Chapter 1
Conceptualizing Learning Across Working Life, Provisions of Support and Purposes

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1.1 Learning Across Working Life

This book is largely concerned with the means by which individuals can remain employable across lengthening working lives through considerations of premises about, models for and practices associated with ongoing work related learning across lengthening working lives. Whilst much of the educational effort associated with work is directed at initial occupational preparation, in this book the focus is on the ongoing development beyond that initial preparation. Based upon the realization that such an initial preparation alone will be insufficient for a lifetime's work there is now increasing interest in this ongoing learning and how it might best be supported. Indeed, there are growing national and global policy focuses as well as local concerns about lifelong learning, particularly as it pertains to working life. Collectively, this interest has become the 'lifelong learning agenda' that is promulgated by supranational agencies (Edwards, 2002; Organisation of Economic Cooperation and Development (OECD), 2000) and engaged with as a central educational policy by a range of countries with advanced industrial economies. Yet, at the commencement of this book on learning across working life, it is important to capture some key premises about what comprises the concerns that have given rise to this agenda and propose how they can be understood and addressed. These premises include being clear about what this concept of learning for working life comprises, and the kinds of purposes to which that learning is held to be directed educationally. Realizing such goals necessitates securing greater clarity about what are variously referred to as lifelong learning, lifelong education and learning across working life so they can be distinguished from each other and their specific qualities and characteristics understood. Currently, much of the policy interest concern is

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about individuals' learning across working life and how this can be effectively promoted and supported when addressing needs associated with sustaining their employability. Beyond individuals resisting unemployment, employability includes workers developing and sustaining the kinds of capacities needed by their workplaces to remain viable as requirements of goods and services change, the industry sectors in which they work seeking to remain responsive to transforming demands and for the nations in which they are citizens to be competitive in the production of goods and services (OECD, 2006).

Importantly, these changes in work requirements should not be seen as being just about profitability within the private sector, or individual advancement. Instead, they permeate the provision of the kinds of services that people need and for which competent practitioners are required. For instance, the requirements for provision of effective health care are constantly changing as new technologies and patient and community demands arise. Yet, these requirements need to be enacted within the constraints of existing resources. Hence, the capacities of healthcare workers need to remain current and responsive to changing circumstances. In this way, sustaining workers' employability is the common goal for workplaces, industry sectors, professional associations, government, workers themselves and, most importantly those whose needs are served by workers. In essence, these sets of personal, workplace, local and national purposes for lifelong learning arise from the realization that individuals' initial occupational preparation will be insufficient to meet their needs for employability across lengthening working lives. The constant changes in the requirements for effective work mean that focused and sustained intentional learning is now needed by all kinds of workers and across all kinds of occupations and industry sectors (Billett, 2006) and throughout their working lives.

Hence, there are new challenges arising for those whose role it is to support this learning across working lives. For nations' educational systems the challenges for their institutions, programs, provisions and educators is to identify and enact the means to support the development of these capacities across lengthening working lives. For professional bodies, industry sectors and workplaces, the challenge is to identify means by which that learning can be variously promoted, supported and, where required, certified. For individuals as workers, the task is to engage agentically (i.e. with selective intention and agency) in their work life learning. That is, to identify and engage in opportunities afforded by workplaces, educational provisions etc. yet also actively and selectively identify opportunities for developing further their occupational capacities. To emphasize this engagement is not to rehearse a neoliberal doctrine of worker self-reliance (Olssen & Peters, 2005). Instead, it acknowledges the need for effortful and sustained engagement on the part of workers in the learning and refinement of knowledge that is demanding to learn. That is, effortful and sustained engagement is required by individuals to develop the kind of understandings, procedural capacities and nuanced dispositions associated with effective work practice of the kind required to respond to changing work requirements (Ericsson, 2006; Malle, Moses, & Baldwin, 2001). This is a requirement long-recognized in considerations of human thinking and acting (Dewey, 1977). Also, this effortful kind of engagement seems most likely to be

exercised when it is aligned with individuals' subjectivities or sense of self as workers (Billett, 2008). Analogously, for workplaces, it seems that opportunities are afforded most strongly by their workplaces when there are perceived workplace imperatives that need to be addressed to sustain their viability (Carnevale & Schulz, 1990; Smith & Billett, 2005).

It follows that when addressing these important imperatives associated with learning across working lives, both consideration and actions need to be well-informed and carefully elaborated. This includes clearly delineating and distinguishing amongst what variously constitutes lifelong learning, lifelong education and work life learning, and considering how they might be utilized in addressing these imperatives. Not the least here is that these terms are often referred to as being synonymous and therefore not requiring differentiation (Schuller & Watson, 2009). Indeed, the views advanced in this chapter seek to redress this error and also challenge the orthodoxy of the primacy for that learning across working life being largely realized through institutional arrangements in workplaces or educational institutions alone and these being the most appropriate way to respond to changing work requirements. Instead, a greater consideration of individuals' learning across and through their working lives is advocated in this chapter. In all, it is proposed that advancing issues associated with learning across working life, considerations of forms of support and educational provisions, guidance and support should not be constrained by the orthodoxies of schooling and arrangements for tertiary education. That is, orthodoxies that privilege experiences provided through taught processes, in classroom type arrangements (i.e. either actual or virtual) and in or through educational institutions, because these are currently and will be insufficient in the future. Instead, a broader view of learning experiences is required. That is one taking into account the kinds of knowledge required to be learnt, the kinds of circumstances through which that knowledge can be experienced, and the appropriate provision of support and guidance for that learning can be made accessible. In making this case, and having defined concepts, discussed premises, the prospects for and some propositions about the purposes of this learning across working life are advanced.

