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The Oxford Handbook *of* SKILLS AND TRAINING

THE OXFORD HANDBOOK OF

SKILLS AND TRAINING

Edited by

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and

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INTRODUCTION

Skills and Training: Multiple Targets, Shifting Terrain

JOHN BUCHANAN, DAVID FINEGOLD, KEN MAYHEW, AND CHRIS WARHURST

Skill Matters

Academic concern with skill is longstanding. Indeed, over the last half century, skill has been at the heart of much research on work, employment, and management across sociology, economics, labour/industrial relations, human resource management, education, and, more recently, geography. In the 1950s and 1960s there was a strong optimistic argument made by sociologists and economists, for example, about economic developmental trajectories that centred on upskilling in the advanced economies (Kerr et al. 1960; Bell 1973) and which was qualified in the 1970s and 1980s by more pessimistic claims of deskilling (Braverman 1974; Wood 1982), with a return to greater optimism in accounts of knowledge and creative economies in the 1990s driven largely by academics based in business schools (Reich 1992; Darr and Warhurst 2008). In the 2000s the rhetoric of the knowledge economy remained but the discourse partially shifted terrain again with assertions of a skill polarization led by economists such as Goos and Manning (2007) and largely accepted by other disciplines and which in turn is now also being challenged by other economists (e.g. Holmes and Mayhew 2012).

If skills are often at the heart of academic debate about work, employment, and management, throughout the advanced and developing economies, governments too cling to skill, believing that skills are the answer to a range of policy challenges. Huge expectations now rest on the shoulders of skill (Keep and Mayhew 2010). Skills are commonly regarded as a driver of economic development, as a panacea for social ills (e.g. Leitch 2006; UKCES 2009), and an essential tool of economic recovery and a route out of recession (e.g. EC 2009). Skill has become not just a silver bullet but also a sponge,

absorbing many other work and employment issues such as job quality (Gautié and Schmitt 2010) and social equity (Goldin and Katz 2010). Moreover, skills have also become a springboard into other work, employment, and management roles. For example, Skills Australia (2012), in trying to discern the best environment within workplaces to lever skill utilization, stumbled across an underpinning need for good leadership and good human resource management practices.

Thus skills matter not just in and of themselves because they offer a window into a range of academic and policy matters. However, debates and developments are dynamic. What skills are expected to deliver changes, as does the general understanding of 'skill'.

The Multiple Targets Skills are Expected to Hit

It is recognized that 'skill' is both a narrow and blunt concept—used to address productivity and efficiency issues, and more recently workforce and organizational development—and a wider, amorphous concept that masks a myriad of disciplinary, social and historical understandings as well as operational and analytical definitions (e.g. Attewell 1990; Vallas 1990; Appelbaum and Gatta 2005; Bryson 2010; Grugulis and Lloyd 2010). Furthermore, as compared to the 1970s and 1980s, there is increasing recognition of the need to appreciate that skill trajectories in the advanced economies cannot be disentangled from skill developments in the developing economies, as Sung and Raddon, and Liu and Finegold, Chapters 24 and 25, respectively, this volume, illustrate.

At the same time, other debates have become important. In part these new debates relate to the shift from manufacturing to services in the advanced economies as well as to changes in the relative power of the key economic players—the state, employers, and organized labour. In this respect, a key new debate centres on the morphing of understandings and control of skill, and on exactly what these entail as the contributions to this volume, by Payne and Warhurst et al. (Chapters 3 and 4, respectively) highlight. Moreover, as the literature expands to include developing economies, there is a greater emphasis on skills in the informal economy, where a high percentage of the population continues to be employed but which often evades the gaze of official classification and count.

What has been particularly striking most recently has been growing recognition of the need to nest skills initiatives in wider strategies of economic renewal, which involves both the redistribution and not just the growth of income. The importance of dealing directly with the inequality and not expecting too much from skills policies alone has been cogently argued for by Piketty (2014, 304–335). International agencies, such as the OECD, which previously strongly advocated supply-side initiatives, based on the assumption that increased skills boost economic development, have argued in recent pronouncements for the need to engage with a wider range of factors. Along with the International Labour Organization (ILO) and the World Bank, the OECD now explicitly acknowledges

that skills alone cannot solve the major economic challenges of our time and that unless the broader forces shaping inequality are tackled, initiatives in particular domains, such as skills, will be of limited impact (OECD 2012; ILO, OECD, and World Bank 2014).

The Shifting Terrain of Debates about Skill

Within these academic debates and policy initiatives, different aspects of skill are given priority over time. What matters about skills frequently shifts. In the context of who pays for post-compulsory education, training, and skill development (see Gambin and Hogarth, Chapter 31), accompanying attempts to make individuals pay (more) for their own education and training, the returns on skills acquisition for individuals have become a concern. Mainstream economic thinking, in the form of human capital theory, suggests that higher skills acquisition provides higher income for individuals. It also posits that firms benefit from higher-skilled individuals through productivity gains. As a consequence, over the past few decades, governments across the world have invested massively in supply-side polices to create more and better skilled workforces. The various beneficiaries of skill are considered in two chapters in this volume: by Holmes (Chapter 17) and Grugulis et al. (Chapter 18). These new debates are, in part, recognition of the failure of skill alone to deliver the anticipated economic, as well as social, improvements. The potential for wage premiums can, for example, decline as the labour markets of the advanced economies become flooded with more individuals with more skills. Relatedly, there is a now a growing concern amongst academics and policymakers about workforces being over-qualified for the jobs available (Smith, Chapter 23).

This failure to deliver has triggered appreciation of the need to move beyond supply-side policies to ones sensitive to demand, deployment, or what government and academics call 'skill utilization'. The Scottish Government is an exemplar in this respect (Warhurst and Findlay 2012). Although not yet underpinned by a robust body of research (Buchanan et al. 2010), skill utilization has become a concern because of its links to issues of business strategy, leadership and management, job design and work organization, and human resource practices (Lloyd 2005; Buchanan 2006; Hall and Lansbury 2006; Skills Australia 2012). The various strands of these debates are covered in this volume by Livingstone (Chapter 14), Ashton et al. (Chapter 15), and Felstead et al. (Chapter 16). The focus on skills utilization has intensified after the global financial crisis of 2008 since both advanced and developing economies have struggled during the slow recovery to create enough good jobs to employ the increasingly well-qualified students graduating from schools and universities. However, such issues are not new; skill has long been a springboard for examining wider issues about, for example, job quality, gender and control in the workplace, social and occupational mobility, and national and regional competitive advantage (e.g. Cockburn 1983; Finegold and Soskice 1988; Reich 1993; Crouch et al. 1999; Gautié and Schmitt 2010).

Once, charting how workers become skilled seemed easy. Becoming a 'skilled worker' involved a time-served apprentice involving on- and off-the-job accredited training and was framed around the so-called 3Ms workforce—male, manual and manufacturing. Now, with a focus on the growth of the services economy, not only is what constitutes a skilled worker contested (see, for example, Payne 2009 and Bolton 2004), as the definition of skill widens, there is new interest in how and where skills are developed. The answer seems to be not just in firms and formal institutions of technical education but also in schools, colleges, and universities as well as through family, friends and peers (Warhurst et al. 2004; Gatta 2005; Warhurst and Nickson 2007; James et al. 2013; also Polesel, Chapter 8 in this volume). However it should be recognized that at least some of the so-called 'soft skills' needed to get and do jobs in services are not new—they are important too *amongst employees* in all workplaces past and present, and are not just about relationships *between employees and clients/customers* in today's service organizations (Moss and Tilly 2001).

This shifting focus from supply to demand, deployment and development, and all that it entails, has raised calls for a more holistic and more nuanced appreciation of the 'skills cycle' (James et al. 2013) encompassing all four of these dimensions and the connections between them. Of course complexity now becomes an issue as treating each point on the skill cycle becomes more difficult. For example, some firms with skill utilization problems that are due to a skills mismatch can be tempted to muddle through, hire new staff, or train existing staff (Gambin et al. 2015). This complexity is compounded by comparative international analyses that show that even 'training' and 'apprenticeship' definitions and delivery systems vary by country, and that these variations have their roots in historical and equally varied settlements between capital, labour, and the state. These settlements are, moreover, subject to change, as the contributions to this volume by Martin (Chapter 2), Buchanan et al. (Chapter 21), and Bosch (Chapter 20) show. Unfortunately this complexity runs counter to many policymakers' (and academics') desire for simplicity. Indeed, the advent of so-called Big Data fuels this desire with the promise that a few algorithms applied to newly available machine-readable data will reveal all that needs to be known. This volume offers a middle way: coherence, but generated in ways that respect the complexity that surrounds skills today.

Capturing the Debates and Developments: A Framework

To capture the richness and diversity of current debates this book has been structured around three basic questions:

1. How are skills and training currently conceptualized and defined in scholarly and policy discourse (Section I)?
2. What are the core factors currently shaping skills in practice (Sections II–VI)?
3. What are the key challenges shaping them for the foreseeable future (Section VII)?

Section I deals with the key frames of reference (and how they are combined) for understanding skills covering conceptualization, and definitional and measurement issues. Perspectives covered include comparative political economy, sociology, education, philosophy, human resource management, and labour relations. The bulk of the book covers the vast, and often growing, literatures on skill formation with its attendant education and training (Section II), the demand for and deployment of skills, including skills utilization (Section III), and the outcomes of these processes for individuals, organizations and society (Section IV). Within any particular 'skill system', approaches to skill formation, use, and associated outcomes are intimately connected. The systems that prevail arise from four levels of determination: the global, the national, the meso (i.e. regional and sectoral), and the enterprise or organizational. The nature of these different levels of determination is examined in Section V. How these levels connect to form identifiable and different skill systems is profoundly shaped by the level of social and economic development within a nation state (Section VI). Skill systems involve more than state-driven projects or individuals making supposedly rational calculations about the rates of return to years of education. Rather, they reflect the balance of forces arrayed around different notions of the role of labour in social life in general and in production in particular—what can be called 'skill settlements'. However, these settlements are rarely static. The forces disrupting them and the factors currently shaping emerging skill settlements are considered in the final section (VII) on current challenges.

Concepts, Definitions, and Measurements of Skill

Section I is concerned with the frames of reference researchers draw upon to make sense of skills and training. While a wide range of disciplines analyse skill in their own distinct ways, scholars are increasingly combining insights from multiple disciplines to make sense of the issues and problems noted above. Bryson (Chapter 1) examines the strengths and weaknesses of the contrasting ways in which different disciplines such as economics, political science, organizational studies, and psychology contribute to understanding the various dimensions of skill from acquisition through recognition to utilization. In Chapter 2, Martin—drawing on comparative historical-political economy, industrial relations, and educational sociology—describes the historical evolution of different national training systems, contrasting them along two axes. The first is whether skills are taught in the regular secondary education system or through vocational schools and apprenticeships. The second is what is taught, some systems emphasizing the acquisition of general skills, others the acquisition of field-specific skills. As Martin shows, skill had a clear meaning in the context of manufacturing industry. However, as the composition of production has altered in developed countries, so the meaning of skill has widened massively. The sort of qualities needed by relatively low-level service sector workers—pleasant demeanour and pleasing appearance, for instance—were once thought of as personal characteristics. Increasingly they are now described as 'skills'. Payne (Chapter 3) in this volume analyses why and how

this change has happened and considers its possible consequences. Even when there is agreement on exactly what is meant by 'skill', there are still massive measurement problems. The early days of human capital theory saw years of schooling as the most common measure of human capital acquired in the education system, and the number and duration of training episodes as the measure of skills acquired through workplace training. As better and better data became available on these matters, qualifications obtained became a common metric. However, it is an imperfect measure privileging, as it does, formal education as the key variable of interest and tending to neglect other dimensions of skill. That there are at least three accounts of skill has long been recognized: that which resides with the person, that which resides with the jobs, and that which is socially constructed (Grugulis et al. 2004). Warhurst et al. (Chapter 4) examine how the social construction of skills has changed in recent years with shifts in the balance of power between capital and labour and how the new social construction of skills affects different types of workers by sex, class, and race, variously helping and hindering the employment prospects of these workers. Handel (Chapter 5) grapples with similar issues but with a view to devising a measurement system that draws on the best techniques and insights associated with sociology, labour economics, industrial relations, education, occupational psychology, and human resource management. His survey of skills, technology, and management practices (STAMP) provides a robust way of measuring the content of work based on these variables. Drawing on more tightly defined educational debates, Stanley (Chapter 6) discusses accreditation and assessment methods, contrasting competency-based assessment with standards referenced approaches to defining and measuring skill. All these chapters serve to reinforce caution when interpreting currently available summary statistics about a country's or organization's skill performance.

