From creating and repairing the first artifacts for personal and communal use through to the Internet of Things, the capacity of human beings to transform the world around them, for better or worse, continues to be shaped by their participation in social practices and learning, collectively and individually. Developing the expertise required to participate in work-related activities engages people in diverse forms of learning in a wide range of spaces throughout their lives. These spaces include workplaces, workshops, classrooms, community and domestic spaces (including forms of transport), and the natural environment, and increasingly through interaction with digital technologies, including the Internet. For some people, the expertise they deploy for what they term work (whether paid or unpaid) may be very different from the expertise they deploy in their leisure time, whereas for others there may be a close connection.

Regardless of what drives an individual or a group of people to develop expertise, they will at some point participate in vocational education and training (VET). This participation will range across a wide spectrum: from programs providing an initial introduction for school pupils, to what is sometimes naively referred to as “the world of work,” through to bespoke training organized by or for employers and self-taught activity. In this way, VET embraces programs using work as their pretext, although treating it as a largely generic or abstract construct; programs that have a specific occupational focus and may lead to a license to practice; apprenticeships that combine education and training both in and away from the workplace; and work-based learning of various types and duration triggered by changes and innovation in work processes. As a result, the relationship between VET and actual work practice varies considerably. VET is a complex and challenging field of inquiry precisely because it cannot be easily defined.

By starting our introduction to this book with a deliberately unbounded perspective on VET, we want to signal the importance of viewing this field of
inquiry through a lens that is wide enough to capture both the “systems” approach and the theories, practices, and ideas that lie outside it. Indeed, the very acronym VET is problematic because it immediately suggests this Handbook is confined to analyses of different national systems for organizing formalized, regulated, and often government-funded VET programs. Even more limiting, the acronym is often exclusively applied to education and training for young people as they make the transition from school to the labor market. In this way, VET becomes situated in a policy silo separated from, and sometimes deemed inferior to, so-called academic education. Understanding the differences between the ways that countries have conceptualized VET over time and created the institutions, curricula, and pedagogies they regard as appropriate sheds valuable critical light on how VET is evolving (see, inter alia, Michelsen & Stenström, 2018). It can also identify effective practices and processes that can be shared across countries and occupational fields. In addition, as an instrument of government policy or an institution within a national system of education, VET becomes answerable to important questions about social justice (e.g., unequal patterns of access and outcomes according to gender, ethnicity, and social class). Heikkinen (2001) offers two compelling arguments for the continued importance of national case studies in VET research. First, they “may challenge the dominant a-historical discourse in vocational education, which only advocates permanent change, its inevitability and progressivity”; and, second, historical, state-based perspectives can paradoxically contribute a “progressive conservatism” in relation to defending, respecting, and caring for longstanding practices (Heikkinen, 2001, p. 228).

There is a balance to be struck so that VET is not solely regarded as an instrument of government policy and/or an institutional component of a country’s broader education system. Equal weight needs to be given to the conception of VET as a relational concept, which forms part of a dynamic interplay with the evolving organization and process of work, including the emergence of new occupations. The dominance of the systems-based approach has meant that in much of the international research literature on education, VET has been separated from and positioned below “higher education” and “professional education,” despite their association with the development of expertise. This segmentation is perpetuated in policy documents issued by national governments and supranational agencies such as the Organisation for Economic Co-operation and Development (OECD), World Bank, and European Commission.

In recent years, a number of studies have acknowledged the related nature of a range of challenges, including the ethical and practical implications of climate change for continued industrialization and economic growth, the impact of digital technologies on employment, the work and health concerns of aging populations, the challenges facing young people entering and making progress in the labor market, and continuing inequality across the global economy (see, inter alia, King, 2017; Olsen, 2009; Piketty, 2013; Standing, 2011). Placing equal emphasis on both continuing and initial forms of VET is being advocated as a necessary strategy to ensure people can adapt and refresh their expertise at different points in their lives in order to respond to changes in the labor market (see, inter alia, Bohlinger, Haake, Jorgensen, Toiviainen, & Wall, 2015; Field, Burke, & Cooper, 2013; Pilz, 2017). The predictions of the hourglass thesis that
the growth in employment in advanced economies would increasingly occur at the top and bottom ends of the labor market have materialized to some extent in relation to Goos and Manning’s (2007) polarization of employment into “lovely” and “lousy” jobs, with a corresponding squeeze in what are classed as “intermediate” jobs. Yet there is also evidence that this thesis is problematic in relation to its classification of jobs according to (a) definitions of skill based on educational entry requirements, rather than on the actual range of skills required and used in the workplace; and (b) wage distributions. Lerman (2017) asks, “Are the skills required for a master carpenter in some sense lower than those required of elementary school teachers with BA degrees?” (p. 182; emphasis in original).