1.2 Delineating Key Concepts

As the 'lifelong learning agenda' with its focus on ongoing learning and development of workers' capacities increases, often promoted by institutions and agencies without particular expertise in learning and development, it is important to be clear about some of the key concepts associated with this agenda, because they are often used interchangeably and as such inappropriately. Consequently, here the three key concepts of: (i) lifelong learning, (ii) lifelong education and (iii) work life learning are delineated and elaborated.

1.2.1 Lifelong Learning

Often in the public and governmental (and at times academic) discourse, the term 'lifelong learning' is used interchangeably with the term 'lifelong education' (Schuller & Watson, 2009) even though each has quite different meanings and emphases. It is categorical error to see them as being synonymous, as one is a personal and the other institutional fact (Billett, 2010a). It is advanced here that lifelong learning constitutes the personal processes individuals engage in and through which they change (i.e. learn) when encountering experiences across their life histories. That is, learning arises naturally through what individuals experience across their lives. These experiences can comprise those arising through their work, family life, social and community engagement, as well as through participation in intentional educational activities. In essence, people are learning continually across their life courses through the everyday processes of thinking and acting (Billett, 2009a).

Likely, much of this learning comprises the reinforcement and refinement of what people know, can do and value. Experiences in family, work and community lives serve to question, confront, disrupt, and potentially extend what individuals know, can do and value. This is what constitutes learning across individuals' lives or lifelong learning. This learning arises through a moment-by-moment engagement with the world as it is experienced and is referred to as micro-genetic development (Rogoff, 1990). This everyday learning both contributes to but is shaped by what individuals already know, can do and value, referred to as ontogenetic development (Scribner, 1985b), which arises and accumulates across individuals' lives through the person-particular complex of experiences people have and how they come to experience them. This ongoing learning and development is inherently shaped by individuals' intentions, projects and goals for their lives, perhaps best captured by the term subjectivities or sense of selves. Psychological conceptualization of a temporal dimension of cognition suggests that 'possible selves' – images of future states of being – play a role in initiating and directing activities (Markus & Nurius, 1984) in the immediacy of the lived world, which includes working lives. Philosophical conceptualizations of this temporal dimension of learning are offered by Husserl (1964) and Heidegger (2010). For instance, Husserl argues that individuals' present actions are conditioned by anticipation of the future and their retention of the immediate past. Reference to future and past is implicit in our intentional actions, endowing learning for occupational purposes, for example, with direction and significance. In Heidegger's phenomenology of everyday activity, the meaning of present undertakings are constituted by temporal processes in which projection of future possibilities is the primary reference point for meaning making (Hodge, 2015). Similarly, the social constructivist Gergen (1994) refers to making sense of what is experienced in the immediacy of the moment by reference that what individuals have experienced and learning in the past.

> … our actions in each passing moment will necessarily represent some simulacrum of the past; we borrow, we formulate, and patch together various pieces of preceding relationships in order to achieve local coordination of the moment. Meaning at the moment is always a

> rough reconstitution of the past, a ripping of words from familiar contexts and their precarious insertion into the emerging realisation of the present (pp. 269–270).

In these accounts, learning, as a process and outcome of personal experience is required for the realization of possible selves, intentions and projects (Hodge, 2015). Hence, lifelong learning arises as a product of personal factors including individuals' personal histories or ontogenies. It is a personal fact.

Importantly, the intervention of others or institutions is not a necessary condition for lifelong learning. Instead, learning occurs continuously as humans think and act, engage in activities and interactions, discuss, evaluate and extend what they know and can do. It follows that this kind of learning is person-dependent as it arises through the particular experiences each individual has had (Valsiner, 2000). Consequently, from the same work life experiences, individuals will construe and construct (i.e. learn from those experiences) knowledge in personally-particular ways depending upon what they know, can do and value (Billett, 2009a). This valuing, selection and engaging in particular experiences by individuals is important as it both shapes and is shaped by the intention and effort exercised through what they experience and what and how they learn (Malle et al., 2001). The interventions by others, however well they are designed, can only achieve the purposes for which they were intended when those who are subject to them understand what they are, and engage with them in intended ways and then appropriate those experiences (Luria, 1976; Wertsch, 1998); that is taking what they experience as their own. So, whilst it is ongoing across individuals' lives, the process and outcomes of lifelong learning is person dependent. Hence, this learning is a personal fact and can only be understood through a consideration of individuals, what they know, can do and value, including their intentionalities.

1.2.2 Lifelong Education

The conception of lifelong learning advanced above stands in contrast with that of lifelong education: the provision of experiences from which intentional learning is aimed to be secured. As such, lifelong education is an institutional fact: one generated by society (Searle, 1995). In most instances, the provision of experiences, support, and intended outcomes are shaped by others (i.e. governments, education institutions, teachers, parents, industry bodies, professional associations etc.). Indeed, much of the policy provisions associated the 'lifelong learning agenda' centers on the provisions of training courses, professional development programs, in-service education and other taught processes, provisions that conceptually align with educational provisions. Certainly, since the Year of Lifelong Learning in 1996 (OECD, 1996) and subsequent reports and reforms proposed by supranational agencies (e.g. OECD, UNESCO) and increased focus upon global competition have led to the development of the lifelong learning agenda internationally which is very much based upon the provision of educational programs. For instance, a major

report associated with this agenda for the United Kingdom referred solely to kinds of educational experiences (Schuller & Watson, 2009), thereby excluding the ways that probably most learning occurs across individuals' working lives. Moreover, because the focus in these reports is on participation in educational programs, they become linked to other policy imperatives, such as who should pay for these forms of ongoing development. This includes concerns such as to what degree should efforts to promote learning be directed towards goals associated with particular workplace, industry sector or individuals' needs. As consequence, those paying for these educational provisions are deemed to have a legitimate say in what they comprise and what outcomes they are directed towards. Certainly, governments in most countries with advanced industrial economies are trying to divest themselves or at least minimize the cost of this ongoing development and passing it to individuals, as allegedly recipients of the benefits of this ongoing development (OECD, 2000). Not only that, but individuals are being encouraged to accept greater personal responsibility for their own employability through directing their efforts towards further development (OECD, 1996). For instance, requirements for work are constantly changing and some aspects of occupational qualifications need to be refreshed and recertified on a regular basis for many forms of employment. Increasingly, this responsibility falls to individuals to fulfil.