Skill Formation, Use, and Outcomes

How and why skills are formed, principally through education and training, has been a matter of longstanding interest to researchers and policymakers alike (Section II). Over the last 50 years one of the most influential intellectual traditions shaping analysis of these matters has been human capital theory—a narrative originally developed by Mincer (1958), Schultz (1961) and Becker (1962, 1964). While initially novel in the insights it generated, especially concerning the education–earnings nexus, it is a research tradition more noted now for its narrowing of analytical concerns than for any new knowledge created (Dalziel, Chapter 7). In recent decades most original insights into the dynamics of workforce development have emerged beyond—and often in explicit opposition to—this approach. The other chapters in Section II provide an overview of these rich analytical streams. Schools have long been recognized as important sites for preparing citizens for work—but their contribution involves more than 'years of education'. An overview of the different ways they deliver pre-employment skills formation is provided through a comparison of the German (tracked) and Australian

(generalist) approaches to vocational education at secondary school level (Polesel, Chapter 8). Understanding how universities develop higher-level technical and cognitive capacities requires far more than understanding the years of education–earning nexus. In Chapter 10, Humburg and van der Velden assess the wide array of forces at work in the sector dealing with preparation of professional and senior managerial employees. At a formal level human capital theory acknowledges learning occurs both on and off the job. Its stylized approach to this matter, however, fails to grapple with the complexities within both domains and how they interact. The rich dynamics associated with how the apprenticeship model of learning combines both is documented by Lerman (Chapter 9). The human capital tradition is equally weak in engaging with how employers differ in the way in which they either contribute to or hinder the development of human capability on the job. The growing literature on this issue is considered by Unwin (Chapter 11). How workplaces shape learning is not solely determined by employers. Unions have also had a longstanding interest in this matter—a role that has changed dramatically in both content and scale in countries such as Sweden and the United Kingdom in recent times (Stuart and Huzzard, Chapter 12). Finally, skill formation evolves over individuals' working lives. The manner in which this evolution occurs depends greatly on how societies either help or hinder citizens' capacities to navigate transitions between work and non-working spheres of life. Schmid (Chapter 13) summarizes the latest developments concerning this dimension of workforce development.

While interest in skill formation has been of longstanding analytical and policy concern, interest in skill utilization is of more recent origin. The key aspects of this emerging literature are dealt with in Section III. As levels of educational attainment have increased it has become increasingly clear that while we may live in knowledge society we are yet to live in a knowledge economy (Livingstone 1999). This reality has made skill under-utilization a matter of growing policy attention. The limited evidence that is available shows how extensive the problem can be: in the United Kingdom, for example, almost half (48%) of employers report skills under-use amongst their workforce (UKCES 2014). Under-utilization is thought to be bad for individuals, firms and nations. However, as Livingstone (Chapter 14) points out and explores, there are two key challenges in assessing the extent of skill under-utilization: first, resolving how to define skill utilization; second, understanding who uses the skill available and for what purpose. Ashton et al. (Chapter 15) explore some of the implications of this challenge by examining how differing business strategies in manufacturing and services influence skill use. Their analysis challenges the widely held belief that the 'right' workforce skills are an essential element of organizational competiveness. They note that the framing of this belief tends to be underpinned by prescriptive rather than descriptive supporting evidence. In reality the hard evidence is mixed. What is clear, however, is that there is some relative autonomy for employers to make choices about their business strategies and the skills of their workforces. It would seem therefore that skill under-utilization is a product of employers' business models and the policy environments in which they operate. Felstead et al. (Chapter 16) review the different types of international and national skills data currently available on skill stocks, job skills, and skill mismatches, critically appraising the

underlying concepts of skill and the collection techniques used to generate these data. As they point out, this is not merely a technocrat exercise of purely academic interest but one that impacts how governments around the world make decisions about investment in education and training for their citizens and which affects international comparisons of national competitiveness.

The two chapters in Section IV consider the outcomes associated with skill acquisition. Research in this area has been at the heart of economists' approach to the subject and has been highly influential with policymakers, not least in deciding what areas of training activity to subsidize. Holmes (Chapter 17) reviews research on the economic returns to individuals, demonstrating that there are still a number of unresolved methodological difficulties with conventional econometric approaches. Prominent amongst these difficulties is the use of misleading or inappropriate control groups. This theme is pursued by Grugulis et al. (Chapter 18). They discuss the possible returns of skill acquisition to the employer and to the national economy in terms of higher productivity and faster economic growth. The authors of both chapters argue that the contingent nature of many of the econometric results has not always been fully appreciated by policymakers and that this problem has led to some faulty policy interventions, and to a tendency to over-estimate both the private and social economic returns. Grugulis et al. note, however, the broader non-economic benefits to skill acquisition in terms of individuals' lifestyles and their behaviour in civil society. Treating knowledge and skills as primarily leading to narrowly defined economic benefits can result in the neglect of the benefit of skills for the quality of life more broadly.

Skill Systems: Levels of Determination and Dynamics of Development

Given that skills involve more than benefits to individuals and are shaped by significantly more than individuals making self-interested, rational calculations about their own rates of return, it is necessary to consider what actually does shape the formation, uses, and outcomes of skills. The four chapters in Section V deal with such questions at the global, national, meso, and organizational levels. Whilst each chapter deals with a different level of analysis, they share a common understanding of how the different levels are connected. Whilst each has a distinct impact, none operate independently of the others. Indeed, each level shapes the operation of the others.

Lauder et al. (Chapter 19) consider the global level. They begin with an evaluation of the main theories of skill formation, which they term 'universal' and 'particularistic'. They assess the utility of these theories against developments in the globalization of the world economy. They argue that, in this context, a new agenda for skill formation is needed that uses insights from the particularistic theories but within an emergent model of global skill formation driven by transnational companies. Doing so, they further argue, highlights an additional need—for national governments to develop industrial policies that match the supply of skills to demand in this new context.

Bosch (Chapter 20) considers the nature of different national skill systems. He notes that skill systems are not pre-determined by technology or other practical constraints but are social (and often quintessentially national) institutions within which there is scope for independent action. Drawing on different disciplinary approaches to understanding these social institutions, he outlines various typologies of national skill systems, focusing particularly on vocational training, and noting that some systems are perceived to function better than others. The bad news for governments is that it is difficult to transpose these better systems—which, of course, does not stop governments wanting (and trying) to do so. The consequence is that differences in national skill systems and their functionality are likely to remain.

Even within national systems there is often considerable variation in practice at the regional and sectoral levels. Buchanan et al. (Chapter 21) shift the focus to understanding skills in this context. Recent efforts to reshape skill systems at this level have centred on what are referred to as 'skill ecosystems'. Although this notion emerged out of reflections on novel experiences in the United States, they note that most practical initiatives to reform ecosystems have occurred in Australia, though strongest political support has occurred in Scotland. Whilst welcome, these efforts have not been sufficiently ingrained or sustained to achieve lasting change. Unless there is an alignment of activity at national, regional, and enterprise level—as well as at sector/regional level—significant, lasting reform to skill ecosystems is all but impossible to achieve.

The firm level is examined by Lam and Marsden (Chapter 22). They analyse skill development within different types of employment systems in the context of organizational change. No firm is an island—and Lam and Marsden highlight how enterprise level choice and practice is profoundly shaped by 'societal effects' such as wider 'educational' and 'employment relations'. Their focus is on learning-by-doing and the accumulation of practical experience and skill in this context, mindful that there are different and dynamic interests at play amongst workers, managers, and investors. They argue that societal influences affect the current operation of employment systems. These influences come from two directions: the nature of skills and knowledge that employees bring to the labour market from educational systems; and the way societal institutions affect the operation and choice of firm governance arrangements for skills and knowledge. Whilst there is room for some autonomy at the enterprise level, these broader 'societal effects' profoundly limit the realm for discretionary action.

Most of the analysis of skill systems has been concerned with developments in the advanced capitalist economies. The nature of skill systems varies with—and often plays a critical role in shaping—the levels and character of development within countries. What is striking, however, is the commonality of the skill mismatching problem across countries at very different stages of development. This is a common theme of the chapters in Section VI. For the advanced industrial economies, where the vast majority of individuals complete secondary education and a high percentage continue into some form of tertiary education, having a sufficient supply of skills is rarely a serious concern. Instead, as Smith (Chapter 23) notes, the focus of policy debates is shifting toward skills demand and whether there will be a sufficient quantity of good jobs for individuals

to use the skills that they and society have invested in, and if the skills that are being developed are the right ones for today's global economy. Singapore and South Korea are starting to confront similar issues, as their developmental states have been extremely successful in moving their economies rapidly up the skill ladder (Sung and Raddon, Chapter 24). In both countries, strong governments have simultaneously used industrial policy to help foster more higher-value-added sectors and corporate strategies and continuously upgraded the education and training system to ensure companies have a well- and appropriately-prepared workforce to meet their needs. As their development has matured, these economies have struggled to make full use of their increasingly educated populations. China and India, by contrast, are still at the early stages of this transition from low- to high-skill equilibria (Liu and Finegold, Chapter 25). The world's two largest workforces, which together will account for over one-third of human capital in the first part of the twenty-first century, have very rapidly increased their investments in education and training over the last two decades, but continue to struggle with uneven quality of much provision and the failure of skills demand to keep pace with the increase in supply.

What Are the Current Challenges?

The final Section (VII) explores the forces making for change and the key challenges that will shape the character of these changes. Whilst this volume highlights the diversity of institutional systems and approaches to skill development, the concluding chapters highlight the common set of challenges that most nations are facing today. Arguably, the greatest change emerging is that affecting demand, especially the character (and not just the level) of labour required for productive activity. Perhaps top of this list is the likely disruption posed by technological change, as the integration of advances in artificial intelligence, sensors, robotics, and other fields have the potential to fully automate 60% or more of all jobs by 2030 (Elliott, Chapter 26). At the same time that technology is eliminating many good jobs, it is also intensifying competition for those jobs that remain by facilitating the process of globalization. The most visible manifestation of this process in skills systems is the rise of international skill flows and migration. Wickham (Chapter 27) describes the increasing flow of labour (low- and high-skill, temporary and permanent) across borders, as individuals from populous emerging nations seek opportunities in richer, lower birth rate OECD countries. Initially the most acute manifestations of increased global competition in labour markets were felt amongst lower-skilled, blue and white collar workers undertaking routine tasks. But Sako (Chapter 28) shows that even very advanced education provides no guarantee of job security as high-end work in many professions that until recently was almost exclusively performed in-country has been routinized and standardized, enabling firms to move it around the world to where they can find the most available talent at the best price. Compounding problems of increasing competition on the supply-side of the labour market originating from rising global integration are increases in labour supply from domestic sources. As

Loretto et al. (Chapter 29) show, advances in medicine and public health have generated major gains in life expectancy around the world, with an accompanying increase in the age of the of the workforce and need to help individuals prepare for multiple and more varied career changes.

Whilst changes in the conditions of labour demand and supply will make change inevitable, the actual nature of the change that will prevail will be shaped by how skills are defined and how the financial burden associated with skill development and the benefits of their use are distributed and organized. Wheelahan (Chapter 30) identifies the need to question the increasingly narrow vision of work-related skills training currently prevailing in the United Kingdom and many Commonwealth countries. Moving beyond the age-old 'education' versus 'training' dualism, she highlights the importance of redefining skills on the basis of Sen's (1999) and Nussbaum's (2000) notions of capability and argues for nurturing what she calls a modern notion of vocation and vocational streams. Recasting skill regimes along these lines has the potential for providing both rewarding careers for individuals and adaptive capacity for organizations and sectors facing increasingly uncertain futures. The last two chapters engage with the thorny question of financing and organizing skill development. As education and training vie with a range of competing policy priorities for tightly constrained public funding, a core issue that governments will face is who should pay (Gambin and Hogarth, Chapter 31). In the context of the financial squeeze on education and training, Keep (Chapter 32) seeks to synthesize key lessons from the research across the volume to help guide policymakers as they confront these difficult challenges. He concludes that the issue is not just the level and distribution and funding—but how skill systems are organized and what funding models are used to nurture effective responses to the change and turbulence faced by all economies.