In addition, he explains that the wage measure does not capture the wide distribution and overlapping of wages within occupations. On these grounds, the predicted decline in what are classified as intermediate-level jobs and the homogeneity of the terms lovely jobs and lousy jobs become less reliable guides to the changing nature of work.

In some occupational fields, including high-status areas such as medicine and engineering, as well as in some service sectors, a more fluid division of labor is emerging. This has been stimulated partly by increasing project-based and team-based forms of working and also by the realization in work-intensive environments that demarcations based on traditional hierarchies of who is “qualified” to perform certain tasks can and need to be challenged. This has resulted in some countries renaming VET, for example by (re)using the term technical education, and in the opening up of access for VET students to universities through the strengthening of VET qualifications and the creation of so-called higher apprenticeships. There has also been a continuing debate about the concept and role of so-called key competences in VET, and in education and training more broadly (alternative terms include generic, core, and transferable skills). Researchers have expressed mixed views as to whether they represent “an ineffective surrogate for general education and culture in vocational programmes” (Green, 1998, p. 23) or work in progress (Canning, 2007).

The European Commission (2018) has declared that lifelong learning should impart eight key competences, which “can be applied in many different contexts and in a variety of combinations” deemed necessary for a “successful life” (p. 14). These competences cover literacy; languages; mathematics, science, technology, and engineering; digital competence; personal, social, and learning competence; civic competence; entrepreneurship competence; and cultural awareness and expression. The latter four categories of competence in this list are sometimes referred to as “soft” skills. Warhurst, Tilly, and Gatta (2017) argue their emergence reflects a longstanding shift toward a “social construction of skill” led by the rise of service sector employment.

The OECD has enshrined the notion that work-related cognitive and noncognitive competencies can be decontextualized and formally tested at an international level in its Programme for the International Assessment of Adult Competencies (PIAAC). PIAAC assesses the proficiency of 16–65-year-olds in literacy, numeracy, and problem solving, which the OECD (2016) argues are the “key information-processing skills” that adults need to participate fully in all aspects of life in the twenty-first century (p. 22). Scholars who have critiqued
PIAAC and other international large-scale assessments such as PISA (Programme for International Student Assessment) raise a number of concerns about the universalizing tendency of the OECD’s interpretation of the concepts of competence and, more broadly, education (see, inter alia, Addey, Sellar, Steiner–Khamsi, Lingard, & Verger, 2017; Avis, 2012; Hamilton, 2012; Lingard & Sellar, 2013; Takayama, 2013). Another problem is that the PIACC approach perpetuates the idea that learners automatically apply the skills they have developed in education in work contexts. This assumption overlooks processes through which skill is formed and developed contextually and, moreover, that when the organization of work changes, so do considerations about skill. Despite these concerns, the findings from the OECD’s assessment surveys and the subsequent performance ranking of countries are exerting considerable influence on national governments. There has also been an attempt to develop an international assessment survey for VET (Achtenhagen & Winther, 2014).

Developments such as the renaming of VET, the inclusion in VET curricula of key competencies, or attempts to align VET with higher education are often transitory for a range of conceptual, political, and context-specific reasons. They are usually well intentioned, but often fail to engage in a sustainable way with the underlying challenge—how to support the development of expertise in ways that are both sustainable and flexible enough to adapt to changing circumstances. Although there are significant continuities in the way work is organized and the way certain skills are developed, the division of labor is in a continual state of development in response to the forms of technological, economic, and cultural change associated with the rapid development of cognitive technologies and the digital linking of communication, resources, and logistics. As a result, the process of developing expertise in this new work context will create new patterns of and approaches to learning.