Moreover, investing in these arrangements within educational systems and programs raises other concerns about the ways in which they are appropriate and well aligned with the needs of working people. The great risk is that models associated with initial occupational preparation are used to try and promote ongoing learning, when these models may be quite inappropriate (Billett et al., 2012). Although there is often the need for the legitimacy and certification which comes through programs that are hosted or auspiced by educational institutions, the provisions for promoting and supporting lifelong learning should not be constrained to these kinds of arrangements. All of this underlines that whereas lifelong learning is about the process of personal change (i.e. a personal fact), lifelong education is an institutional fact, as it is created by and enacted through human society, and its institutions. Lifelong education comprises provision of experiences organized and enacted through social institutions and for societal purposes. Hence, whether in the form of intentional programmed experiences offered by educational institutions, or through a set of experiences that promote the interests and needs of a particular workplace or other institutions, experiences designed to achieve specific kinds of outcomes need to be selected and ordered to achieve their particular purposes. In all, lifelong education is about the provision of experiences. From this discussion, it is important to account for, but distinguish between, individuals' intentionalities and sense of self or subjectivities that shape the value or worth associated with both individual learning, on the one hand, and educational experiences, on the other. Also, understanding the relations between the two is central to what individuals come to learn through their personally-mediated process and for what purposes.

1.2.3 Worklife Learning

This leads then to the third concept referred to above: work life learning. This third concept is quite specifically focused upon learning associated with work as in paid employment, whereas lifelong learning and lifelong education prior to 1996 and the Year of Lifelong Learning were associated with adults' social and cultural betterment. That does not necessarily mean that this conception of work life learning is wholly focused on enhancement of skills to support individual employability, workplace viability and secure national social and economic goals. Indeed, the concept of learning for working life has its origins in Scandinavia where the quality of working life was a key concern for many years (Gallie, 2003). That is, a focus on individuals working safely, avoiding the harmful impacts upon the body in the long term, how their interests and concerns can be expressed in the workplace and through to a consideration of learning that might assist the quality of work-life experiences. Hence, learning here is associated with more than the technical aspects of work. Such a broader set of concerns about learning associated with work are not restricted to Scandinavia. The Francophone concept of 'ergonomic', founded in French republicanism has qualities of this conception that are analogous, as there are significant concerns about how a person engages in their work in ways that are both effective in the conduct of that work, but also not injurious to them as workers (Bril, 2015; Mayen, 2015). Quality of work was also a concern of Marx (1990), who viewed work or creative labour as the defining characteristic of human being and opportunities to exercise capacities as fundamental to human dignity. Indeed, this perspective generated criticisms of restrictive work design as limiting the scope of workers' discretion in the exercise of skills. Braverman (1974) updated this critique in addressing advances in work organization in the last century, which sought to restrict workers' discretion in the exercise of their work, and deny the very agency that humans can exercise in ignoring or resisting such impositions. These accounts tend to focus on the uncritical acceptance of the principles of division of labour (Smith, 1976) and the scientific management of work (Taylor, 1906). These principles assume that workers are more efficient if their jobs are designed to be broken down into units that require minimal skills and, therefore, replaceable workers. Yet, what was found with the application of such an approach to work organization ignored workers' agency, including their resistance (Newton, 1998) or them electing to leave the workplace (Kincheloe, 1995), which Braverman himself failed to acknowledge. That is, arrangements that tend to ignore or deny what motivates and directs individuals' learning and development, all of which is central to the processes of personally-mediated learning.

So, here it is proposed that these three key concepts need to be delineated and distinguished into that which refers to individuals' learning and development (i.e. lifelong learning) which is premised upon what individuals know, can do and value; that which refers to the provision of educational programs much of which are directed towards outcomes determined by key interest groups such as government, professional bodies, industry sectors, employers (i.e. lifelong education), and work

life learning, which refers to a broader concept of learning associated with not just occupational practice, but the quality of working life. As noted, often, the discussion about lifelong learning progresses without clear delineation amongst these concepts. Yet, even for the most pragmatic of concerns, such as the achievement of policy intents and securing industry, professional and workplace goals is the degree by which workers' learning meets their own as well as those of key interest groups. So, regardless of conversations about each of these three concepts, none can be considered successfully enacted without accounting for what motivates, directs and realizes individuals' learning. Hence, it is necessary to consider some bases associated with individuals learning across their working lives.

1.3 Some Premises Associated with Learning Across Working Life

To begin redressing the confusion that has arisen from conflating these three concepts, in the following section, four interrelated precepts are differentiated to provide a platform to inform what kinds of support are appropriate to sustain that learning. These premises are associated with: (i) the need for ongoing learning across working life; (ii) the strong focus on employability in that learning; (iii) the importance of going beyond a consideration of training programs and educational interventions (i.e. lifelong education); and (iv) the accessibility of the kind of experiences required to secure the kinds of knowledge for employability. Hence, these precepts refer to purposes, processes and outcomes making them consistent with other kinds of educational projects. In more detail, these are as follows.

