise, such as learning new technologies or work tasks, which might present challenges to even experienced and currently competent workers.

11.5 Proposed Models of Continuing Education and Training

The findings from Phases 1 and 2 of the investigation suggest that four models of continuing education and training form the foundations of what might comprise a system of continuing education and training that has national reach in sustaining workers' ongoing development and employability, and promoting the changing skills requirements for transforming productivity requirements. The four models are briefly summarised in Table 11.4.

The four models offer experiences that will serve different purposes and outcomes for individuals, as noted. The three foremost models emphasize the significance of learning experiences in workplaces where individuals learn in the course of their daily work practices, have access to direct instruction and guidance provided by workplace-based experts or teachers, and are assisted by co-workers when needed. The situational bases for learning to meet the specific requirements of particular workplaces, which are determined by the nature of services and production goals, shape what workers and their managers see as important to learn. The data from this study suggest the first three models, in different ways and in combination are well aligned with the needs of those workers who are most interested in maintaining their competencies to meet productivity levels and sustain their employment and advance their employability. Workers with these goals prefer their learning to be enacted in and through everyday work, usually by working alone in the first instance, and supported by other workers, supervisors and trainers if and when needed. Some of that support may also be provided by educators/trainers from vocational education institutions. These educators/trainers are required to be involved if learning needs to be accredited for a qualification or to meet regularity requirements. In terms of the effectiveness of the first three models, it is the quality of social interactions and the attitudes of employees and managers that underpin what is regarded and promoted as quality learning in the workplace.

While workers' and managers' responses highlight the prevalence of the learning in work site, and learning through everyday work, not all the learning from this source is sufficient to maintain currency and sustain employability (Slotte, Tynjala,

Table 11.4 Models of continuing education and training

Model	Summary description
1. Wholly work-based experiences (i.e. on-the-job)	Learning across working life through work-based experiences, in the course of everyday work activities and interactions, learning on one's own or indirectly, and/or supported by more experienced co-workers
2. Work-based experiences with direct guidance (e.g. mentoring, demonstrating)	Individuals' learning at work supported by the direct guidance of more experienced co-workers or supervisors through joint work activities and engaging in supported activities for learning that cannot be acquired without the assistance of more experienced workers
3. Work-based experiences with educational interventions (e.g. applying classroom-taught theory to workplace activities; action learning, project work)	A process of learning which combines learning undertaken through workplace activities and interactions supported by expert input from trainers either on- or off-site, or using projects, such as in action learning, to extend this learning and enhance practice aspects of work. The learning is often accredited and leads to certification
4. Wholly educational institution-based experiences	Some continuing education and training is through programs based in educational institutions or offered online by those institutions. The experiences provide the kinds of learning individuals require for specific goals, such as changing occupations or developing new skills that cannot be learnt through current work

Source: Billett et al. (2014, p. 13)

& Hytonen, 2004). Educational interventions in the third model can augment the experiences provided through practice-based provisions. The fourth model has the potential to contribute to workplace innovation and individuals' career change. It is most likely to be preferred by workers seeking promotions or new careers, and by workplaces interested in implementing new practices, yet will not be able to secure appropriate learning experiences in their workplaces. Workers may fund learning themselves or be sponsored by their employers. Nonetheless, even then acquisition of practical skills is likely to require experiences in everyday work because the disciplinary knowledge they acquire from wholly educationally-based learning is not necessarily always aligned with or able to generate the capacities required for work purposes (Tennant & McMullen, 2008).

11.6 Discussion

The identification of the four preferred CET models outlined above responds to the sorts of ongoing changes that Misko (2008) reported. At the national level, there was increasing acceptance of the need for ongoing and accredited learning across working lives in Australia, although employers and workers alike were ambivalent about the necessity of *certification* of that learning, except where mandatory for safety and registration purposes. The models also reflect the need for pro-activity by

workers in undertaking learning for skills and career development as identified elsewhere (Billett, 2001). However, some workers, particularly older and more experienced ones, were often more reluctant to undertake structured training, which is reflected in the literature (Dymock, Billett, Klieve, Johnson, & Martin, 2012; Noonan, 2007), albeit often because they find limited worth in such experiences. Workers' preferences were typically directed to learning for their immediate work roles, job security and advancement through workplace experiences, via a combination of: engagement in work tasks they were learning about; guidance by more knowledgeable and locally-informed partners; and training interventions related to their immediate work and future work life plans (themes that are elaborated in Chap. 13).