Conclusion: 'The Old Is Dying and the New Is Waiting to Be Born'

Gramsci's observation concerning the situation prevailing at the end of the Great War[1] neatly captures the nature of our times. The skills of a population—how and what human capability is developed and used—are matters of perennial policy and analytical concern. The contributions to this handbook highlight that, whilst there are in fact diverse perspectives on this matter, the divergence in disciplinary outlooks is not as great as it once may have been. Nearly all the contributions question explicitly or implicitly the simple-minded human capital framing that until recently has had

[1] This quote is a variant on Gramsci's observation on the upheavals in Europe following the end of the First World War. In the original it reads: 'The crisis consists precisely in the fact that the old is dying and the new cannot be born; in this interregnum a great variety of morbid symptoms appear' (1971, 276).

such pervasive influence, not just in mainstream economics but also, more importantly, amongst many public policymakers. Whilst interest in moving beyond a preoccupation with supply-side concerns is growing, much work remains to be done. This handbook provides a benchmark of the current understanding of the dynamics and dilemmas of skill demand and deployment. With this understanding has also come a greater appreciation of the difficulty of changing both utilization and of achieving a fairer and more sustainable distribution of the costs and benefits of skill development. Whilst scholarly understanding of these matters is on the rise, the reality of who pays is becoming more narrowly defined. Individuals are finding themselves bearing more of the burden as employers and the state shift the costs and risks of skill development onto workers. This outcome is a legacy not of human capital theory's superior understanding of skills issues; rather, it is occurring because more workers are finding themselves in labour markets with increasing numbers of highly skilled competitors both domestically and internationally. In a situation of excess supply of skilled labour and weakened organized labour, employers and the state are in a position to shift costs relatively easily.

As the chapters on skills systems show, the determinants of the current situation reflect forces at work at the global, national, meso, and enterprise level. Affecting policy-induced change is, therefore, very difficult. But equally, as the final section demonstrates, profound changes in skill demand and use are already well underway. Shifts in the level as well as the content of skill demand consequent upon the most recent round of technological change is (and will continue to be) significant. The shifts in labour supply will be just as important—globally as well as domestically. How these forces play out will be shaped directly by how the nature of skill requirements is defined (for example, narrow conception of immediately relevant 'competence' on the British Commonwealth model versus a more expansive notion of capability, elements of which already prevail in some European systems). They will also be shaped by policies concerning the distribution of the costs and benefits of productivity gains that come from skills and allied innovations at enterprise, sectoral, and national levels.

Arguably the key issue requiring closer attention is how new institutional capacity to respond to these new understandings and challenges can be established. The dynamics shaping current and emerging systems are documented in this book. Just how they will evolve is an open question. Whilst the policy legacy of human capital theory, with its preoccupation with supply issues is still strong (especially in a situation of expanding skilled labour supply), the analytical and policy resources to transcend it are stronger than ever. The outcome in terms of the types of skills systems that prevail will ultimately be settled at national and sectoral/regional level. As such, whilst the forces for change are common and appear to be converging around the globe, the diversity in skill systems and regimes is set to continue—but in different forms. This handbook includes the key thinkers and offers state of the art understanding of these skill debates and developments. As the targets and terrain continue to expand and shift, what is known and understood now about skill will inevitably change and will be informed by the contributions to this handbook.

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SECTION I

CONCEPTS, DEFINITIONS, AND MEASUREMENTS OF SKILL

CHAPTER 1

DISCIPLINARY PERSPECTIVES ON SKILL

JANE BRYSON

'Skill' is a term that everyone thinks they understand. From infancy through adulthood to old age we all lay claim to a range of skills, or have them attributed to us or to the activities we engage in. They are developed, recognized and utilized in different ways for different purposes. Commonly we assume skill refers to one's ability to do things, but when one approaches skill from different perspectives it shows us that skill is also located in the job or activity, and that skill is socially constructed.

Skill is deceptively simple and complex at the same time. From a child development perspective, the marvel of growing skills is complicated by factors which enhance or inhibit physiological and psychological processes. For example, environmental conditions influencing nutrition and nurturing such as access to food and education, quality of parenting, and circumstances in the home can all impact whether skills are developed, which ones, and to what level of expertise. Also as adolescents and adults, in our work and non-work lives, skills are complicated by how they are developed, recognized, and valued. For example, skills developed in one employment setting may not be recognized and valued in another, a phenomenon most starkly illustrated by migrants unable to utilize their foreign-developed skills and qualifications, or by locals with years of practical experience but no recognized qualification, or by young people with base qualifications but no work experience.

Skill is instrumental. It serves us in individual, social and economic life, aiding our survival and wellbeing. It also serves others. In the broadest sense skill is mutually relied upon in everyday interactions in various communities and contexts (for example, through skills of communication and organization). Skill is used by both paying employers and voluntary organizations to contribute to business goals. Skill may be developed and shaped in the context of its use. It is in the access to skill development opportunity, and in the recognition, utilization and valuing of skills, that complexity emerges and skill becomes intensely politicized. These complicating factors bring skill

within the realm of political decision-making over allocation and distribution of education resources, state involvement, and social valuing of skill.

Academic interest in skill examines, theorizes, or directs the shaping of that instrumentality. Disciplines such as psychology and education explore how an individual develops skills: how skill can be taught, or learnt, or reshaped. The interests of other disciplines, such as economics, sociology, industrial relations, and human resource management, canvass skill formation and value but more often through a view based on economic instrumentality, that is, how skill is shaped to serve economic ends. Thus, although there are strands of literature that take a broader view of skill for living in society, recent interest and public policy have been dominated by skills for vocational purposes in order to drive economic growth.

This chapter's objective is to assist the reader's critical comprehension of different perspectives on skill. In order to analyse skill discussions, one needs to appreciate the variety of ways in which skill is framed and theorized depending on the disciplinary paradigm underpinning the view. This chapter introduces some of these different disciplinary perspectives on skill. It would simplify analyses such as this if we all adhered to a single discipline and each discipline had a single world view. But, of course, neither of these things happens. The topical context and issues associated with studying work, workers, economies, societies, and skill requires a cross-disciplinary lens, examining both institutional- and individual-level influences thus combining the political, economic, sociological, organizational, and psychological. However, unpicking cross-disciplinary approaches, or indeed trying to knit them together, can be confusing. Skill is discussed as both a quality (what it is, how one develops it or uses it) and a quantity (high-skilled versus low-skilled, or calculating the cost and the financial benefit of skill). There are differences in the interests of researchers within each discipline about skill; consequently, they ask different questions and use different methods to explore them.

For example, a psychologist is usually more concerned with how we acquire skill; an educationalist focuses on teaching of skill for optimal learning and education outcomes such as successful course completion. An economist is more interested in the economic value of specific skills, the incentives to invest in their development, and their contribution to the economy; a sociologist may be more concerned with which skills are recognized by society, how they are valued and why; and a political scientist with how different national institutions and policies impact skill formation and distribution.

In a related vein, Fenwick reviews a variety of disciplinary accounts of workplace learning and argues that the differences are 'not perspectival, but ontological' (2010, 79). She demonstrates that, under the label of 'learning', disciplines such as adult education, human resource management (HRM) and organization studies, 'actually delineate different objects of study' (2010, 80). The same may be true of skill. Hence this chapter identifies three cross-disciplinary lenses on skill, and within these discusses the features and focus brought by the different disciplines commonly utilizing each lens. The first discussed is political economy of skill approaches, which tend to be the preserve of economics, political science, sociology, and industrial relations; the

second I have labelled skill as organizational resource, which is a view of skill typified by organization studies and HRM; the third is learning theory approaches to skill dominated by psychology and education. There is of course blurring of the artificial boundaries I have delineated here; in fact, they are not boundaries at all, merely broad categories to aid analysis. In practice, different disciplines, to varying degrees, do take account of other disciplinary approaches, for example, sociology takes account of the economic consequences of having skill. Hopefully awareness of different perspectives allows one to span or integrate them in ways that could lead to advances in theorizing and policymaking in the future.

Table 1.1 poses a series of questions in order to interrogate different disciplinary perspectives on skill. Disciplines differ in that they may:

- have different views on each of these questions
- be more concerned or place greater weight on some questions rather than others (and/or have different goals in mind)
- have different ways of investigating these questions.

Table 1.1 Different perspectives on skill

Typical broad theoretical approach	Political economy of skill		Skill as organizational resource	Learning theory
Underpinning disciplines	Economics	Political science, sociology, industrial relations	Organization studies, HRM	Psychology and education
What is skill?	Economic resource Skill as the input Skill as an independent variable Skill is technical, firm-specific, or general	Individual and social or collective resource (interdependency of skills) Skill as a dependent variable Skill is in the job	Organizational resource (RBV) Skill in person and job	Individual attribute, competency Skill as the product or output Skill as an independent variable Skill is in the person
How do we acquire skill?	Institutional arrangements for systems of skill formation	Socially constructed; social networks, institutions	Buy it in, develop on the job—dependent on organization strategy	Learning processes, pedagogical processes, skill transfer

(*continued*)

Table 1.1 Continued

Typical broad theoretical approach	Political economy of skill		Skill as organizational resource	Learning theory
Underpinning disciplines	Economics	Political science, sociology, industrial relations	Organization studies, HRM	Psychology and education
Why have skill? How is it used?	Individual investment for personal gain or public good?	Human/social right/ entitlement to a level of skill	Organizations as learning environments; communities of practice	Individual performance and/or communities of practice
How is skill recognized?	Qualifications signal skill. Differing pay levels as labour market supply and demand dictates	Occupational/ skill hierarchies/ ecosystems	Qualifications and matching at recruitment; performance on the job; completion of company-endorsed training	Formal assessment processes for task mastery and competence
What impacts does skill have?	Source of competitive advantage and economic growth	Personal and societal	Contribution to organization performance	Personal and interpersonal wellbeing

Political Economy of Skill

Political economy approaches study the interrelationship of political action, policy, and economic process. It has been regarded as a hybrid of political science and of economics, but is a cross-disciplinary perspective utilized also by sociology, industrial relations, and other social sciences. Broadly speaking, the political economy of skill examines the range of institutions and actors of modern economies (particularly varieties of capitalism) in relation to skill formation, utilization, and value. This may involve analysing the social and economic consequences or impact of different skill-formation regimes, such as investigating the behaviour of governments and employers in relation to investment and provision of vocational education and training, and issues of skill supply and demand in the labour market, or analysing how skill demands can drive income inequality and other consequences. In some instances the wider purview of political economy has given rise to overarching analytical models. For example, the notion of skills equilibria and skill ecosystems has assisted examination of the range of institutions, policies, practices, and conditions at region, industry and firm level which impact the skill demand and supply in a particular industry or location (Finegold 1999; Buchanan 2006).

Political economists are interested in outcomes associated with skill and in how institutions such as vocational training systems, industrial relations systems, and welfare policies shape how skill is regarded and distributed in society (locally and globally). Economists tend to approach political economy with an emphasis on the operation of the market for skills—the labour market—as a central feature of their considerations. This reflects their disciplinary roots. Similarly, sociologists, political scientists, and industrial relations experts all engage in the political economy of skill debates with more of a socio-cultural perspective than an economic one. In particular, political scientists appreciate that politics significantly influence 'what kind of skilled labour market employers (and trainees) faced, as well as the kinds of solutions available for redressing the particular market failures that emerged in different contexts' (Thelen 2004, 16). Hence, political economy in the hands of a neoclassical economist is quite different to political economy in the hands of a political scientist or sociologist. So at the risk of over simplification the following summarizes perspectival differences in what is attended to or prioritized.

Economics

Economics as a discipline has been described as 'the study of how people choose to use resources' (American Economic Association), and as the analysis of the production of wealth and its distribution. Microeconomics examines individual decisions and economic behaviour (of people, firms, and markets), whilst macroeconomics is the study of the whole economy, usually national economies but also the global and regional economies. Macroeconomics defines and analyses relationships between broad economic aggregates representing the sum of behaviours, transactions, and financial flows in the economy: for instance, national income, saving and consumer expenditure, investment, aggregate employment, quantity of money (money supply), and balance of payments. Macroeconomic outcomes are a function of many micro-outcomes (individual behaviours), and micro-outcomes are influenced by events at the macro-level. Thus macroeconomics examines economy-wide phenomena, finding the conditions under which the economic system is in equilibrium and noting the characteristics of this in order to make predictions. A common difference amongst economists is their views on what influences macroeconomic conditions, in particular the role of government policy in guiding the macroeconomy.