Firstly, focused and intentional learning across working life is now an inevitable prerequisite for individuals' ongoing employability. The changing nature of work, requirements for occupational practice and ways in which work is undertaken mean that workers need to learn across their working lives in ways that build their capacities to respond to these changes and position them as productive and viable employees (Billett, 2006). As noted, it is now widely accepted that initial occupational preparation, often undertaking at the end of school life, will be insufficient to sustain individuals' employability, continuity of employment and advancement (OECD, 1996). Hence, there is a need to intentionally learn the capacities required for employability and, in quite focused ways, across working lives and that learning needs to encompass the changing requirements for occupations and employability (OECD, 2006).

Secondly, policy and academic discourse about the three conceptions outlined above (i.e. lifelong learning, lifelong education, work life learning) has increasingly come to focus upon workers' learning and further development; their employability. Likely, even the most attuned provisions of education will be unable to support the kinds of learning and development required for specific kinds of work, workplaces and work practices. This is because the requirements

for work performance are often necessarily workplace-specific (Billett, 2001) and subject to constant change (Billett, 2006). Moreover, much of what is required to be learnt is unlikely to be secured through educational provisions alone. In particular, there may well be a requirement for experiences that are authentic in terms of what needs to be learnt or very good substitutions for them (Dochy, Gijbels, Segers, & van den Bossche, 2011; Eraut, 2011). So, there are important issues associated with access to, engagement in, and the sufficiency of learning experiences that drives considerations for supporting intentional learning across working life. These considerations go beyond the provision of classroom-based experiences and contributions of teachers. Part of the considerations here is to be reminded that learning occurs as individuals engage in thinking and acting, and time spent at work is no exception, and, indeed, that learning can be rich and adaptable (Scribner, 1985a). So, this ongoing learning that arises through workers engaging in their everyday work activities and interactions needs to be seen as worthwhile and legitimate (not informal) and when utilised effectively is central to effective work life learning. Indeed, these needs are required to be considered alongside those intentional experiences provided through what might be referred to variously as educational, professional development, continuing education and training, continuing professional development programs, as a number of the contributions to this book suggest.

Thirdly, however, much of the orthodoxy associated with contemporary education practice and policy is associated with and exercised through the provision of intentional educational experiences of the schooling kind. That is, through training courses, professional development programs, action learning sets, action research projects etc. that can be collectively referred to as provisions of lifelong education. This orthodoxy extends to these kinds of provisions being associated with administrative imperatives and familiar (i.e. school-like) models than the efficacy of particular approaches and their accessibility. Therefore, there is a need to question the viability and comprehensiveness of this orthodoxy and propose a broader account of how workers learn across their working lives, and how that learning needs to be supported (Department of Education Science and Training, 2002). That is, for provisions of lifelong education to go beyond training courses and educational programs. As is reported in Chap.12, when workers are asked, they place limited value on training courses. Yet, their managers prefer training programs in the belief that they offer certainty in outcomes, because they are organised and taught. Hence, even when referring to lifelong education it is necessary to go beyond the orthodoxy of training courses and identify what kinds of experiences are most likely to secure the intended learning and not be constrained to what can be organised and enacted through training type provisions. Overall, there is a need to go beyond the orthodoxy of educational provisions and processes, to identify how learning through working life can best be realised, albeit, in work settings, outside of them, direct instruction or through learning-based processes of development.

Fourthly, and following on from this, is the need for a fit between the kinds of learning that is required to be learnt and the kinds of experiences that can be accessed

by workers to secure what needs to be learnt. Importantly, the accessibility of experiences is important for individuals who are primarily workers and not students. For instance, in a study of options for older Singaporean workers' ongoing work related learning (Billett, 2010b), it was found that most of them have very long work days and many have lengthy commutes at each end of the day, meaning that attending polytechnics or technical colleges for evening sessions was quite restricted. Hence, it was important to identify what kinds of knowledge these workers can learn through their everyday work experiences, including those which will require the guidance of more experienced co-workers or supervisors, and consider how the workplace could be a central location for ongoing continuing education and training. Certainly, securing of other kinds of knowledge may require educational interventions of specific kinds to assist that learning. However, the important point is not to view attendance at courses as being the first option, but rather one which is exercised where that attendance can secure particular contributions that might not be found elsewhere. Hence, it is important to understand the different contributions that can be made by particular kinds of experiences, support and guidance, and place these alongside considerations of accessibility. That is, being clear about what needs to be learnt and what kind of experiences are most likely to secure that learning, which extends to the accessibility of those experiences for workers.

It follows from the above, that the provision of support and guidance for learning across working life needs to be aligned with the kinds of purposes for which that provision is intended. Therefore, it is helpful to delineate something of the kinds of purposes towards which learning across working life and the support and guidance for it might be best directed.

1.4 Purposes for Learning Across Working Life

For the broad project of learning across working life, it is helpful to consider the diverse purposes (i.e. different kind of goals for workers' learning and development) and then consider these against the experiences most likely to generate these goals. That might be achieved through activities and interactions provided in work settings, through intentional educational interventions or some other kinds or combination of experiences. Hence, delineating these purposes can help to offer a more nuanced consideration of how learning across working life might best be promoted to achieve those purposes.

As way of considering the scope and kinds of specific purposes for intentional learning across working lives, it is to delineate those purposes that are founded in either: (i) personal or (ii) institutional imperatives. The former are those associated with individuals' needs, interests and requirements, and are often bases by which individuals engage in intentional learning (Billett, 2009b). The latter are those associated with the demands of the social world, changes arising from and forms of

support and guidance that are offered through workplaces, educational institutions and other agencies. These institutional imperatives are projected in different ways and levels of intensity, such as workplace performance requirements, and those for continued employment or advancement, the demands of co-workers or supervisors, not to mention those of clients, patients, students et cetera whom the work undertaken serves. So, whereas the former can be seen as being in some ways highly person dependent, and, therefore, needing to be understood from the perspective of individuals' learning needs and requirements, what they currently know, can do and value, the latter are often associated with needs and requirements associated with or embedded in particular changes in the requirements for their work or workplace practices, and their participation in particular workplaces.