There is a substantial international research literature covering the diverse and contested field of VET. This literature has emerged from different disciplinary fields and occupational contexts, and reflects a wide variety of conceptual and methodological approaches. As a result, it is scattered across journals and books, which attract their own readerships. Much of the literature reflects a westernized perspective, and so what counts as and is discussed in relation to vocational expertise, vocational learning, and occupational contexts is necessarily circumscribed (Catts, Falk, & Wallace, 2011; Heikkinen & Lassnigg, 2015). However, it is striking that one of the most influential theoretical developments in the field of VET—situated learning within communities of practice—emerged from anthropological studies of craft apprenticeships in West Africa (Lave & Wenger, 1991). This contribution critiqued the dominant cognitivist conception of learning in which individuals were seen as passive receivers of (codified) knowledge from designated experts (teachers and trainers). Lave and Wenger (1991), however, introduced the idea that learning was a social process. They placed the apprentice as a learner at the center of a relational process that was shaped by participation in occupational practice and contributed to the reshaping of occupational contexts. In doing so, they opened the eyes of VET researchers (and researchers in fields, such as economic geography, human resource
development [HRD], and organizational learning) to other theories of learning or practice-based theories that imply a social theory of learning. We return to this observation later. Situated learning theory has itself been critiqued, particularly for underplaying the in-built conservatism of and power relations within communities, for the role of experts in challenging existing practice, and for valorizing participation at the expense of questioning what is being learned (see, for detailed reviews, Fuller, Hodkinson, Hodkinson, & Unwin, 2005; Guile, 2010; Hughes, Jewson, & Unwin, 2007).

This questioning of the nature of learning in the field of VET reflects the desire to conceptualize and gather empirical data identifying the dynamic nature of the ways in which expertise is developed, utilized, and reformed. Moreover, it demonstrates a fundamental dissatisfaction with attempts to align VET too closely with learning theories that continue to underpin the way (formal) general education is still organized in much of the world, or to reduce the complexity of learning associated with VET to rhetorical notions, such as “learning from experience” or “learning by doing” (Unwin et al., 2008).

There are multiple demands on VET. These include meeting the skills needs of employers and nation states, addressing concerns about providing a safety net for young people at risk of unemployment, and offering a vehicle for remedial education for young people and adults. Winch (2000) argues that “a prime aim of vocational education is personal development and fulfillment through work for all citizens if they so wish it” (p. 36; see also Gonon, 2009; Tyson, 2016). The more VET is required to fulfill and sustain the role of general education beyond formal schooling, the further it drifts away from the very source that ensures it can remain vital in people’s lives and sustain the socioeconomic and cultural well-being of society. VET and work form a symbiotic relationship. This means that VET can certainly provide the means for individuals to critique the nature of work at the same time as the means for individuals to shape work.

In recent years, there has been an increasing interest and growth in multidisciplinary research, and this has encouraged scholars to cross intellectual boundaries in an attempt to develop more integrated analyses of the complex and dynamic field of VET. This research feeds into a number of different debates about the role of VET in the education systems of nation states and in relation to rapid changes (and often neglected continuities) in workplace technologies and work organization. These debates are multifaceted. Sometimes, they have a speculative dimension with contributors arguing for fresh thinking about the concept of VET or subsidiary concepts that underpin VET (i.e., occupation). Sometimes, they have an avowedly critical stance vis-à-vis developments that contributors believe have a negative impact on VET, especially when those developments have been associated with what are regarded as flawed government initiatives to make VET ever more relevant to employers and learners.

In contrast, there has been a longstanding debate about the political economy of VET. Traditionally, this debate (in fields such as political economy, labor process, and industrial sociology) focused on the variety of historical, economic, social, and political forces that have shaped the dominant human capital conception of VET in different countries. This debate has, however, branched
out in new ways in recent years as contributors have drawn inspiration from developments in political economy, for example varieties of capitalism and skills ecosystems, or from extant literatures that offer alternatives to human capital theory (HCT), such as in the capabilities approach, to rethink how to support the economic needs of individuals, employers, and nation states. Both debates have different degrees of influence on the modifications or changes that have occurred in the different national arrangements for VET, for example revisions to “systems” in response to technological change and increased amounts of general education in relation to concerns about citizenship.