The interests and priorities of economics are reflected in its research tools and methods. Uppermost for many economists has been a desire to explain, forecast, or predict economic behaviour (of individuals, businesses, nations) and thereby to shape future actions. The explanation and forecasting of economic behaviour is done by creating models of markets or economies often based on statistical analysis of large datasets. For instance, labour economists (those specializing in the economics of labour or work) analyse the operation of labour markets for various types of labour or skill. They form models of the demand for and supply of labour, and the influencing factors that bring these two features into equilibrium, such as wages offered, training available, jobs available, etc. Generally, however, economics is not good at labour market forecasting because of an inability to project changes in demand—that is, employer behaviour.

Therein lies the challenge for economics: the inability to accurately predict some aspects of economic behaviour undermines its models.

Thus economics, like many disciplines, does not have a consensus view on how best to shape or understand an economy. Various schools of thought have competed for intellectual dominance such as classical, neoclassical, Keynesian, Chicago, and monetarist beliefs, to name a few. These differ either in the assumptions they make about economic behaviour or the priority they accord to specific features of the economy. For example, a central assumption of neoclassical approaches is to separate economic theory from social context: a rather mechanical view of the economy and its operation is the result. This view had a significant impact on the economic policies and institutions of many English-speaking countries in the 1980s 1990s. However, there are certain pervasive assumptions that cut across various economic orientations such as a presumption of rational behaviour by economic actors, and markets as a key unit of analysis and as economic drivers. Turning attention to economic perspectives of skill we also find common ground.

From an economist's perspective, skill is an economic resource. Economics tends to look at skill in terms of cost, value, and returns on investment in skills to the economy, the firm, and the individual. Thus there is a focus on the rational investment in skill and associated market behaviour, and an absence of consideration of other factors, such as emotional investment in skill (e.g. driven by individual interest, skill heritage, or cultural valuing). Although it is interested in the pay-off of skill to individuals, by and large economics assesses skill disembodied from the person.

Skill is seen as an input to the production process or economic activity which increases the value of raw materials or interactions, and is thus an essential element of the economy. Economists are particularly interested in using skill differences to explain different economic outcomes, both at a macro- and a micro-level: for instance, examining gross domestic product (GDP), prosperity, and wellbeing in relation to national skill levels, or calculating the return on investment in education and training to the firm, or the return to the individual in the form of increased wage-earning capacity over time. Indeed, skill is often used as the independent variable in economic research, which is used to predict or explain variations in some other variable.

Economic interest in skill has thus had an instrumental focus: how skill contributes to the economy. Economists have historically emphasized the difficulties of the labour market in meeting the skill needs of industry. In particular, attention has been paid to the failure of markets to provide skill formation for workplaces, the argument being that firms lacked the incentive to invest in training their workers for fear that they might quit and join a competitor. This thinking was extended by human capital theory (HCT), which has been one of the most influential conceptual developments in modern labour economics. Becker's (1964) theorizing in this area reinvigorated economic interest in issues of labour supply, education, and skill development. The core of HCT brought economic attention back to individual behaviour. HCT framed individual choices about skill development (through schooling to tertiary education and on-the-job training) as *investment* decisions which yield individual rewards in the short- and long-term such as access to better jobs, improved wages, and opportunities. Thus, true to its economic roots, HCT theorizes skill as a quantifiable cost, return on investment and value to both

the individual and to employers and the economy. It is this framing that underpins the view that organizations are better to invest in firm-specific skills rather than generalizable or portable skills which employees can take to other employers. It also underpins the view that individuals should bear the cost of their higher education, theoretically because they will derive the financial benefit from it.

HCT has been challenged and developed further on the grounds that most skills, rather than being firm-specific, are more likely industry-specific and thus transferable (Stevens 1994; Acemoglou and Pischke 1998). Acemoglou and Pischke (1998) observe the impact of different regulation regimes, challenging HCT at both macro- and micro-levels. Stevens (1999) extends an HCT analysis to demonstrate that the main causes of under-investment in vocational training are: capital-market imperfections, labour-market imperfections, and informational problems (about types and quality of training). Thus, although subject to challenge and development, HCT remains a very influential driving set of assumptions within skill debates.

Not only is economics concerned with institutional arrangements for skill formation—who pays, who benefits—but also, as already alluded to, with the operation of the labour market for skill. Because economic research methods involve modelling and forecasting they require measures of the various factors being modelled, such as skill, return on investment, etc. Most commonly qualifications (or years of education) are used as a proxy for skill or productive potential (Spence 1973; Bills 2003), and the return on those is measured by pay levels or earning capacity in the labour market. Thus economics provides a predominantly quantitative view of skill as a resource with costs and payoffs that is traded in the labour market. This perspective has also been highly influential in industrial relations, HRM, and organization studies.

Political Science, Sociology, and Industrial Relations

Social sciences, such as political science, sociology, anthropology, economics, and human geography, all share a certain range of common interests, concepts, and methods (Giddens 2009). However, despite these commonalities each discipline has a distinctive orientation to issues.

Political science is concerned with how society governs itself, political systems, and political behaviour. Through this it is also interested in how power and resources are allocated in society, that is, how political processes and governance confer power on some and not others in society. Hence political scientists' interest in skill tends to relate to examining the influence of government policies on the formation and distribution of skills and skill outcomes in society.

The 'varieties of capitalism' debates in political science (Hall and Soskice 2001) have given rise to increased interest in skills at the level of national political economy, that is, the impact of different national institutions or regimes on skill formation, utilization, and societal outcomes. This approach underpins a range of studies comparing skill formation in different countries and how it is influenced by the distinctive institutional structures of each nation (Thelen 2004; Lauder et al. 2008). In particular, varieties of

capitalism originally contrasted liberal market economies (such as Britain, the United States, and Australia) with coordinated market economies (such as Germany, Japan, and Denmark), and explored how the strategies and business practices of a firm are shaped by and interact with the institutional structures, such as industry or sector training bodies, apprenticeship systems or other educational systems, and incentives. This approach permits a more nuanced appreciation of the production and reproduction of skill in jobs and in people, and the powerful impact of government policies. Thus the political scientist deploys a wide range of methods: qualitative, quantitative, historical, comparative, interpretive, and critical. Historical approaches document and analyse past institutional arrangements. Comparative methodology may analyse contemporary arrangements compared with those of the past, or, as in varieities of capitalism, it may compare across different countries. The comparative approach may use both qualitative and quantitative data in its analyses. Interpretative methodologies see human action as meaningful and historically contingent, thus they explore the lived experience of people. Interpretative approaches do not start with predetermined concepts, nor search for generalizable laws; rather, they search for meaning in a specific context (see Bevir and Kedar 2008). Critical approaches assess and question dominant understandings and modes of operation in society and culture. They have their roots in the thinking of Hegel and Marx, critically analysing society to expose political structures of constraint, and arbitrary exercise of power (Bonner 2010).

Sociology studies society, social processes and human social behaviour. It seeks to understand how and why a society is structured in the way it is, and how societies change. Hence, it has been argued that a sociological perspective can be regarded as an overarching view of 'all studies of human kind, including history, psychology and economics' (American Sociological Association). As a result it tends to take a broader view of skill than economics.

Sociologists tend to focus on 'skill in the job' as opposed to in the person (Vallas 1990; Grugulis and Stoyanova 2011). Thus the sociologist questions why some jobs are regarded as unskilled and others as highly skilled. They explore, for instance, whether this is because some jobs are structured to be tightly controlled with no room for discretion or have only a small range of simple tasks to perform, whilst other jobs require more decision-making and rely on the judgement of the incumbent. Alternatively, sociologists also consider whether society has defined some work as skilled or unskilled, professional or menial, and thus creates skill or occupation hierarchies that become entrenched if they are not challenged. As Vallas (1990) discusses, 'sociologists typically view skill as a dependent variable, as when we attempt to explain variations in the level of skill within occupations, firms, or economies over time' (1990, 380). Thus sociologists are interested in explaining or accounting for skill largely by looking at the nature and structure of work, whereas other disciplines (such as economics) tend to prefer to use skill to explain or account for other phenomena like wage inequality, economic growth, or organizational performance. Sociologists are also interested in social inequalities and their antecedents and consequences, for instance, how they are affected by and affect access to skill development or access to skilled jobs—again skill is the factor being

accounted for. Because of this desire to explain skill, and to regard it as in the job or occupation, the research methods of sociologists have tended to be case studies of occupations or industries or regional conditions, and more recently also large-scale quantitative research such as surveys of skill requirements in jobs (see Felstead et al. 2007).

Attewell (1990) discusses the concept of skill in sociological research, identifying four schools of thought: positivism, ethnomethodology, neo-Weberian or social constructionist, and Marxist. The positivist regards skill as something that can be measured quantitatively; thus the challenges for positivists centre on what is being measured (e.g. skill in the person or in the job?) and how it is measured (e.g. can all skills be measured the same way? If not, how does one compare across measures?). Positivist approaches to skill are dominant in economics and psychology; they are also used in sociology but tend to focus on skill in the job. In contrast, ethnomethodology argues that all human activity (and thus skill) is complex and much of it is unconscious, leading to many skills being taken for granted. In this way, many skills become invisible, and measuring skill becomes highly problematic. The ethnomethodologist is sceptical of positivist approaches; instead they prefer to either understand why occupational members regard some work as 'skilled' or to research, through observation, of the detail of everyday work for a sense of both the acknowledged and the invisible skills. Similar to this, in many respects, is the social constructionist view, which attempts to understand why some jobs and occupations are considered skilled or more skilled than others. It also examines how occupations construct themselves to perpetuate a certain status, for example, through restricted entry to the occupation, or a distinctive vocabulary—both strategies that exclude others. As a result, social constructionists tend towards research methods such as case studies or historical studies of occupations. On the final point, Attewell (1990) notes that there are varying interpretations of the Marxist school of thought owing to Marx's own lack of theoretical development of the notion of skill. This has been compounded by the different development paths of contemporary Marxist and neo-Marxist approaches. On the one hand, the social constructionist perspective is reflected in Marxist analyses, which account for the social status and perceived skill of an occupation as deriving from the power of the workers rather than from the complexity of their work. On the other hand, more positivist conceptualizations of skill are evident in some neo-Marxist views on deskilling, which equate deskilling with rule-governed work and 'give pride of place to intellect over manual dexterity and decry the loss of conceptual content in work' (Attewell 1990, 442).

Labour market categorization of skill in 'standard classifications of occupations' and, in the United States, the *Dictionary of Occupational Titles* have been the subject of sociological scrutiny. A positivist view would critique the bases of these definitions and how they are measured, and an ethnomethodologist or social constructionist view would interrogate the hierarchies such definitions create or embed. And yet such classifications are the pervasive public policy measure of skill underpinning many national statistics and quantitative research.

Both sociology and political science are interested in institutional frameworks, social or political processes, and behaviour as they account for skill. Similarly, the field of industrial relations draws on all the social sciences as well as law and psychology in

its study of the regulation, control, and governance of work and employment relationships (BUIRA 2008). Thus industrial relations research often takes a broader political economy perspective and links this to workplace behaviour (Hamann and Kelly 2008). Industrial relations research encompasses many different levels, from the workplace to the global (Heery et al. 2008) as it is essentially an applied and policy-oriented field. In particular, industrial relations is concerned with the competing interests of different parties in employment, the balance of power between employer and worker, and the institutional and regulatory balancing of those relationships particularly through labour market mechanisms such as collective bargaining and trade union representation. Skill concerns are a large part of that, for example, how skill (in the job) is recognized and valued by employers in the form of wages and other rewards; how skill is designed into or out of jobs, and the division of labour; and how individuals access the skill development they need (Grugulis 2008).

The multidisciplinary base of industrial relations means that a range of qualitative and quantitative research methods are used, from ethnographic interviewing, comparative historical analysis, and case studies, through to surveys of individual workplaces or of whole industries (Strauss and Whitfield 2008). In recent years quantitative research in industrial relations has been boosted by regular national surveys of workplace employment relations practices, such as the Workplace Employment Relations Study in the United Kingdom, the Austrialian Workplace and Industrial Relations Survey, and its successor, Australia at Work. These repeated surveys have the benefit of allowing researchers to track change in practices, including those related to skills and training, and outcomes over time. This type of research, combined with analyses of the outcomes of collective bargaining or changing wages and work conditions, often underpins industrial relations advocacy for policy change.