Yet, in all, there are also important alignments between the personal and institutional imperatives and the degree by which these are either consonant or incompatible with each other. Those alignments are most likely to only be understood in through actual circumstances and people acting in them, as this brings together the enactment of the two sets of imperatives. Consequently, there can be no comprehensive effort here to identify a set of conditions under which intentional learning associated with working life is likely to be optimum and, therefore, able to be maximised. Instead, what is described below is a set of personal and institutional imperatives that likely shape intentional learning across individuals' working lives. There is also no claim that this list is exhaustive, rather that these listings are those which appear to reflect current research and theorising.

1.4.1 Personal Imperatives for Work Life Learning

The personal imperatives for learning across working life can be seen broadly as being twofold: (i) maintaining employability, which includes staying employed and securing advancement in and through work; and (ii) engaging in worthwhile and rewarding work.

1.4.1.1 Maintaining Employability (i.e. Sustaining Employment and Securing Advancement)

Key reasons for individuals to engage in intentional and focused learning associated with their paid work are to sustain their employability. That is, for them to possess and/or maintain the kind of occupational capacities that are required for them to perform adequately that current work, and most pertinently how that work performance is manifested in that particular workplace. Whilst individuals may well possess a range of occupation-specific capacities, these may or may not meet the needs of their particular workplaces where learning is to be enacted. Moreover, individuals' capacities need to change both incrementally and transformatively to remain employable across working lives. Incrementally, changes in work techniques, how

work is undertaken, workplace practices and the composition of workforces over time require changes in what workers know, can do and value. The increased use of electronic technology in workplaces, for instance, means that knowledge of and ability to utilise these forms of technology are becoming a growing requirement for work, albeit more demanding in some settings than in others. In many forms of work, these capacities are now essential core competencies, not specialist occupational ones. So, there is an expectation in most contemporary workplaces that individuals should be able to perform these kinds of activities.

Other incremental changes include individuals working in teams or groups and having to communicate, engage in collaborative problem-solving, share work and draw upon others' specific contributions to an overall work project, such as in health care work (See Chaps. 8 and 11 of this volume). Similarly, issues associated with communicating with others and clients now might be part of specific work functions and capacities associated with effective performance of work. These are sometimes referred to as non-occupational specific capacities ('soft skills'), may not have been included as part of individuals' initial occupational preparation, but developed through workplace experiences. Yet, they are now required for effective work performance. Then, norms and practices associated with effectively interacting with colleagues, engaging in safe working practices, the use of appropriate language and engaging with workers of the other genders, and from diverse ethnic, religious and racial backgrounds form requirements in many if not most workplaces. So, it is not only the particular occupational-specific conceptual, procedural and dispositional knowledge that has changed, capacities required to utilise that knowledge effectively in work environments have also changed.

Learning for new occupations, particularly by more mature learners, can precipitate transformative learning when the knowledge and values of intended occupations come into conflict with existing knowledge and values (Hodge, 2014). Transformative changes have been associated with major life changes including changes in work life (Mezirow, 1991). Qualitative change in work practices can also lead to transformative change in workers who have adjusted to earlier practices. For instance, the process of learning new 'flatter' management practices can produce considerable tension in managers who were used to centralised, top-down decision making (Hodge, 2011). Such tensions are thought to drive transformative learning in adults.

It follows, then, that a key issue here is how these kinds of capacities might be best learnt across working life. That is, identifying when the development of these capacities is best undertaken through close interactions with other persons who possess those capacities or when the learning process is best realised through more personally-directed and mediated processes. Associated here is whether this development can most effectively be secured through educational experiences (i.e. training programs), by participating in everyday work activities and interactions and through guidance, or some hybrid arrangements. Moreover, as workers are inevitably at different stages along personal work life trajectories, how intentional educational arrangements might best progress is often person-dependent. Much of the educational provision is premised upon having a starting point from which learners

progress through the curriculum – the course or pathway to progress along. However, in the ongoing development of workers' knowledge, there are as many pathways as there are learners.[1] Concerns about health, safety, language use, engagement with others and their interests and capacities to respond to these changes are likely to be distributed across the working population. Hence, any processes aiming to secure intentional learning outcomes, including provision of direct support, are likely required to be differentiated in particular ways.

For instance, in one automotive workshop work practices changed to a more customer-focused provision of mechanical services with the advent of extended warranties for new vehicles represented quite a challenge for many of the mechanics (Billett, Smith, & Barker, 2005). Yet, within this group of workers there were significant differences in their confidence, disposition, interest and communication skills to effectively engage with customers in advising them about issues with their motor vehicles. At least one had been involved in working directly with vehicle owners yet, most of the others lacked this capacity by degree, and some saw this as being unnecessary or irrelevant to their work as mechanics. Hence, intentional efforts to develop the capacities to engage effectively with customers, for instance, would require processes that would need to be tailored to the particular individual's pathway of development. Importantly, when transformational learning is required to maintain workers' employability in the face of change of workplace practices, technologies or products and services, or even management styles, it is these individual bases that are central to not only personal learning, but also being able to bring about effective responses to those changes. These transformations by their nature can occur quickly (e.g. change in the warranty period for a newly purchased car) and be quite large in scale (e.g. changing core elements of an occupation).