The aim of this Handbook, therefore, is to provide a critical guide to the different ways in which VET has been and continues to be (re)conceptualized and (re) configured over time. To that end, we commissioned scholars working from different theoretical perspectives to write essays exploring a set of key themes that are central to debates about how the concept and practice of VET have developed over time and continue to develop in different ways both across and within countries.

**Structure of the Book**

We have structured the book around five broad themes:

- VET as an evolving concept
- The political economy of VET
- Arrangements for VET
- Developing practices in VET
- Challenges for VET.

Using these themes provided us with a framework for assembling a Handbook with the necessary intellectual and empirical scope to consider the following questions:

1) Which theories and concepts can help us to understand the meaning of VET as a vehicle for the development of expertise, and how is that meaning evolving over time?
2) How have those theories and concepts contributed to the different ways in which VET is manifested around the world?
3) What is the relationship between VET and the political economy imperatives that drive policymaking in different countries, and what are the consequences for individuals, employers, and society at large?
4) How does VET develop expertise in an age of considerable change in work processes, work organization, and occupational identities; and how might it maintain a close relationship with work in general?
5) How might we characterize the different models of learning used in VET, and to what extent do they reflect VET’s troubled relationship with general education?
6) What characterizes VET pedagogy, curriculum design, and approaches to learning?
7) What are the continuing challenges for VET?
These themes and questions necessarily overlap. Given our earlier plea for the need to take a more eclectic perspective when researching and discussing VET, it could be argued that we are contradicting ourselves by using a segmented approach. Our defense would be that the complexity of the VET landscape, both conceptually and internationally, means some clustering of the chapters is required. However, we are fully aware that other configurations may have been equally valid.

**VET as an Evolving Concept**

The five chapters in Part I explore some of the underlying theories and concepts that help to explain how VET continues to evolve in different ways both within and across national boundaries. As editors, we begin this process (Chapter 2) with a chapter that argues for a *prospective* expertise-based approach to VET in contrast to the existing skills-based *retrospective* approach, which has come to dominate VET research and policymaking. The chapter draws on sociocultural theories of learning and insights from communication studies. Through a discussion of the impact of IT platforms, artificial intelligence, and the increasing economic importance of “intangible assets” on work processes and conceptions of expertise, we show how a close relationship to future work practice is vital to ensure VET can sustain its important role in the development of expertise.

Drawing on the work of the American philosopher John Dewey (1916), Stephen Billett uses the distinction between the “social” and “personal” to discuss how the origins and purposes of VET emerged and changed across countries. His essay (Chapter 3) argues that although VET is always shaped by institutional factors, the individual learner has to be placed at the center of our deliberations in order to understand the efficacy and continuity of VET through the individual’s engagement with the “intended,” “enacted,” and “experienced” curriculum. He also follows Dewey and argues that individuals first choose an “occupation,” which then becomes their “vocation,” but adds that it is an individual’s “personal bases” that act to sustain and transform their capacities across working life.

Accepting that the concept of occupation is central to theoretical understandings of VET, the next two chapters focus on the way VET reflects the occupational structures in societies. Paul Hager (Chapter 4) explores how, as a result of industrialization and the growth of specialist occupations as well as more narrowly conceived job roles, VET began to cater to occupational levels both above the traditional apprenticeship level and below it. Classroom-based VET expanded, but the growth of HRD also meant that VET could contribute to the growth of short-cycle training within workplaces. Hager argues that these shifts over time have raised profound questions about how occupational expertise is developed and supported. In doing so, he provides a critique of the concept of competence-based training and increasing privatization of VET. His concern is to reconnect VET with more holistic understandings of competence that better reflect highly skilled occupational performance. Alison Fuller (Chapter 5) also sets her discussion in the context of occupational change. She argues that in the context of the shift to mass higher education in many countries, publicly funded VET (including apprenticeship) needs to generate hybrid benefits to ensure it
can be an effective vehicle for the achievement of occupational expertise and educational progression.