From a theoretical perspective labour process theory has been a key driver of skill discussions in industrial relations (see Braverman 1974; Thompson 1983; Adler 2004). Building on Marx's theory of surplus value it focuses on managers' desire to control how work is organized, its pace and duration (i.e. the labour process), thus potentially removing autonomy, enjoyment, and skill from the work and worker. Many interpret it as arguing that the advance of capitalism has led to increasing deskilling in the workplace. However, the pervasiveness of this alleged phenomenon has been challenged by views that the general trajectory of capitalism has been an upgrading of skill in the workforce and in jobs (see Adler 2004). A central debate in industrial relations and sociology concerns whether deskilling, upskilling, or reskilling has been the main result of economic change. Regardless, industrial relations is concerned with mechanisms to ensure fair access to, use of, and reward of skill at work.

Summary

Economic, political, and social phenomena are all analysed by political economy approaches. In the last few decades, this has been one of the fastest-growing approaches

in the social sciences (Plumper 2009). Undoubtedly the appeal of political economic reasoning is its consideration of a broader range of factors. In recent years, political economy of skill approaches have acknowledged the desirability of taking an even more holistic view by also embracing organizational and individual influences on skill, thus integrating workplace dynamics with institutional change (Lloyd and Payne 2004). Priorities in political economy (of skill) have therefore changed—and are changing—to reflect an expanding cross-disciplinary perspective.

Each discipline brings a distinctive starting point (and set of assumptions) which a political economy approach facilitates, blending into a wider consideration of skill. It is not surprising that economics starts from considerations of the economy (either macro or micro or both), political science starts from a consideration of institutions and policies, sociology starts from concerns with social processes and norm construction, and industrial relations starts from a concern for social justice in the workplace (i.e. decent work, fair reward, good work conditions).

Skill as an Organizational Resource

The fields of HRM and organization studies both have their roots in elements of all the disciplines presented in this chapter. As an applied field, HRM concerns itself with understanding the management of people and work in order to achieve the goals of the organization. HRM is heavily influenced by industrial and organizational (I/O) psychology, and as a result places an individual focus on skill (in the person) and job characteristics (skill in the job). Organization studies, on the other hand, whilst taking the psychological view, is also influenced by sociology, and is concerned with issues such as the social construction of skill or the impact of different institutional arrangements. This reflects the organizational studies remit as 'the examination of how individuals construct organizational structures, processes, and practices and how these, in turn, shape social relations and create institutions that ultimately influence people' (Clegg and Bailey 2008). Arguably this lends organization studies a critical perspective in contrast to HRM's applied and functional approach.

However, one could argue that for both HRM and organization studies a microeconomic perspective tends to dominate in which skill is treated essentially as a resource for the firm. This is clearly evidenced in the prominence of the resource-based view of the firm (RBV), which originated in economics (Penrose 1959) and, in modern form, emerged as a strategic management theory (Barney 1991). The RBV suggests that organizations derive their competitive advantage from their tangible and intangible resources, particularly from resources that are valuable (i.e. successful), inimitable (i.e. hard to copy), and appropriable (i.e. that benefit shareholders). It has become a dominant force in strategic HRM (Barney and Wright 1998), particularly the view that the blend of skills, knowledge, experience, and personalities of individual workers and collectively of work groups can be rare and hard to copy. Thus skill is of central importance to HRM.

In addition HRM is also driven by the economically inspired HCT. As already traversed in the discussion of economic perspectives, HCT provides a logic encouraging employers to invest in developing firm-specific skills, and justifying the individual bearing the cost and benefit (and, one might add, the risk) of all other skill development. This has appeal in HRM thinking, at least in the short-term, to develop and retain the skills the firm requires. From an HRM perspective, the skill of the workforce is regarded as a key ingredient in an organization's performance. Thus, HRM interests spread across how jobs are designed (the skills they require and develop), how to access the skills required (training for them, recruiting for them, contracting out), how to reward and motivate people to use their skills (pay systems, management practices), and how to ensure skills are contributing to organizational goals (HR planning, performance management). Consequently, HRM strives to find ways to measure skill, both in the person and in the job. In this regard, apart from the influence of economics, most of the theories that underpin HRM thinking draw on social or I/O psychology. For example, employee recruitment and selection practices are driven by a desire to match the job and the person. Based on the psychological theory of person–environment fit, the search for person–job fit accompanies a greater emphasis on technical skills; however, in recent years, as employers have pursued flexible firm strategies, the emphasis has shifted to person–organization fit. This reflects an HRM trend away from technical skills to softer skills such as teamwork, problem-solving, customer focus, resilience to change, and positive attitude. These softer skills are often referred to as competencies, which Heery and Noon (2009) define as behaviour-based personal characteristics or attributes; they also identify specific skills and abilities for job performance that are labelled work-based competencies such as use of software, budget management, etc. This changing notion of skill has accompanied national policies of increasing labour market flexibility, the hope being that a generally competent person can turn their hand to a range of different projects and tasks as required by the employer and thus be more flexible to changing circumstances than a specialist in a strictly demarcated job. This blurring of the division of labour and drive to skill flexibility, whilst promoted as desirable strategy, most recently in the notion of the high-performance workplace that dominates much HRM discussion and policy agendas, has been widely criticized and debated in the political economy, sociology, and industrial relations literature (see Ramsay et al. 2000; Brown and Hesketh 2004; Lloyd and Payne 2004). Indeed, some of the more interesting analyses of HRM practice in relation to skill come from researchers bringing a broader political economy perspective (see Ashton et al. 2010; Grugulis and Stoyanova 2011; Thompson 2011). For instance, at a strategic HRM level, Ashton et al. (2010), investigating the handling of skills issues in transnational companies, show that these organizations are starting to take advantage of different national systems of skill formation.

Human resource development, a subfield of HRM, concerns itself with skill development for the workplace. The literature is split in its focus, one side emphasizing learning and the other organizational performance (Bryson 2007). The emphasis on learning connects with the psychology and adult education literature on issues such as

workplace learning, training theory, and transfer of training, and also with the organization studies literature on issues of organization development, career development, learning organization, and communities of practice (Senge 1990; Lave and Wenger 1991; Schein 1996). Despite the range of disciplines contributing to HRM knowledge, it has struggled to prove the link between HRM practices and organizational performance (Guest 2011). Grugulis and Stoyanova (2011) discuss the difficulty HRM has had in measuring the link between skills and performance. They argue that this is, in part, because of the tendency for research to focus on HRM practices as a whole rather than skill per se. In addition, due to the influence of psychology and economics, research methods in HRM are often positivist, using quantitative surveys of employers, human resources staff, and workers, thus reliant on either self-report (perceptions rather than actual practice) or on crude proxies for skill and performance. Seldom does HRM research actually observe the utilization of skill in the workplace. Perhaps more worryingly, Grugulis and Stoyanova (2011) point out that very influential HRM research does not allow for the time lag between skill improvement initiatives and better performance because it tends to measure input, output, and outcome at the same time in a single survey. HRM also engages in qualitative research, interviewing workers, employers, and other stakeholders. Such research yields richer accounts of skill development and utilization but often they are not generalizable to other organizations or they are again a single snapshot in time.

In summary, HRM's main interest in skill is how to acquire it for the organization and then how to use it, recognize or value it—all based on a relatively unexplored assumption that skill impacts organizational performance. Organization studies, whilst holding the same assumptions, is more concerned with why organizations have skill and how it is used, for instance, investigating notions of organizations as learning environments and the skill benefits of communities of practice. Organization studies also brings a critical perspective to analysing the social and political dimensions of skill in organizations, thus incorporating concerns also rehearsed in sociology, political science, and industrial relations.

As already mentioned, contributing to both HRM and organization studies is a substantial body of work from the education discipline, which is specifically focused on understanding workplaces as learning environments (see Billett 2002; Fuller and Unwin 2004). This reflects an interest in how skill is developed and takes us to the final broad category of disciplinary perspectives on skill—those underpinning learning theory.

Learning Theory

At the other end of the spectrum from the broad view of political economy is a focus on learning theory and how skill is developed in the individual, which is mainly the concern of the disciplines of education and psychology. Education explores how knowledge

is transmitted in human society and is dominated by a pragmatic focus on teaching practice or the learning environment. Psychology is generally regarded as the science of mind and behaviour and its branches are applied to particular fields of knowledge or activity, for example, I/O psychology focuses on organizations, work, and people at work. As we have discussed, HRM relies on I/O psychology for many theories of behaviour in the workplace. With regard to skill, I/O psychology assists in understanding both skill in the job (for instance, theories of job characteristics, job design, and job evaluation—see Hackman and Oldham 1976) and skill in the person (for instance, theories of training needs assessment, training design, delivery, training transfer to the workplace, and evaluation—see Tharenou 2009; or, on managing performance, see Cooper and Locke 2000).

Educational psychology marries both disciplines and studies how people learn throughout their entire lifespan. Its emphasis is predominantly on skill in the person and how it is developed, thus it treats skill as a product or output of specific formal or informal educational interventions or learning opportunities. Much of that literature is devoted to the development of children and adolescents, but there is also an established body of research on adult learning and vocational education.

Learning theory is central to this segment of the skill literature, which seeks to understand and improve learning in order that people can become skilled. There are at least four competing schools of thought in learning theory (Merriam et al. 2007) that differ in their views on learning processes, the purpose of education, and the educator's role. All relate in some way to developing skill, whether it be learning how to learn (cognitivist views, e.g. Lewin 1951), becoming socialized (social/situational views, e.g. Lave and Wenger 1991), engaging in self-directed learning (humanist views, e.g. Rogers 1969), or achieving a specific competency (behaviourist views, e.g. Skinner 1953). As a result, evaluating the success of the learning process depends on the orientation to learning and may range from self-assessment to course completion or passing a competency test.

It is from this focus on learning as a key ingredient of skill that a growing literature on workplace learning has emerged (see Fenwick 2006, 2010; Eraut 2007; Eraut and Hirsch 2007; Unwin et al. 2007). This literature explores issues such as how people learn in the workplace, influences on that learning, what is learnt, how to embed learning in work processes, and how to improve learning in the workplace. Although this topic area is increasingly multidisciplinary, the core focus is learning, either as process or outcome, and thus the contribution of the education discipline is central to its discussions. Within this literature, skill contributes to, and is, a product of learning.

The research methods draw on psychology and the social sciences, ranging across full experimental design testing of hypotheses to case studies and interviews in workplaces. Generally, skill is an independent variable in education research (Vallas 1990), a feature that helps explain or predict other variables such as variations in learning.

Finally, it should be noted that many education researchers are also interested in how education policy can facilitate moving from school to work. In such instances, a political economy as well as a learning perspective may prevail.

Conclusion: An Example of Applying Disciplinary Perspectives

What do the perspectival variations tell us? Is it, as Fenwick (2010) suggested for workplace learning, a situation in which different disciplines are not all talking about the same thing under the label of skill? Or do they reveal different facets of skill? When we look at the range of disciplinary perspectives and their overlaps, four key areas of difference emerge: (1) level of focus—national, organizational, individual, and policy or personal; (2) location of skill—in the person, the job, or a social construction; (3) skill definitions—technical, behavioural, cognitive; and (4) type of variable—dependent or independent, mediator, or outcome. As a result, each disciplinary perspective reveals and explores only part of the full picture of skill.

Here is an example to illustrate, rather crudely, the impact of different disciplinary perspectives on skill. The scenario examined is unpaid graduate internships. One of the challenges facing government skills policy is the transition from education to employment. In the case of tertiary education in the United Kingdom, whilst employers have cut graduate positions, one consequence has been an increase in university graduates taking on unpaid internships in order to develop relevant work experience. In the worst cases, graduates occupy a series of unpaid internships in the hope of ultimately securing a paid job (see BBC News, 7 March 2010; *Guardian*, 5 September 2011).

A political economy of skill perspective on unpaid internships might embrace all or some of the following disciplinary perspectives. In particular, it would seek to explore the short- and long-term impact of these employer initiatives on firms, on the labour market generally, and on graduates; and the relationship or compatibility of these actions with a range of government policy.