So, individuals' capacities (i.e. what they know, can do and value) will be central to their readiness to engage with and effectively enact these changes. Returning to the case of the automotive workshop above, a requirement for supervisors was to be the point of communication between the mechanics and customers. One mechanic had a long work history as a roadside recovery mechanic and was used to engaging with people whose cars had broken down and required assistance to get their vehicle working to complete their journey. He actually enjoyed this work and he found directly engaging with customers was very fulfilling. This experience aligned well with his interest and he had developed his capacities to be an effective and empathetic communicator with customers, whereas the existing supervisor disliked and struggled with this role (Billett et al., 2005). Hence, for this mechanic, the need for more direct communication with clients was well-suited to his occupational skills and interests, whereas for the existing supervisor it was outside and beyond them, and he had no interest to develop these capacities.

Consequently, it is unlikely there will be a simple educational formula here, such as the use of the training interventions. What needs to be acknowledged is the diversity of individuals' readiness to engage in effective intentional learning. Therefore,

[1] This is undoubtedly true for children engaging in schooling, but is probably more pronounced with adults' ongoing learning.

a starting point might be to understand the extent of the gap between what individuals know, can do and value, and that which is required for them to respond effectively to transformational changes occurring through their work which are necessary to sustain their employability and seek advancement. Consequently, the focus needs to be more centrally on lifelong learning as a precursor to provisions of lifelong education.

Hence, seeking and securing employability can encompass both incremental and transformational changes to individuals' capacities that extends to seeking promotion or advancement. Sometimes, that advancement is based on the enactment of existing capacities. Yet, often it can require the development of new capacities. Here, issues associated with how best these new capacities might be developed include whether individuals' workplaces are the best environments for learning or whether these capacities should be developed and then practised and honed elsewhere. So, these personal imperatives are likely to be person dependent to address. All this emphasises individuals' work life learning needs and processes as being a precursor to a consideration of what constitutes lifelong education, rather than the other way round.

1.4.1.2 Engaging in Worthwhile and Rewarding Work

Another key motive for individuals engaging in learning across working life is to secure advancement in the form of more worthwhile and rewarding work, such as the Scandinavian conception of working life mentioned above. That is a kind and form of working life whose concerns are about conditions and practices that enrich work activities and purport to genuinely value workers' contributions. This can include learning capacities associated with a new occupation or part of that occupation to position them to engage in the kind of work they want to do (e.g. specialism), rather than what others want them to do. In many ways, this is central to Dewey's (1916) notion of vocations – what they mean to individuals and are worth to their associates. Making this kind of change may require individuals to participate in an educational program which leads to the certification required to practice that occupation or specialism. Hence, this imperative could well involve becoming a student again, engaging with assignments, and examinations. Such a change may also be one undertaken without the knowledge of the workplace, as it may well indicate a desire to leave that workplace to secure a new role in another workplace. Increasingly, the pathways to changing occupations or moving through occupational hierarchies will be dependent upon not just securing the capacities, but also appropriate educational certification. So, for instance in the studies of continuing education and training reported towards the end of this book, in the aged care sector one informant reported that she was undertaking a college course at night to become an early childhood or primary school teacher. However, she did not want this information revealed to her employer as it would indicate her leaving employment. The point here is that this personal imperative is likely to be realised through engagement in educational programs with all of what that entails for the individual: i.e. attendance,

engagement, becoming a student, fulfilling requirements of educational institutions, not all of which are easy for adults to negotiate.

Securing worthwhile and rewarding work may also entail challenging existing work practices. Where practices are unsafe, not adequately remunerated or in other ways unsatisfactory, workers may engage in negotiation or conflict with employers to secure better conditions. The avenues for negotiated change in modern industrial states are often intricate, and the learning required to avail such opportunities is substantial. Some of this learning is concerned with recognising the value of potential change and articulating the case in settings in which such questioning may be unprecedented. This intricacy can extend to shaping how workers engage in lifelong education. For instance, in a study of open cut coalminers' learning (Billett, 1993), miners refused to engage in additional safety training. What they argued was the employer was trying to get them to take more responsibility for mine site safety, which was a legislated responsibility of the mine site manager. So their decisions about participation in this additional training were not just about their own skill development, but the practices of the workplace. In this way, learning is required to engage in sanctioned forms of resistance and negotiation that may involve intricate processes to manage. The great industrial conflicts of advanced economies obviously subject workers to a range of new learning to secure worthwhile and safe working conditions, a key measure of the quality of working life.

In this way, lifelong education can play a particular role and offers provision of experiences and outcomes that are distinct from those to be realised through individuals' lifelong learning experiences alone. Taking the example of aged care workers, it is important for workers with either little or no educational certification to have the opportunity to obtain secure certification. In increasingly competitive labour markets and where the acquisition of occupational certification is a requirement for employment these workers can be marginalised without that certification. Hence, the importance of lifelong education resides in provisions that are responsive to workers' needs and accessible for the kinds of outcomes which can sustain and advance their employability. Again, the alignment between individual's readiness to participate in those educational programs and provisions for engagement and support are likely to be salient here for successful outcomes. Here again, it is not possible to consider the prospects for successful lifelong education without considering individuals readiness to engage and be successful in such provisions.

1.4.2 Institutional Imperatives (Global, National, Industry, Occupational and Workplace Levels)

The personal imperatives listed above are associated with individuals' needs and interests. Yet, there are also sets of imperatives for intentional learning associated with what the workplaces want learnt, the requirements for professional occupational licensing and the kinds of demands made by national governments and global

agencies for the conduct of work. Institutional purposes thus span global, national, industry, occupational and workplace levels. At the global level bodies such as the OECD regularly publish statements on what workers need to be learning. For instance, a 2014 OECD report on adult learning states that 'Workers need to adapt to changes in the course of their careers as the skills demanded by the labour market change' (2014, p. 1), and identify information-processing skills as important to maintaining this adaptability. These imperatives often resonate through many institutional levels. At the workplace level, for example, workers such as truck drivers learning to utilise the information systems in a highly automated truck might require the development of specific capacities to effectively maximise fuel use and in controlling vehicle emission and noise (Lewis, 2011). Hence, the employer might expect that the employee will understand how to use digital displays and engine management systems and drive the truck in ways that make limited demand upon brakes and use fuel efficiently. Truck drivers might also be required to wear high visibility clothes and be forbidden to take unauthorised detours from their routes, and know that the location of their vehicle can be monitored. Extrapolating from such a list, the kind of imperatives comprising changes in work requirements that work life learning needs to respond can be seen as being fivefold: (i) changes in occupational requirements and demand; (ii) changes in the requirements for work; (iii) changes in the ways of working; and (iv) changes with those in work (Billett, 2006). Institutional purposes aligned to each of these are briefly discussed below.