These chapters raise questions, therefore, about the conceptualization of the processes and outcomes of VET and how and whether they can be nurtured and sustained. As Hager discusses, over the past 30 or so years, a competence-based approach has been introduced in some national VET systems and is being advocated by policymakers internationally, although the interpretation of the term competence is highly contested (see, inter alia, Brockmann, Clarke, & Winch, 2011; Mulder, 2017) in the research literature. Leesa Wheelahan (Chapter 6) continues Hager’s theme with a critical analysis of the concept of competence, based on the sociology of Basil Bernstein. Wheelahan argues that VET learners must be given access to the predetermined disciplinary knowledge they need to participate in debates and controversies in society and in their occupational field of practice. In doing so, she moves the discussion of the purpose of a (formal) VET curriculum away from its relationship with occupational formation and toward the type of knowledge she argues should be included in such a curriculum. This debate is further pursued in Part III of this Handbook, where authors explore the role of general education in VET programs for young people. Vocational knowledge is, however, a multifaceted, dynamic, and life-wide concept. It is explored further in Chapters 18 and 20, and by Broad and Lahiff in Chapter 22.

The Political Economy of VET

As we noted earlier in this chapter, varying forms of and approaches to VET have evolved over time across the world. This variety reflects historical, economic, social, and political forces. Given VET’s close relationship with the economic needs of individuals, employers, and nation states, it is not surprising that it has become a subject of inquiry in the fields of political economy, labor process, and industrial sociology. In Part II, four chapters draw on a range of theoretical and conceptual tools to examine different aspects related to the political economy of VET. A fifth chapter provides a case study from Singapore of the impact on a specific group of low-grade workers of that country’s attempt to introduce a national skills policy. Damian Oliver, Serena Yu, and John Buchanan (Chapter 7) begin Part II with a critical review of various political economy approaches, including HCT, in order to better understand the role of and challenges for VET in changing socioeconomic circumstances. They offer an alternative framework for understanding employer behavior and human development in relation to VET, drawing on (neo)institutional theories, in particular the skills ecosystem approach and the capabilities approach. Busemeyer and Trampusch (Chapter 8) then provide a critical review of the major concepts and findings from the comparative political economy literature, including the Varieties of Capitalism approach; the politics of VET; and the development of different types of skill formation systems. They discuss the increasing and significant challenge of labor migration for policymaking. Their chapter reminds us of the central, but often overlooked, role of the political decision-making processes in vocational training (VT) policies, including party politics and policy legacies.
Mark Stuart (Chapter 9) continues the discussion about employer behavior and policymakers’ increasing attempts to improve productivity with a discussion focused on the connections between training and development and industrial relations. His chapter examines the conceptual underpinnings of the industrial relations of training, and argues that the struggle to achieve “mutual gains” for the social partners involved is becoming more and more challenging for all countries. The impact of the international financial crisis of 2008, including high youth unemployment rates, continues to be felt within many countries. Many governments are seeking ways to encourage more employers to support work-based VET. As a consequence, greater attention is being paid to the measurement of VET performance in the economic literature. Samuel Muehlemann (Chapter 10) reviews, from a business perspective, the theoretical approaches to and types of datasets required for measuring the costs and benefits of investing in training and how they relate to employers’ decisions to engage in VET-related activities. He argues that a more dynamic perspective is required to capture the long-term effects of continuing VET as opposed to the current tendency to measure short-term performance in employees’ current job roles. Soon-Joo Gog (Chapter 11) concludes this part with a critique of Singapore’s concept of the “developmental state.” This highlights the considerable challenges all governments face in making continuing VET accessible for adults through the life-course. She illustrates her argument with a case study of workers in the Singapore private security services industry. This challenges the supply-side focus of Singapore’s national skills strategy and rhetoric of inclusiveness, which fail to tackle structural problems in the labor market and workplace.