From an economic perspective, analysis might address whether internships facilitate entry to the labour market. Do internships serve as a viable signal to prospective employers of a graduate's employability? Are the costs and benefits of internship borne appropriately? What are the knock-on effects to other positions and to the graduate labour market? Research methods will be primarily quantitative and may include, for example, tracking the prevalence of internships over time, tracking the rate of conversion from unpaid intern to paid employee, and calculating costs and benefits to the employer and the intern over both the short- and long-term.

From a political science perspective, analysis may question how unpaid internships relate to existing skill formation policies and other government policies, relating, for example, to welfare. Research approaches might include examining unpaid internship policies relative to other government policies both current and historical, and comparing them to policies in other countries and their outcomes.

From a sociological perspective, analysis may examine how internships construct skill. Are the roles perceived as unskilled or as novice? If they are unpaid, how are they valued by the organization? Do they perpetuate certain social structures that

disadvantage some groups whilst privileging others? What is the immediate and long-term impact on skill utilization and social mobility? Research approaches may involve longitudinal case studies, or surveys, of specific occupational groups or industries using interns. Thus the research may chronicle the changing impacts of unpaid internships on individuals, occupations, organizations, and communities.

From an industrial relations perspective, analysis would focus on issues of fair treatment of the intern and institutional or regulatory mechanisms to ensure fairness. Is this skill development or skill exploitation? What is the legal employment status of the intern and how are they protected in the workplace and in the work relationship? How does the graduate have a voice in their internship and skill development? Are unpaid internships a socially just arrangement? Research methods might include interviewing or surveying interns and host organizations to discover internship conditions, experience, and outcomes; examining any internship agreements or documentation of conditions of the internship; and tracking the prevalence of unpaid internships and in which sectors.

From an HRM perspective, analysis would focus on the costs and benefits to the organization of internships. How does the intern contribute to organizational goals? How does one structure intern tasks and learning to optimize productivity? What does this do to the employer brand? What does this do to the retention, development, and contribution of other employees? How does this fit the talent-management strategy of the organization? How does the organization minimize legal and other risks associated with unpaid internships? Research methods might include interviews with managers and with interns, focusing on assisting organization productivity and individual development. Similarly, organization studies may consider these factors but may also examine the dynamics between paid and unpaid workers, the impact on organizational learning, and overall strategy.

From an education and psychology perspective, analysis might centre on what skill is developed in the internship. How is the learning structured and supported in the internship? How are graduates' existing skills transferred to the intern situation? Methods might include surveys or interviews with the intern and with others in the host organization and observation of the intern work, work processes, and documentation. There may also be interest in examining whether the internship eases transition from education to paid employment.

So, what can one conclude about the implications of taking different disciplinary perspectives on skill? It is obvious from this example that to analyse from only *one* of these perspectives results in a limited view of the issue. The consequence of this for policy formulations is worrying as a narrow perspective on skill will result in policy that is, at best, ineffective or, at worst, harmful. In the case of unpaid internships the temptation may be, under pressure from employers, to take only the HRM perspective. This then takes no account of compatibility with other skills-related government policies, or of the immediate and longer-term impacts on students or other workers, nor any concern for the labour market as a whole. Alternatively, even when taking a broader political economy perspective the resulting policy may lack an appreciation of how internships are

implemented in organizations, and how skill development can be enhanced or inhibited by internship arrangements. The full picture requires an appreciation of multiple disciplinary perspectives.

Examining skill from multiple perspectives is a challenging but important task in order to increase our understanding, develop effective policy, and positively influence individual and societal wellbeing. The examples in this chapter illustrate the need to ensure that there are cross-disciplinary teams working collaboratively on skills policy issues, or at miminum facilitating debate from different disciplinary perspectives in order to generate policy solutions of sufficient breadth and depth to be effective.

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CHAPTER 2

SKILL BUILDERS AND THE EVOLUTION OF NATIONAL VOCATIONAL TRAINING SYSTEMS

CATHIE JO MARTIN

Introduction

This chapter investigates the origins of diverse forms of skills training for industrial workers. In particular, one must understand why some countries largely rely on regular secondary education systems to provide workers with general skills, whilst others develop industrial schools and apprenticeship programmes to offer credentialed, industry, or firm-specific occupational skills.

We consider four broad factors contributing to the evolution of varied systems to cultivate vocational skills. Firstly, patterns of industrial development and economic cleavages have bearing on skills training: for example, stark regional heterogeneity works against the emergence of national training systems. Secondly, the legacies from pre-industrial patterns of cooperation—most prominently, from the guild system—make both employers and workers in some countries more inclined to negotiate collective vocational training institutions. Thirdly, the political features of the state (most importantly, the structure of party competition and degree of federal power sharing) reinforce or work against collectivist solutions to skills needs, cooperative industrial relations systems, and entrenched regional cleavages.

Finally, the characteristics of industrial relations systems and, in particular, employers associations' and unions' capacities for collective action, give rise to the medley of forms of skills training. The structure of business and labour associations mattered to the venue of skills training (and balance between general education, apprenticeship, and school-based learning) and to the portability of *specific assets*. Both venue and type of

specific assets reflect the degree of oversight by the social partners; moreover, the associational structure and consequent involvement of the social partners have an enormous impact on levels of spending on vocational training. Both employers and workers become more committed to skills training when well-organized social partners are given a significant role in the creation and oversight of training programmes.

Varieties of Vocational Training Regimes

Skills in modern industrial economies are typically grouped into two to three ideal types: general skills and specific skills (either at the firm or industry level). Industrial workers with general skills have basic knowledge but may not claim certification in skills for a specific industry nor portable skills that translate from one job to another. Alternatively, specific skills constitute portable, certified occupational skills and usually involve employers' associations and labour unions in the oversight or administration of skills training (Busemeyer and Trampusch 2010). Social scientists believe that countries develop characteristic skills profiles that enable distinctive forms of capitalist development; for example, whereas coordinated market economies utilized highly trained workers with specific skills to produce for high-value-added markets, liberal market economies tend to compete on the basis of price with less skilled labour. Therefore, employers who utilize specific skills are more motivated to develop collective institutions than employers dependent on general skills (Hall and Soskice 2001; Estevez-Abe et al. 2001; Bosch, Chapter 20 in this volume).

Venues vary for the development of these diverse types of skills. *General skills* are nurtured within the regular K-12 education system; however, the creation of specific, occupational skills seems to require a separate educational track with significant involvement of employers and unions. Countries such as France and Sweden have chosen to create specific skills within special industrial schools; this classroom instruction—with input from the social partners—produces *industry-specific skills*, which are easily transferable within companies at the industry level). Other countries such as Germany and Switzerland rely on a dual model to produce *firm-specific skills*, in which firm-based apprenticeships are combined with school-based instruction, with the apprenticeships being most important. Denmark (producing industry-specific skills) and Austria have a dual system but the school-based component is much more important than in Germany and these countries hug the line between the industrial school and dual system models.[1]

[1] Greinert (2005) roots the distinctive venues for developing and controlling skills in the hegemonic culture of work found within nations, thus: the British liberal market economy located the institutions to cultivate vocational skills within markets; the French statist tradition cultivated state bureaucratic institutions to nurture an industrial workforce; and Germany, with its corporatist values, accorded control of skills training to societal actors.

Table 2.1 Variations in vocational training systems

Vocational training provider	Certified, portable skills	Non-certified, non-portable skills
Apprenticeships are dominant institutions for training skilled workers and schools play a supplementary role	Germany Denmark is on the border	Japan
Schools are the dominant institutions for initial training skilled workers and apprenticeships play a supplementary role	France: schools are dominant, with some apprenticeships but largely for more highly skilled workers	UK/US initial general skills In-firm practical training Very few apprenticeships except for management

For example, the firm-based specific assets of Germany have many more categories of occupations than the industry-based specific assets of Denmark (Busemeyer 2015). But all types of collectivist skills systems offered skills that are certified, closely matched to real job needs, and developed with strong oversight by employers and workers (Greinert 2005; Busemeyer 2009.) Table 2.1 suggests variations in vocational training systems along the broad cleavages of apprenticeship-based versus school-based venues and certified, portable skills versus non-certified portable skills.

Our mandate is to reflect on the factors causing these divergent skills formation systems: why did some countries rely on school-based training to produce general skills, some on school-based training to create portable, occupational, industry-specific skills, and some on apprenticeships with supplemental schooling to deliver portable, occupational, firm-specific skills? These models largely solidified during the interwar period and by the 1920s virtually advanced, industrialized countries had national legislation for publicly funded vocational training, either in separate vocational schools or in dual-stream secondary schools (Benavot 1983, 61–65).

The Determinants Of Skills Regimes

Industrialization and Vocational Training Systems

Modern vocational training systems, at the most basic level, are driven by the process of industrialization, in that the industrial revolution put an end to the old system of class and craft-based education administered by guilds. The guilds model extended across Europe in fairly standardized form from the Middle Ages on, but this model, rooted in the close mentoring relationships between masters and journeymen, was unable to meet the skills requirements of industrial workers. Guilds had declined enormously by

the middle of the eighteenth century and more sharply differentiated national training models emerged to fill this void (Wilensky 2002; Greinert 2005, 8–25).

Differences amongst the new models of vocational training undoubtedly reflected, to some extent, cross-national differences in patterns of industrialization. Political actors within late developing countries were motivated to catch up with the early leaders in the industrial race and adopted social protections to narrow the gap (Gershenkron 1962). Thus anxious about the path of late industrialzation in the Netherlands, Dutch political leaders developed industrial schools to close the gap with foreign powers (Andersen and Nijhuis 2012). The yearning to export drove the early expansion of primary education and spending on skills formation might also be linked to competitiveness in world markets (Ansell 2008). Greater 'firm specificity' in training happens more readily in countries with large-sized firms and with oligarchical industry sectors, in which a few large firms dominate each industrial sector. Germany, for example, might specialize in firm-based training because it has larger firms, whereas Danish employers might develop collective, school-based training systems because these small and medium-sized enterprises are less able to provide in-house training and because the firms recruit from the same occupational labour markets (Kristensen and Sabel 1997; Busemeyer 2015).

Yet industrialization is but a blunt tool for capturing the full portraiture of vocational training differentiation. For example, British firms (with an average of 64 workers) were much larger than German ones (with an average of 14) at the beginning of the twentieth century; yet, these firms did not develop higher levels of in-house training (Kinghorn and Nye 1996, 97). Sweden had larger firms than Denmark but relied even more on school-based vocational training. Thus, it makes sense to look more deeply at other types of factors and at the historical record for an understanding of the evolution of vocational training.

Legacy of Guilds and Vocational Training Systems

The legacy of pre-industrial guilds constitutes another salient factor in the emergence of diverse forms of vocational training institutions and industrial skills as countries with strong vocational training programmes also tend to have robust guilds well into the early industrial era. Guilds encourage a culture of economic cooperation, so important to ventures in skills training, because they enhance solidarity amongst economic actors at various levels in the production hierarchy. Masters and journeymen are brought together within the guild organization and the fraternal ties between more and less skilled workers extend to small employers in the handicraft sector during the industrial period, dividing the small handicraft firms from the large industrial ones. Thus, the structure fosters considerable cooperation over skills development amongst small firms, skilled workers (masters) and unskilled workers (journeymen); and these alliances encouraged the emergence of a highly skilled labour pool and competitive practices based on high quality rather than on low wages (Unwin 1966; Hanson 1997; Thelen 2004).

The guilds are also crucial to the evolution of vocational training systems in their important impact on the emergence of varied types of worker organizations (i.e. craft versus industrial unions). Countries with historically vibrant guilds tend to develop industrial unions, and countries such as Britain, which abandoned guilds at an early stage in history, produce craft unions. Craft and industrial unions have divergent capacities for cooperation in general and for collective skills development in particular, because craft unions bring together workers within an occupation (i.e. metal workers) but from different companies and industries, whereas industrial unions represent all workers within the same firm or industry. Craft unions divide workers within the same industry; accordingly, this produces reduced solidarity amongst high- and low-skilled workers within an industry and lower labour power. Politically weak craft unions have incentives to restrict the pool of skilled workers to bolster their strength and to drive up wages; and these strategies tend to harm unskilled workers and other vulnerable workers. In comparison, stronger industrial unions—in countries where robust guilds created norms of non-wage competition—do not need to assert their power by restricting the pool of skilled workers. In Britain, for example, worker skills became a battleground and the mutual interests of labour and management in cultivating human capital got lost in the tussle. Ultimately the strong British craft unions, with their efforts to control skills production, motivated employers to adopt labour-saving strategies that relied on less skilled workers (Unwin 1966; Thelen 2004).