1.4.2.1 Changes in Occupational Requirements and Demand

Both the demand for occupations and the requirements for their effective enactment constantly change. As discussed above, when demand for occupations drops away, it may be necessary for individuals to develop a new set of occupational skills or extend those they currently possess. These can be transformational changes for individuals and to sustain their employment this might mean changing significantly what they can do and developing new sets of occupational capacities. Alternatively, it might be incremental change or responding to external requirements such as occupational health and safety demands, periodic occupational licensing or other checks on capacities. So, the extent and scope of these changes in occupational requirements are likely to have particular implications for learning across working life. These range from learning an entire new set of occupational capacities through to the updating of existing capacities to respond to new technologies, such as required for the transport industry as discussed, through to small incremental changes that need to be addressed constantly. Such a diversity of purposes mean that, variously, perhaps midway through working life individuals will need to abandon their existing occupation and learn new occupational capacities. As noted, most likely, this learning will require engagement with educational programs, participating as a student, and securing recognition and certification of new occupational skills, as noted above, through to models of development work by in-service or work-based educational provisions, or those offered by industry or professional bodies. Then, there is

the kind of learning which can be secured through everyday practice, and perhaps assessed through external means. Again, depending upon the extent and scope of change required by the employer, different kinds of continuing education and training interventions will be required.

The overall point here is that the demands for occupations and their requirements to be practiced constantly change. For many in the workforce this means engaging in different occupations than those in which they were initially prepared or have been the basis of their working life to that point. When there are shifts in the demands for occupations, and most noticeably when this occurs suddenly and dramatically such as the closure of an entire industry sector, there can be dramatic implications for individuals and their communities. Hence, lifelong learning and provisions of lifelong education will have to focus on more than developing fresh sets of occupational capacities. There are also issues associated with an individual's sense of self as adults and workers and how this transformation shapes relationships between themselves and their community, workplace and possibly family.

1.4.2.2 Changes in Work Requirements

As well as transformations in demands for occupations, there are changes in the requirements for occupations as new ways of working, techniques, technologies and processes are adopted. Then, there are changes in the organisation of work or ways of working. So, the requirements to use particular technologies, vendor products, or respond to particular kinds of customers' needs might well generate sets of learning goals of a different kind. Above, mention has been made about changes in the requirements for the use of technology in workplaces and the reliance upon technology for many work systems. Here, learning about how to use this technology may well have conceptual and procedural dimensions (i.e. understanding and capacities to use technology effectively), and finding ways of engaging workers' interest in using this technology optimally. In these circumstances, it is likely that engagement with more experienced others, possibly educational programs and close guidance will be required to develop these capacities in the first instance. Then, processes of engaging workers in using this technology, and being monitored and guided through its effective enactment might be required. So, more than developing occupational procedural and conceptual capacities, there are also distinct values associated with new work requirements that might need to be developed. Often, these capacities are best learnt, and cannot always be taught. For instance, increased use of quality regimes and checks might require engagement in active monitoring and reporting processes, which can extend to commonly performed practices. For example, the requirements for enhanced hygiene and infection control in health care settings have led to a growing focus upon hand washing.

Yet, for this learning to effectively occur requires individuals to self-monitor their own behaviour in terms of frequency and thoroughness in their practice of hand washing. Such outcomes are unlikely to be achieved unless the healthcare workers come to appropriate or value the importance of hand washing and extend

the time and effort required to do this task effectively. So, beyond the provision of support, educational programs, the efforts of others, central to engaging with and learning through these experiences is how individuals come to engage in their work and learning activities.

1.4.2.3 Changes in Ways of Working

Workplace practices or ways of working are also subject to change. How work is organised to achieve workplace goals is subject to change and being able to adapt effectively to those new ways of working may require particular kinds of interventions for individuals to develop appropriate capacities. For instance, a fairly common phenomenon is for work to be organised on the basis of collaborative or team efforts. For those used to close supervision, this can be challenging as both the quality and quantum of decision-making individuals engage in changes. However, developing these capacities is not simply just about learning to work collaboratively, as there are a range of situational factors which shape how collaborative work progresses (Hodge, 2011). There is likely to be clear distinctions between groups of individuals coming to work together collaboratively where there is no particular hierarchy amongst workers, and when a group of workers such as those in health care are asked to work collaboratively, yet within a hierarchical work culture (O'Keefe, McAllister, & Stupans, 2011).

Consequently, as well as considerations of the extent, quality of the kind of changes that might also inform the kind of interventions required there are those associated with new ways of working. For instance, in the second set of circumstances (i.e. working collaboratively within a hierarchical structure) it may be necessary to focus on group processes in overcoming unhelpful hierarchical arrangements, whilst maintaining the activities of work team. Hence, rather than the approach to supporting lifelong learning being about individual development of occupational capacities there will be instances where it needs to be focused at the group level, yet undertaken in ways that build effective work relationships, rather than fracture those working relationships with awkward or inappropriate impositions upon individuals working in teams. Once more, it is easy to conclude that such arrangements require a consideration of both individuals' readiness and the kinds of workplace norms and practices that currently exist, and those to which individuals are being asked to conform.