Workers and their managers overwhelmingly supported the notion of learning experiences being situated in workplaces instead of being based in educational institutions, thus requiring workers to engage in active learning during working hours. That is, both workers and managers favoured work-based learning for similar reasons – it didn't take them away from the workplace and was real-work-focussed. While the managers saw ongoing learning in the form of training, the workers identified ongoing learning through their everyday practice although appreciated the benefits of training interventions. Some workers thought that going off-site had benefits too in terms of getting away from the immediate work environment to focus on learning, and also in cross-fertilisation through meeting workers from other sites.

From a pedagogical perspective, workers' preference to learn from others draws attention to the intersubjective nature of learning embedded in the socio-cultural spaces of workplaces (Blåka, 2007). It is within these spaces that knowledge is codified and meanings are appropriated, mainly by working alongside others, listening and observing others, asking questions, receiving/giving feedback, accessing resources and co-workers who can assist, learning from mistakes, reflection on work-tasks and interactions, and mediating artefacts (Eraut & Hirsh, 2010). Fundamentally, the defining feature of learning is the use of what is learnt, the co-occurrence of working and learning as goal-directed activities and outcomes. It was not surprising that managers were primarily concerned with achieving immediate workplace goals, and typically saw structured training programs as the main means of achieving organisational goals.

While particular kinds of work arrangements in some workplaces afford and support regular interactions (such as was the case in age care facilities where novices are teamed with experienced workers), deliberate efforts might need to be made in other kinds of workplaces to create opportunities for interaction and support. For example, in the transport and logistics industry, drivers often work in situations of physical and social isolation. They report actively engaging with and learning from more experienced workers, either when the latter accompany them or when drivers reach a depot and meet with other workers.

Regardless of whether workers are learning new tasks or undertaking totally new jobs, from the interview data it is inferred that their learning processes might best follow a structured process of orientation, engagement in practice circumstances, and development of workplace competence. So, the three key features that underpin

work-based models of continuing education and training include: (i) engagement in circumstances of authentic work; (ii) direct support from and access to more experienced co-workers or other experts; and (iii) learner agency to seek and engage in learning processes that lead to rich or adaptable outcomes. Notwithstanding this as the founding platform, variations of these models will need to be implemented to suit different types of worker learners, work practices and workplaces, of the types Beddie et al. (2014) found. The characteristics of worker involvement in work-based models are discussed in Chap. 14.

The focus in the first three models, on learning at and through work, highlights the critical role played in continuing education and training by those regarded as occupational experts, including external training providers, in-house trainers, peers and supervisors. There was some tension between some employers' preference for workers to acquire immediately applicable skill sets, and training providers' general preference for workers to complete full qualifications. The most effective partnerships appeared to be those based on individual trust and respect, as discussed further in Chap. 14. That chapter also highlights the significance of managers' attitudes to and support for workers' ongoing learning, which are key elements of the second and third models.

Two other important stakeholders, VET professionals and representatives of key government agencies, were also consulted to appraise the efficacy of the four models. Sixty two VET professionals from private and public sector organisations across five sites, with roles in training or training management, engaged in roundtable discussions, each lasting three hours. Four scenarios reflecting the four models of continuing education and training were presented for discussions from three perspectives: (i) effectiveness and sustainability of the proposed models; (ii) roles of different stakeholders to effectively implement the models; and (iii) systemic changes required for effective support of the models. Their contributions are discussed in Chap. 15.

11.7 Conclusion

The workplace as a site for learning is highly significant in maintaining and enhancing the skills of national workforces. In most circumstances reported through this investigation and other inquiry, ongoing learning for work is best undertaken through engagement in work tasks because the context and activity comprise the authentic deployment and enactment of what is learned. Workers, their managers and supervisors all have key roles to play in enhancing the effectiveness of CET provisions, and they all need to be supported accordingly and their capacities built as needed. The flexibility of tertiary education and training systems, institutions and teachers, their staff abilities to implement approaches to delivery, as well as regulatory and funding models, all influence the extent to which CET can be effectively supported to meet worker/learner and employer needs. Key areas for further development reside in the implementation of the four models in ways that address the

particular workplace goals and circumstances, as well as those meeting individuals' readiness and goals for continued learning across their working lives.

The two chapters that follow present and discuss the perspectives of workers and managers respectively, about continuing education and training. In the final chapter, the book concludes with a discussion of the sorts of factors that contribute to an effective national system of ongoing learning and training.

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