The persistence of robust guilds explains much about cross-national differences in the capacities for collective investments in vocational training; and in particular, offers important insights into the different paths taken by coordinated and liberal market economies. Yet this explanation tells us less about why training institutions within coordinated market economies vary. In addition, guilds' practices varied across countries; for example, Danish guilds created sharper divisions between skilled and unskilled workers than German ones and employers in the handicraft sectors formed a tight alliance with large industrial firms. Moreover, cross-national differences in capitalism and skills were less starkly different amongst coordinated and liberal nations in the nineteenth century, and employers and unions sought to improve skill formation systems before the 1920s across the industrial world. Coordinated market economies with high levels of workers skills could be found at the regional level throughout Europe and North America in the nineteenth century before the first 'industrial divide'. Many American communities had extensive apprenticeship and training systems during the nineteenth century and American manufacturing processes in many sectors resembled those in continental Europe; thus, a diversity of models or economic dualism may best characterize American manufacturing during this period (Bureau of Labor 1911; Galenson 1952; Piore and Sabel 1984; Hanson 1997; Martin 2011). Skills in the British metalworking and engineering sectors remained quite high at the end of the nineteenth century and the British apprenticeship system was far from dead. At a series of critical junctures (1910s, 1940s, and 1960s), employers and unions sought to create broad frameworks for vocational training that looked much more like European models than the patchwork system that ultimately evolved (Zeitlin 1996).

Recently scholars have acknowledged indeterminacy in the relationship between the guilds' traditions and newer structures for training industrial workers. In particular, attention has been given to the impact of political institutions on the development of vocational training systems, and it is to this issue that the chapter now turns.

Features of the State and Vocational Training Systems

Two structural features of governing institutions seem particularly crucial to the evolution of diverse forms of vocational training institutions: the structure of party competition and degree of power sharing amongst levels of government. The degree of proportionality in electoral rules matters because proportional systems offer a more complete coverage of interests than majoritarian systems and provides citizens with the assurance to make risky, collective human capital investments. When social groups are represented in parties dedicated to their interests, constituents are more willing to believe politicians' and party leaders' promises to protect their interests in the future. Party platforms do not fluctuate to appeal to the median voter as these do in two-party systems. Party leaders are viewed as making *credible* commitments and this makes constituents more willing to coordinate in making contributions to collective ambitions such as a well-trained workforce. Coalition governments—the norm in multiparty systems—further encourage cooperation amongst competing interests (who must form governments) and stable policy outcomes. In a two-party system, parties compete for the medium voter, competition takes on a two-dimensional space, and commitments by politicians seem unlikely to endure over time (Kitschelt 1933; Cusack et al. 2007).

The ideological content of party control also matters. In this vein, Iversen and Stephens (2008) draw our attention to three separate worlds of human capital formation, that are analogous to the dominant welfare state regimes because they reflect mutually reinforcing relationships between protections against social risk and skill formation. In social democratic countries, a commitment to redistribution goes hand in hand with a commitment to nurturing a high level of skills amongst the industrial workforce. In continental countries, extensive social insurance coverage is philosophically and programmatically congruent with high specific skills provided by extensive firm-based vocational training; however, Christian democratic parties accept a higher degree of class stratification and dualism in skills. Finally, liberal welfare states (with extensive privately provided benefits but few public ones) nurture heavy private investment in general skills but modest spending on vocational training.

Busemeyer (2015) traces the origins of diverse skills training systems to the differences in party, suggesting that the policy proposals of diverse political parties may have quite different impacts on cross-class coalitions. Social democratic parties generally prefer statist systems, which commit extensive resources to nurturing the economic interests

of workers; whereas, Christian democratic parties favour a politics of mediation and a reliance on the social partners. Liberal parties tend to favour market systems that accord maximum freedom to their business supporters. On a similar note, Trampusch (2010) suggests that training regimes evolve in tandem with unemployment insurance regimes, which differ significantly across social democratic and Christian democratic countries.

The degree of power sharing within government also has bearing on the evolution of vocational training regimes. Federalism worked against centralization of primary education and one might assume that a centralized network of industrial schools would also flourish more easily in countries with unitary governments (Ansell and Lindvall 2013).

The structural features of government also have an indirect impact in evolution of vocational training systems in their role in shaping diverse industrial relations institutions. Majoritarian versus proportional electoral institutions and unitary versus federal distributions of governing authority instil in politicians quite varied incentives for nurturing strong encompassing employers' associations and unions.[2] Institutions for business and labour representation, in turn, influence preferences for investments in skills (Martin and Swank 2008, 2012). We turn now to the impacts of these institutions on the evolution of vocational training systems.

Industrial Relations Institutions and Vocational Training Systems

The organization of business and labour is important to skills-building institutions because industrial relations institutions influence the willingness of the social partners to make collective investments. In macro-corporatist countries, peak employers' associations and unions are centrally organized, exert considerable influence over industrial groups, and are privileged to speak for broad class interests in policymaking. In countries with sectoral coordination, industry-level groups are more powerful than centralized, peak associations and the latter play a less influential role in policymaking. In pluralist countries, diverse groups compete for political power.

On the business side, the nature of employer representation has an impact on collective training institutions because the provision of skills through institutions outside of the firm requires greater collective effort, which is facilitated by strong associations.

[2] Leaders of business parties in proportional, multi-party systems have incentives to delegate policymaking authority to private channels, because they are unlikely to win electoral majorities when pitted against possible coalitions of workers and agricultural interests and calculate that their constituents are more likely to secure favourable policy outcomes in direct negotiations with workers than in parliamentary processes. Party leaders in two-party systems are less willing to delegate policymaking authority to private actors, because they have greater hopes of winning outright electoral victories. Unitary as opposed to federal governments engender macro-corporatist associations because the political action largely takes place at the national level (Martin and Swank 2008, 2012).

Firstly, the profiles of employers' associations have implications for the *venue and scope* of training. Because apprenticeships are more geared to the most highly skilled workers, more encompassing employers' associations are both more likely to deliver higher levels of training for less skilled industrial workers and to create systems with a broader reliance on schools. Industrial schools were initially developed to meet the needs of less skilled industrial workers, who could not obtain training through the old guild-controlled apprenticeship systems (largely oriented towards journeymen.) Thus, countries with more encompassing employers' associations are more likely to produce more inclusive and encompassing skills systems that transcend sectoral and regional variation and provide skills training for a broader cross-section of workers. For example, the evolution of the Austrian vocational education system was enabled by a system of small state corporatism, in which the social partners mediated the country's responses to changes in socioeconomic conditions (Graf et al. 2012).

Secondly, the profile of employers' associations matters because of the *types and portability of assets*: the programmatic oversight of the content of training institutions influences the development of specific versus general skills and firm-level versus industry-level skills. In particular, more encompassing employers' associations are more likely to have the capacity to link skills obtained through training to the real needs of firms. This is especially important to school-based skills development, where there is a greater possibility that course-work will not deliver the appropriate skills and it is not by accident that liberal countries lacking strong employers' associations have great difficulty delivering portable, certified occupational skills. Moreover, when school-based training institutions are developed through collective bargaining and tripartite policymaking channels, the needs of the social partners are likely to be given greater attention vis-à-vis the interests of professional educators.

Thirdly, the nature of employers' associations has implications for the *levels of training* and *public subsidies* in solving collective action problems and in exposing employers to positive information about human capital investment. The interests of employers in securing a skilled workforce can be a major *political* boon in the creation of collectivist systems, either through legislative channels or through private policymaking channels. Legislation is more likely to be passed when the right joins with the left and encompassing employers' associations have been shown to offer greater support for welfare state spending and labour market initiatives (Martin and Swank 2004). More encompassing employers' associations also are more likely to develop collectivist systems in collaborations with the state and/or employers through private policymaking channels such as tripartite commissions and collective bargaining rounds. Thus more encompassing associations are more likely to overcome the collective action problems associated with maintaining a sufficient level of investment in skills. We might also hypothesize that more encompassing employers' associations are more likely to tolerate a higher tax burden in order to create higher subsidies for skills training, which, in turn, result in more highly skilled workers. Rothstein has observed that employers on corporatist oversight committees have been co-opted into supporting expansion of the budgets for the governmental departments under their jurisdiction and this constitutes a reason for the growth of welfare states.

Moreover, once a system of coordinated labour relations has been set into place, employers have reduced incentives to use their apprentices either as a source of low wage labour and or as a reserve army of the semi-employed to break strikes. Employers' associations and unions seek to preserve peaceful labour relations, in part to sustain their jurisdictional authority over policymaking; consequently, they have incentives to sustain apprenticeships that fit easily into the broader parameters of the labour market relationship for reasons of associational control.

Finally, the profile of the employers' associations will have an impact on training systems' *flexibility and capacity for adjustment* and in particular on the extent to which skills production can be adjusted to economic transformations and tailored to diverse regional needs. More encompassing employers' associations are more likely to unite manufacturing and services sectors, to reconcile the diverse needs of sectors in achieving an overarching framework for vocational training, to aid in the movement of workers from declining into emerging sectors, and to help to renegotiate collective business identities during moments of economic and generational transformation.

On the labour side, encompassing unions and highly centralized coordinated bargaining bring skilled workers to support vocational training for their less skilled colleagues. Within industrial sectors, semi-skilled workers are a complement to skilled workers in the production process; therefore, the consent of the former must be reached before deals with employers can be made and this increases the bargaining power of the unskilled workers (Iversen 2005). Clark and Winch (2007) agree that the development of vocational education and training is intertwined with the formation of national labour markets.

A brief recounting of the evolution of vocational training in Germany, Denmark, and the United States gives one a sense of how these various factors interact in producing cross-national variations in training institutions.

The German Vocational Training System

Firm-based apprenticeships are the core of the German system of vocational training, with school-based instruction playing a secondary role. Workers are trained within small companies, which use apprentices as a source of cheap labour and then pass them on to the larger firms. A marked regional diversity creates much unevenness in the German system and the social partners play a more limited role, with comprehensive, national framework for oversight by business and labour only emerging in a 1969 law (Smart 1975, 153).

In Germany, a strong guilds tradition created norms of non-market competition and expectations of a highly skilled workforce. The government vested power in the handicrafts sector to educate these workers with the Crafts Trades Protection Act of 1897, which established compulsory chambers of trades as bodies for determining skills. The suring up of guilds and handicraft control reflected party competition for bourgeois electoral support and an effort by the authoritarian state to prevent labour from gaining control over skills (Thelen 2004, 53–54; Greinert 2005, 40).

The handicraft system could not, however, adequately address the skills needs of factory workers in large firms; and the first world war made training gaps even more salient, as youths seeking apprenticeships dropped from two-thirds of males between 14 and 18 in 1907 to well below 40% by 1917 (Hanson 1997, 572–574). Industrialization fuelled an interest in technical schools for less skilled factory workers, such as the Kerschensteiner continuation schools, production schools, and course-based training. The Association of German Engineers lobbied the Prussian Ministry of Trade and Industry to provide technical middle schools, and by 1911 Prussia had an elaborate network of schools (Greinert 2005, 42–43, 56, 63–65). Many large industrial firms developed in-house training programmes but these could not grant certificates. The German Committee for Technical Education developed certifications, mechanisms for the standardization of skills, and training course material appropriate to diverse trades (Hanson 1997, 595–599; Thelen 2004, 55–61).

But regional economic and political diversity, coupled with weak national associations for the social partners and opposition from the handicraft sectors, restrained collectivist training options and large German firms experimented with segmentalist firm-based training strategies (Sweeney 2001, 712–718; Dunlavy and Welskopp 2007). Cooperation did not come easily to the regionally diverse German firms and political fragmentation—federalism and regionally dominated political parties—reinforced the fault lines. In Germany, the absence of a single dedicated business party constrained the emergence of full-blown macro-corporatism. For example, after the war, employers were distributed across parties and this heightened employers' distrust of the political system (Pollock 1929).