Arrangements for VET

As we noted earlier in this chapter, VET is often associated with particular national systems of education and training, yet there are arrangements for VET that cut across those systems and, hence, give VET a universality that is often overlooked in the research literature. In Part III, six chapters approach this theme from a range of theoretical and methodological perspectives. Within all these chapters and across the Handbook more generally, readers will find references to specific arrangements regarding the design of VET curricula, approaches to pedagogy and assessment, and the involvement of stakeholders in the architecture of national systems. Brian Durham and Debra Bragg (Chapter 12) begin Part III with an essay that places the evolution of VET in the United States in historical context to explain the shift to what is now known as career and technical education. They discuss the legislative struggles to establish VET within the public-funded education system and the continued demands from citizens for access to a form of learning that is now outperforming general education in relation to employment prospects and wage premia. Alison Taylor (Chapter 13) also deploys a historical framework to trace the development of vocational education in Canadian secondary schools from the late 1800s to the present. She discusses how concerns about meeting the needs of an industrializing economy gave rise to technical and vocational education programs at the start of the twentieth century that were recognized to be class-specific and class-defining. In contrast,
the turn of the twenty-first century, with its shift from a manufacturing-based to a service-based economy and associated focus on the needs of a so-called knowledge economy, has led to a renewed focus on the potential of a unified curriculum to break down the division between academic and vocational learning.

VET’s relationship to general education continues to be the subject of debate in research, policy, and practice in many countries. Vibe Aarkrog (Chapter 14) discusses how this debate necessarily involves developing an understanding about the functions of general education (including, for example, to provide a platform for further progression in education and work and for citizenship) as well as the pedagogical principles that might support a better interrelation between VET and general education. She illustrates her essay with a review of the various reforms to VET in Denmark, and the implications for teacher training when the proportion of general education in VET is increased, as many teachers are required to develop practice-based pedagogies. The dual-system approach used in Germany, Switzerland, and Austria has long been internationally regarded as a highly effective model of VET, yet it too has been coming under pressure: (a) in terms of the reduction in the number of employers willing to recruit apprentices; and (b) in the light of demands for the further expansion of higher education. Thomas Deissinger (Chapter 15) examines how the dual system, with its combination of part-time vocational and general education and workplace learning, is responding to the challenge of a drift toward academization, even though the model is still valued as providing a highly effective transition pathway to the labor market for school leavers.

Remaining in the context of the dual system, Matthias Pilz and Bärbel Fürstenau (Chapter 16) explore the concepts of duality and “learning fields” in relation to VET pedagogy, curriculum, and assessment. In doing so, they highlight the key challenges that are of relevance to not only Germany but also other countries. These include the relationship between theory and practice, the shift away from a subject-led approach, the implications for curriculum development and teaching and learning processes of using different locations, and the use of technology in VET assessment. As this chapter shows, the demands on VET teachers and trainers are considerable, yet surprisingly, they have been overlooked in the research literature. Kevin Orr (Chapter 17) reviews the literature that does focus on teachers and trainers and is able to show that, although national VET systems vary greatly, common themes emerge, including the experiences of change in those systems and continued weak social status. He argues that the position and role of VET teachers and trainers are best understood regarding how they relate to society and the economy and how those relationships determine their professional autonomy.

**VET as a Developing Practice**

We noted in this chapter that Lave and Wenger’s (1991) argument that learning is a social process had exercised a direct and indirect influence on VET researchers: in the case of the former, leading researchers to draw explicitly on their theory or alternative social theories of learning, for example cultural-historical activity theory (CHAT), to investigate different aspects of VET-related learning; and, in the
case of the latter, alerting them to the value of practice-based theories or concepts, for example actor–network theory and epistemic objects, as resources for exploring learning in VET. The five chapters addressing different innovations in VET in Part IV exemplify that continuing influence in different ways.

Arthur Bakker and Sanne Akkerman (Chapter 18) argue that what is distinctive about vocational curricula, and by extension vocational knowledge, is that it comprises a course of learning across different school- and work-based practices. Elaborating and extending work originally undertaken in CHAT (Tuomi-Gröhn & Engeström, 2003), they conceptualize the practice of moving between school-based and workplace-based forms of VET learning as a boundary-crossing process. Bakker and Akkerman argue that the sociocultural differences inherent in these settings lead to discontinuity in action and interaction, which are portrayed in the literature and in policy documents as problematic. They challenge that view by showing how the use of boundary analyses might lead to a more fruitful means for addressing the much-discussed theory–practice gap in VET and, thus, assist learners to begin to develop their vocational or practice-based knowledge. Carmela Aprea and Alberto Cattaneo (Chapter 19) continue the theme of boundary crossing with an analysis of how digital technologies can be used to effectively support learning and teaching processes in VET, including in the context of simulations, which play a significant role in VET programs in a range of occupational fields. They discuss the potential and affordances of technologies as a means to connect different learning locations and provide a set of examples of prototypical uses of several technologies as boundary-crossing tools. In doing so, Aprea and Cattaneo remind us that learning technologies are doubly embedded (a) in their context-of-use, and (b) in the assumptions that VET practitioners make about learning. As such, both influence the way technology is deployed to support the process and outcome of boundary crossing.