1.4.2.4 Changes in Those Who Work

Over time, the composition of workforces change which can lead to the need for changes or even transformations in how individuals conduct themselves in the workplace, the language they use, and how they organise and distribute activities and opportunities. That is, the development of the capacities for individuals to engage with others effectively and do so regardless of their gender, age, and

language, or their racial or cultural heritage. In many Western countries, in particular, the percentage of women workers has increased and these are often now close to or in the majority in many work situations, requiring gender-inclusive approaches to work activities and interactions, including allocation of work tasks and opportunities for advancement. That is, processes need to be fair and equitable, and seem to be as such. Moreover, beyond the changing gender composition of workplaces, increasingly as workers have longer working lives the percentage of older workers increases and these kinds of workers become essential elements of workforces. Hence, multi-age workforces and teams of workers are potentially becoming more frequent in a range of occupations and workplaces. Therefore, to assist with effective engagement of all members of the workforce and to direct their efforts towards workplace goals, there may need to be development associated with being more inclusive, and supportive of such a group of workers. Often, these changes and the outcomes associated with them are not directly related with occupational capacities per se, but those associated with effective management, communication and interactions across workforces. Often these are the kinds of outcomes that are best learnt rather than being taught. That is, they arise best from individuals intentional efforts to learn (i.e. lifelong learning), rather than educational interventions seeking intentionally to develop these capacities (i.e. lifelong education).

Of course, individuals' dispositions (i.e. attitudes and values) are likely to be central to the degree by which they are willing or interested in engaging with others, and are respectful in workplace intersections with diverse groups of workers. In a study of older workers, a male who had retired from military service and was now working in a civilian workforce, confided that for 30 years he had only ever worked with males, and now he had to work with and be supervised by females, which he found quite challenging. It was not that he was unwilling to engage with female workers, he just was uncertain how to engage (Billett, 2010b). Needless to say, such changes are unlikely to be addressed through the provision of short training programs, mandated information sessions or edicts from management. Instead, the kind of outcomes required to be effective in a diverse workforce are required to be learnt. Achieving this outcome, is subject to individuals' intentionalities and efforts as generated through their intentional learning rather than the provision of educational experiences (i.e. a training program).

From these accounts of the two kinds of imperatives (i.e. personal and institutional), it becomes clear that it is necessary to delineate between a focus on intentional learning that is largely shaped by the individuals themselves (i.e. lifelong learning) and, provisions of support, guidance or teaching by others (i.e. lifelong education). Different kinds of imperatives are likely to be more reliant upon one or the other of these. However, even these distinctions will be moderated by the person-dependent nature of human learning and development, and also the extent and the kind of demands which are arising from workplaces. On the one hand is the readiness of the individual to engage with the learning entailed by these motives. That readiness broadly comprises what individuals can know, do and value. Yet, that readiness will be person dependent by degree. On the other hand, is the degree of change or transformations which comprises the imperatives of the occupation or

workplace whose amplitude and extent will determine the kind and quantum of learning required for individuals' employability. Yet, even the most apparently obvious of these kinds of changes will be confronted by individuals in quite person-dependent ways. What for one individual is a small change in work requirements, is for another wholly transformational. Accordingly, there can be no confidence that particular models of continuing education and training, continuing professional education, professional development or whatever it is called will be able to address all of the kinds of imperatives that are listed above. Instead, different kinds of models and approaches will be required, as shaped by the particular requirements of what needs to be learnt for individuals' employability and the particular readiness of those who are to learn.

1.5 Lifelong Learning and Work

It has been proposed in this chapter that when progressing issues associated with learning across working life, albeit under the aegis of everyday work, continuing education and training, professional development, vocational education or continuing professional education, considerations of forms of support and educational provisions guidance and support, need to focus upon supporting intentional work-related learning. Such a project should not and cannot be constrained by the orthodoxies of schooling and arrangements for tertiary education. That is, of considering mainly experiences provided through taught processes, in classroom type arrangements and in or through educational institutions will be insufficient. Instead, a broad account of how this intentional learning might progress is required. That accounting needs to include the range of learning experiences through which workers' personal imperatives can be realized as well as those of their occupations and workplaces. In particular, consideration needs to be given to how support and guidance for that learning can be made accessible in the context of work and working life. Given that much of this knowledge and circumstances pertain to what can be experienced, the workplace arises far more frequently in considerations than, for instance educational institutions and training rooms, although experiences in each of these can provide a set of important forms of support and guidance for learning. Finally, approaches for organizing, ordering, supporting and guiding this learning has been advanced through a consideration of curriculum provisions and pedagogic practices.

As has been advanced here, it is not possible to consider the promotion of intentional learning across working life without accounting for both personal and institutional motives. Together, it is these that provide the impetus for that intentional learning, and also mediate it. So, as has been elaborated above, issues such as individuals' readiness in terms of what they know, can do and value is central not only to how they come to engage in their work and sustain their employability, but also how they come to engage with processes that variously support, direct or guide in their work-related learning and development. Then, there are also workplace

imperatives. These include the kind of changes to which individuals need to respond to sustain their employability and what is afforded them to achieve that outcome, in terms of opportunities to engage in activities and interactions from which to secure the required knowledge. For instance, close guidance and opportunities to learn and become competent with new technologies, procedures or ways of working together are likely to be supported by guided experiences which might be referred to as pedagogic practices. Then there are the educational processes that assist individuals learn about procedures which they cannot observe, touch or otherwise directly engage with (e.g. symbolic knowledge, that which is opaque), factors that they cannot directly experience and values that are not modelled or difficult to access.

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