The absence of a unifying centralized employers' association or union added to the difficulty of national cooperation. The newly formed peak association, the Reich Association of German Industry, never gained any real authority, decision-making power largely transpired at the industry level and business–labour negotiations over training and other social issues were stalled (Rogers and Dittmar 1935, 483–484; Wolff-Rohe 2001). Business and labour sought a national certificate system and social partner oversight of firm-level training to improve the human capital of industrial workers, the government considered an extensive vocational training reform, and the Prussian Ministry of Trade lobbied for comprehensive national legislation; but these initiatives failed to gain traction. Attempts to create oversight committees of business and labour were thwarted by the special position of the handicraft sectors in controlling apprenticeships and the way in which the handicraft sectors' interests connect to employers' history of fighting amongst themselves (Hanson 1997, 585–593; Thelen 2004, 73–87; Greinert 2005, 81).

United States

Unlike Germany, the United States had a very weak tradition and this, undoubtedly, contributed to its failure to establish strong, collectivist skills training institutions for workers with specific assets. Yet the United States had a rather extensive system of

After the passage of the Smith-Hughes Act, only eight states moved to form vocational schools; moreover, the absence of highly organized institutions for coordination with business worked to dampen the social partners' input into the content of school-based instruction. Consequently, a system of school-based courses tailored to certified skills failed to emerge. Finally, the High School Act of 1926 incorporated vocational training back into the mainstream education system and the era of experimentation with a separate track for vocational training came to an end.

The Danish Vocational Training System

A puzzle is why Denmark developed a strong network of industrial schools with extensive oversight by the social partners and chose not to leave control in the handicraft sectors, as happened in Germany. Danish vocational training relies on a dual system, with apprenticeship positions playing a secondary role to school-based instruction (although the state began a campaign to expand the number of apprenticeship positions in the late 1980s). The social partners have played a strong role in determining the content and in providing oversight of vocational training since the beginning of the twentieth century (Nielsen and Cort 1999, 4; Nelson 2012).

Denmark had strong guilds until the beginning of the nineteenth century and this laid the foundation for strong norms of non-market competition and collectivist skills training within the handicraft sectors. The handicraft system of apprenticeship training, however, was threatened by the introduction of free trade in 1857, after apprentice examinations declined sharply, industrial production expanded, and industrial schools grew in response to a growing need for semi-skilled workers. Technical schools were better suited than apprenticeship programmes to the training needs of larger industrial firms (Boje and Fink 1990, 126–135). Yet a mystery remains: why Denmark created such strong schools to meet the competency needs of both high- and low-skill workers and why these skills are developed at the industry- rather than firm-level.

The very high levels of coordination amongst business and labour groups also contributed to the expansive provision of certified skills by vocational training schools (Juul 2009). The initial experiment in the expansion of vocational training arrangements by the social partners occurred in 1909, when a tripartite negotiation in the molder industry established an apprenticeship committee, composed of representatives from the employers' association and the union. The committee developed an educational plan for a trade school and this marked a vast improvement in the education of molders. This innovation—to have the social partners specify the content of industrial education rather than leaving it to the traditional educational process—came to constitute the model for all industrial and handicraft education (Boje and Fink 1990, 137–138).

After the war, industrial violence prompted employers to nurture workforce skills as a means of diminishing labour radicalism (Dansk Arbejdsgiverforening 1946, 9–14). The Apprenticeship Law of 1921, passed with support from a centre-right coalition, gave the social partners some shared, formal responsibility over apprenticeships and

addition, general education programmes may meet the skills needs of low-end service workers better than vocational training (Martin and Knudsen 2010). Even at the low end of the skills continuum, service sector workers have a greater need for soft skills than manufacturing workers (see Warhurst et al., Chapter 4 in this volume), and store and office clerks may benefit the most from learning basic maths and literacy skills through schools that aid in emotional work (Hochschild 1983).

Moreover, the politics of training for low-skilled workers may be in transition, because social democratic parties are more anxious to represent the interests of their core constituents than those of low-skilled service workers (Rueda 2007). Core working class strength also works to diminish attention to marginally skilled workers through extra-political channels, when core business and labour associations negotiate vocational training arrangements that largely ignore the needs of low-skilled workers (Marsden 2002). German social democrats have been increasingly committed to spending on higher education, even whilst cutting back spending on certain social programmes and the decline of union membership might further cut support for training (Busemeyer 2015).

Third, the venue of training within coordinated market economies—industrial schools versus apprenticeships—also contributes to countries' capacities to adapt to the post-industrial economy. Countries with a heavier reliance on apprenticeships than industrial schools in the dual system have shown the greatest difficulty adapting to the post-industrial economy. Past practices of crafts sector firms supplying semi-skilled labour to big industrial firms have declined with increased educational requirements and rising costs of training, and these small companies are less willing to supply many apprenticeship slots (Thelen 2004; Busemeyer 2015). German apprenticeships have been declining steadily over the years, and service firms have been less proactive in developing apprenticeship programmes for their workers than manufacturing companies (Busemeyer 2015; see also Ashton et al., Chapter 15 in this volume). Indeed, Germany is moving to rely more on industrial schools for training in semi-professional occupations and these skills are becoming less standardized than they were in apprenticeship programmes (Shire and Gottschall 2006, 12). These factors may well contribute to the growing dualism separating labour market insiders and outsiders in Germany and other continental countries (Palier and Thelen 2010; Busemeyer 2015).

Countries making greater use of schools (especially in Scandinavia) have demonstrated weaker dualist tendencies than those relying primarily on apprenticeships. Their greater reliance on schools to train workers at all skills levels has enabled skills development for all manual workers and this may well contribute to lower rates of dualism found in the continental countries. The Scandinavian countries with the strongest, collective deliberative institutions are better positioned to make post-industrial reforms than those that leave workers to fend for themselves in adjusting to shifting skills needs. Denmark's early development of corporatist committees involving the social partners in oversight of training programmes at the beginning of the twentieth century left a legacy of strong business–labour commitment to training. Both sides of the industrial divide continue to be crucial actors in training developments today.

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CHAPTER 3

THE CHANGING MEANING OF SKILL

Still Contested, Still Important

JONATHAN PAYNE

Introduction

'Skill' has acquired almost totemic status in recent policy debates as a, or even *the*, critical factor in economic competitiveness, productivity growth, and social cohesion (Green 2011). Much of this has been driven by the seductive rhetoric of the knowledge economy, with its promise of a new workplace populated by teams of knowledge workers enjoying high levels of autonomy, creativity, and authorship at work (Reich 1991; Leadbetter 2000). For many policymakers across the advanced industrialized world, this *is* the present and the future—one where demand for skill rises inexorably as organizations adjust to the new rules of global competition (Grugulis and Lloyd 2010).

Such optimistic scenarios, however, downplay the rapid growth, particularly in the United States, United Kingdom, and Australia, of routine service jobs in areas such as hospitality, retailing, and personal services, and labour markets that are becoming increasingly polarized in terms of incomes and job quality (Grugulis et al. 2004). Low-skill, low-wage work is not disappearing; neither is it confined to liberal market economies (Gautié and Schmitt 2010). Such critical perspectives assume, of course, that we know what a 'skilled job' is, or at the very least that there is some way of distinguishing different jobs in terms of their relative skill level. However, skill is a notoriously complex as well as contested concept (Attewell 1990; Green 2011), and notions of skill, competence, and skilled work(er) often mean different things in different countries (Brockmann et al. 2011).

Matters have become even more complicated as the meaning of skill has widened within official policy discourse (Payne 2000). Forty years ago, 'skill', when talked about in UK policy documents, mainly referred to the educational qualifications, manual

dexterity, spatial awareness, and technical know-how of the skilled craft worker or technician. To be skilled was to be unionized and male, to have undergone a lengthy apprenticeship, to exert a degree of control over one's work, and to be well rewarded.[1] With the shift towards a service-based economy, such traditional notions of skill are widely seen as 'neither descriptively robust nor versatile enough to handle contemporary questions of skill' (Gatta et al. 2009; Green 2011; Hurrell et al. 2013, 164). New categories of 'generic', 'transferable', 'basic', 'employability', 'soft', and 'social' skills have emerged. Today, the 'skills' label is applied to everything from thinking, communication, reading, writing and numeracy, team working, problem solving, customer handling, leadership, motivation, initiative, a positive attitude, punctuality, personal appearance, stress management, and even plain obedience (Grugulis 2007, ch. 5).

Some worry that the concept of skill is being stretched so far that it risks losing any analytical or operational meaning, and that it may end up fuelling policy myths around universal upskilling (Lafer 2004; Payne 2009; Lloyd and Payne 2009). Others argue that this should not detract from attempts to render visible the real skills required in interactive service work, and have put forward new skill concepts of 'emotion work' (Bolton 2004), 'aesthetic labour', and 'articulation work' (Hampson and Junor 2010; for a more general discussion, see Gatta et al. 2009). They argue that many routine service jobs have been too readily dismissed as low-skilled because of a preoccupation with conventional measures, or proxies, such as qualification requirements and length of education or training times, which fail to capture the actual skills in use. Furthermore, because these jobs are performed mainly by women, skills such as emotion work tend to be dismissed as 'natural' feminine abilities so that their real skill content goes unrecognized and unrewarded (Korczynski 2005). By holding out the prospect of a revaluation of such skills, these discourses provide a modicum of relief from the pessimism that might otherwise be associated with labour markets that are becoming increasingly polarized. However, many of these new skills remain problematic and have prompted considerable debate (Grugulis et al. 2004, 6).

The purpose of this chapter is to guide the reader through the thickets of controversy, and to try and chart a way forward. The argument is that there is a need for a robust and meaningful concept of skill that can be applied to both manufacturing and service-based settings, one which sets skill in its societal and workplace context, is rooted in political economy, and takes seriously issues of power, job complexity, and worker autonomy (Grugulis and Lloyd 2010). With the label 'skill' having acquired a much broader application, it is more important than ever to have clarity about the actual level of skill required to perform the job. Often it is confusion over this issue that has tended to cloud meaningful debate. It would be naïve, however, to believe that a consensus is possible or achievable. Rather, the aim is to highlight some of the problems and pitfalls that surround current understandings of skill, the consequences of which are far from benign, and, in doing so, stimulate further debate.

[1] The concept of skill was not exclusively reserved for skilled manual workers but was also applied more broadly to professional groups, such as doctors, accountants, and teachers, whose expert knowledge and certified competence helped to underpin claims to professional autonomy.


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Aesthetic Labour

The concept of 'aesthetic labour' was originally coined by researchers investigating the recruitment and selection practices of 'upmarket' service employers in Glasgow (Witz et al. 2003). Aesthetic labour arises when organizations hire workers for the way they look and sound and then seek to shape these elements through training and regulation so that they come to embody a particular 'style' that is appealing to customers (Warhurst and Nickson 2009). While it can be difficult to draw a clear distinction between emotional labour and aesthetic labour, the latter refers specifically to embodied aspects of employee corporeality such as physical appearance, weight, body size/shape, grooming, deportment, accent, dress sense, and the ability to respond to fashions or trends. Subsequent research reveals that demands for workers to look good and sound right are not confined to upmarket niches but also figure prominently among more prosaic retailers and hospitality outlets.

As Warhurst and Nickson (2009, 388, emphasis added) note, 'It is this other "skill", *as it is deemed by management*, that underpins the analytical concern with aesthetic labour.' Although the original architects of the concept recognize that many employers regard appearance as a skill, they themselves have been quite careful to avoid such labelling. Other commentators have been less circumspect, and aesthetic labour has duly entered the lexicon of skill in service work (Korczynski 2005; Gatta et al. 2009).[6]

Articulation Work Skills

Hampson and Junor (2005; 2010) have argued that many routine interactive service jobs may also require 'articulation work' or 'work process skills' that go beyond emotion work. These involve employees learning how to juggle, under pressure of time, the demands of technology, information, and emotion management. The authors provide a number of examples. Call centre workers, even those operating in low discretionary work contexts, are said to manage 'complex articulations' between computer work, customer needs, supplementary work processes (for example, data inputting and 'after call' work), and emotion work. The ability to work under 'stressful conditions to maintain information flows and to keep work routines functioning smoothly' is presented as an unrecognized aspect of skill in call centre environments (Hampson and Junor 2005, 177–178). In a similar vein, Bolton and Houlihan (2007, 258) argue that call centre work involves 'extensive but under recognised discretionary skills in terms of constructively managing the call process and coping with the work', including the

[6] Unlike with emotion work, an explicit argument that aesthetic labour is skilled labour has yet to be expressly formulated. The claim tends to proceed from the observation that employers have defined it in this way.


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