Part IV then turns to two models of VET, which are derived from work practice and have a clear future-oriented perspective. Monika Nerland and Crina Damşa (Chapter 20) conceptualize VET as a lifelong process that encompasses educational and work-related activities. They employ the concepts of epistemic objects and practices as analytical lenses to show how students and professional practitioners in the field of software engineering in Norway access knowledge resources, explore and construct knowledge, and pursue learning opportunities as part of problem-solving and boundary-crossing activities. They argue that models for professional development should be reconsidered in recognizing the role that self-initiated learning plays for newcomers and professionals alike, especially since professional networks increasingly offer a rich array of resources to support the development of practice-based knowledge. Aimée Hoeve, Wietske Kuijer-Siebelink, and Loek Nieuwenhuis (Chapter 21) are concerned with the challenge of increasing the responsiveness of VET, which they define as its ability to interpret socioeconomic and technological developments in the context of curriculum design and pedagogy. They draw on case study research in the Netherlands in the context of work-based learning in higher professional education (HPE), where the challenge is to enable HPE to build regional networks and participate in regional innovation. Thus, they implicitly echo, although with a different lexicon, Oliver, Yu, and Buchanan’s (Chapter 7) argument about the
importance of developing regional skills ecosystems, and they anticipate some of
the ideas contained by Laura James (Chapter 27) and discussed in the “Challenges
for VET” section of this chapter.

We end Part IV by returning to vocational teachers. In their chapter, Janet
Hamilton Broad and Ann Lahiff (Chapter 22) explore how vocational teachers’
expertise is used, developed, and sustained (over time) in practice. They argue
that this is a complex, diffuse, and largely hidden process, residing either within
the individual as personal expertise and/or within networks as shared vocational
knowledge. They employ two different but complementary research methodolo‑
gies (CHAT and actor–network theory) as analytical lenses to explore and make
visible the phenomenon of vocational practice in action.

Challenges for VET

Part V of the Handbook provides four perspectives on the ways in which VET
currently interacts with socioeconomic, cultural, and political continuities and
change, and one perspective that adopts a prospective view of VET as an enabler
of regional regeneration. As we noted earlier in this chapter, VET is often seen as
the solution to both social and economic problems and judged accordingly.
Karen Evans (Chapter 23) discusses how the social processes associated with
gender, ethnicity, and social class are manifested in VET and how they are medi‑
ated by the structural, cultural, institutional, and labor market formations in
which they are embedded. She argues that understanding how VET constitutes
part of the problem as well as the potential solution should lead to a more realis‑
tic appraisal of the scope for VET to make a difference.

Part V then continues with three chapters focusing on the role of VET in India,
China, and Argentina. All three countries face acute challenges in relation to
ensuring their large populations are equipped with the expertise necessary to
achieve the social and economic goals they have set. Tara Nayana and Sanath
Kumar (Chapter 24) examine these challenges in the context of India, where the
aim is to create a vibrant interface between VET and the needs of industry in
order to achieve a competitive advantage at the international level. Zhiqun Zhao
and Yunbo Liu (Chapter 25) write from the context of China, which has entered
a new stage of economic transformation and, as a result, has attached renewed
importance to VET. The number of vocational education institutions and stu‑
dents is rising rapidly, creating major challenges in relation to the administration
of VET, the allocation of funds, and teaching and learning. Claudia Jacinto
(Chapter 26) analyzes developments in what is termed vocational training (VT)
in Argentina. She argues that VT does not comprise a harmonious, integrated
system, but a complex set of public and private actions responding to different
demands and segments of the labor market.

Part V finishes with an exploration of theories and concepts from the field of
economic geography and their implications for VET. Laura James (Chapter 27)
sets her discussion in the context of an emerging debate about the importance of
linking policies for innovation and regional economic development to policies
for VET. Her chapter therefore offers a complementary perspective to that of
Hoeve, Kuijer-Siebelink, and Nieuwenhuis (Chapter 21). James focuses on the
key concept of learning regions. Using a practice-based perspective, she shows how VET research might forge a fruitful relationship with disciplinary fields with common, but often unacknowledged, cognate interests. This could further encourage the necessary connections that need to be made between diverse theories, policies, and practices in ways to enable geographical regions to actively shape their futures.

**Toward a Prospective VET Research Agenda**

This Handbook cannot and does not claim to be comprehensive in its scope, but rather to present a collection of authoritative essays on VET by leading and emerging international scholars. The detailed nature of the essays means that readers are provided with a wealth of references to other significant research and policy literature that it has not been possible to include in this volume. The essays reveal the richness of VET as a contested and evolving field of intellectual inquiry and its continued importance across the world. They also reflect differing ways to conceptualize, analyze, and evaluate the purposes, practices, and outcomes of VET. The five parts offer a mix of theoretical, policy, and practice-based insights into VET as an evolving concept; the political economy of VET; arrangements for and innovations in VET; as well as some of the challenges facing VET. We nevertheless acknowledge that it has not been possible given the scope of this volume to provide an internationally comprehensive collection. Key omissions include perspectives from African and Middle Eastern countries. This is partly in the case of the former because, as McGrath (2012) notes, “Whilst there have continued to be both policy and academic developments in VET in OECD countries; in the South there has been a paucity of VET research and little in the way of theoretical exploration” (p. 623). The Handbook is written in English, and most of the research cited in the chapters has been published in English. This necessarily begs the question as to how much valuable research remains untapped.

We hope, however, that many of the arguments and proposals found in this Handbook will cross international boundaries and resonate with researchers, students, VET practitioners, employers, and policymakers. A key argument is that VET is multifaceted, multidimensional, and context-specific. Successful features found in one context are not necessarily replicable nor should be conceived of as being replicable or scalable in another context. Another is that VET supports entry into and sustains people’s capacity for working in a diversity of “combinational” or “layered” economies, in other words, economies characterized by both continuity and change. These economies cover traditional and niche-craft work, mass and diversified production and services, and co- and social production. In all, recent technological developments exist alongside earlier developments, and people cross boundaries in ways that are not captured by many of the classification systems used to describe and measure work practice. A further message is that policymakers need to be very cautious about positioning and then judging VET as the solution to social and/or economic problems. Doing so downplays the considerable contribution VET makes in
many countries and further renders invisible the understanding that the development of expertise is developed through a relational and dynamic interplay of a range of factors.

One of the goals of the Handbook has been to open up the field of VET research in three key ways. First, the Handbook explores the evolving and diverse character of VET within and across a range of contexts in an attempt to overcome the siloization we commented on earlier. Second, it encourages VET researchers to revisit and take a fresh look at the relationship between VET and work in the light of advances in digitization, new forms of work process, and the disruption of occupational boundaries. Third, it draws on the insights of scholars working in a range of disciplinary fields whose research tends to be published outside the mainstream VET journals. We hope that the collective insights provided throughout this Handbook will assist researchers, policymakers, and practitioners to develop what we referred to earlier in this chapter as a “prospective” approach to VET (which we discuss in detail in Chapter 2). This is in line with Heikkinen’s (2001, p. 228) caution against the tendency in VET to either continually reaffirm the validity of an ahistorical discourse, which advocates permanent change, or describe and defend state-based perspectives. This shift in focus will hopefully lead to a new balance being struck where VET is understood, first, as a relational concept that forms part of a dynamic interplay with the evolving organization and process of work, including the emergence of new occupations; and, second, as an instrument of government policy and/or an institutional component of a country’s broader education system to support the above vision. The first step toward realizing this vision, as we argue in Chapter 2, may involve replacing the concept of “skill” with the concept of “expertise” in VET research, practice, and policy.

References


