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Retrieving and recontextualising VET theory

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A conceptual analysis of occupational capacity for expert practice

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A conceptual analysis of occupational capacity for expert practice

Abstract

The paper provides a starting point for understanding occupational capacity as the basis for vocational education and training that develops occupational expertise. I have borrowed and explicated Christopher Winch's (Winch 2010; Clarke/Winch/Brockmann 2013) notion of occupational capacity as the requirement for expert practice and its development thereof as the goal of training to practice. The conceptualisation draws on scholarship from different disciplines (philosophy of education, sociology of work, and political economy) to outline factors that shape occupational capacity. A strong theme emphasised in occupational capacity is the relationship between training and practice in occupations that contains internal characteristics of specialised knowledge, which encapsulates systematically organised knowledge, occupational practice, skill, and autonomy; and an external force comprised of the social organisation of work by professional bodies, institutions, and state regulation. I argue that further theorising occupational capacity provides a more holistic understanding of preparation for work in expert practice based in a complex social, political, and economic system and thus provides an alternative to competency-based training approaches that prioritise task performance and foregrounds supply and demand notions of skills development for vocational and professional education and training.

***Keywords**: occupations, expertise, professional/VET training, occupational capacity, specialised knowledge*

1 Introduction[1]

Any effort to explicate vocational and professional education and training must navigate contentious debates on the meaning of preparation for work. The debates often engage with different views on the relationship between knowledge and practice in occupational expertise and how this relationship is represented in education and training. In South Africa, the debate often engages with the radical policy reforms of the democratic era, with the introduction of the South African National Qualifications Framework (SANQF), associated with outcomes-based qualifications that have shaped the post-school education and training systems (Muller 2009; Allais 2011). The early structure of the qualifications in the SANQF was heavily influenced by Anglo-Saxon competency-based training (CBT) approaches based on a supply-and-demand notion of

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skills development that focused on task performance in determining learning outcomes designed down into the qualifications and curricula of learning programmes (Shalem/Allais/ Steinberg 2004; Muller 2009; Allais 2012). But extensive international and local critique of CBT approaches followed, highlighting that an understanding of occupational practice in terms of the performance of workplace tasks is too narrow and cannot inform a training development process (Allais 2012; Clarke/Winch/Brockmann 2013; Wheelahan 2015). Despite this strong critique, and despite policymakers mostly agreeing with scholars on the need to include disciplinary knowledge in occupational training, subsequent reforms in South Africa, in 2012, further entrenched CBT approaches by adopting learning outcomes and design down in regulatory templates for the structure of occupational qualifications and their intended curricula (Alphonsus 2022). Among other things, the prioritisation of tacit procedural knowledge, for the most part, in the development of knowledge models (Alphonsus 2022) raised questions about how we understand, or misunderstand, the basis of specialised knowledge in vocational and professional training enacted in practice. Within these continuing and contentious debates on connecting education and work, this paper seeks to further conceptualise occupational capacity as the requirement for expert practice.

While identifying the problem with CBT approaches could provide the basis for a pause in the enactment of CBT-based education reforms, more holistic training approaches that address the development of expertise for occupational practice are not always clear. The difficulty with misunderstanding occupational capacity in discussions on qualifications and curricula is that it can leave low-to-middle-income countries vulnerable to adopting an international policy that rarely leads to change in their learning programmes for workplace training for practice. In response to this difficulty, this paper provides a theoretical understanding of occupational capacity developed in training and required for practice. It builds on the work of scholars who have critiqued the Anglo-Saxon version of CBT-based education reforms and suggested alternatives based on a more holistic understanding of occupational training, such as the broad occupational qualification routes proposed by Jeanne Gamble (2021) and occupational/ vocational pathways by Leesa Wheelahan *et al.* (2012; 2015). I argue that by further theorising the concepts of specialised knowledge and social organisation of work that shape occupational capacity, we can better understand training and practice as knowledge structures based in complex social relationships that can either enable or hinder preparation for work.

Straightforward policy borrowing from other models can contribute to misunderstanding, as in the case of South African policy borrowing from the German model for its occupational qualifications reforms. Alison Wolf (2002) has best captured problematic international policy borrowing in her book, *Does Education Matter? Myths About Education and Economic Growth*, when describing how British policymakers became infatuated with the German training model, which they associated with market competitiveness. In the case of South Africa, international agencies from the DACH region – comprising Austria, Germany, and Switzerland – had substantial influence on shaping the country's occupational qualifications reforms, with panels of local experts (in one case, led by German experts) being sought to develop the qualification and curriculum structure and contents, in what seemed to be an attempt to mimic the institutional relationships embedded in the development of vocational education training in

the DACH countries (Alphonsus 2022). As Wolf (2002) highlights, and Wolfgang Streeck (2012) subsequently demonstrates, the German model of vocational education training is built on decades-old institutional relationships and contextual factors that are difficult to replicate in another national system.

The idea behind further conceptualising occupational capacity, as I do in this paper, is simple: combining the work of key scholars from different disciplines serves as a prism to explain training and practice in occupations, revealing a deeper understanding of how they affect each other in an enclosure such as occupation. While the scholars whose work I bring together here agree that knowledge and society shape occupations, their different disciplinary emphases foreground different aspects of the relationship between training and practice. Christopher Winch's work, based in the philosophy of education, explains the role of types and organisation of knowledge, where specialised knowledge defines, underpins, and advances expert practice. Eliot Freidson's work and Andrew Abbott's work, both based in the sociology of work, explain how occupations draw on specialised knowledge to justify and contend with social forces to establish, maintain, and advance training and practice. Finally, Guy Standing's work, based in political economy, explains how the actions and agendas of various actors (professional bodies, educators, employers, and the state) in socio-economic and political processes shape occupations. Connecting and combining the theoretical work of these scholars provides us with a far richer explanation of how and why power dynamics in social relationships influence specialised knowledge development in training and enactment in practice (Alphonsus 2022).

The concepts are presented sequentially in the paper, but this paper structure does not mean that relationships between the concepts are static; on the contrary, I suggest how the different concepts could relate to each other in occupational capacity. For example, autonomy is found under the broad concept of specialised knowledge because practitioners often justify their expert practice through a claim to a particular body of knowledge in line with their skills and abilities (Standing 2009; Winch 2010). At the same time, autonomy can also be located under the social organisation of work because the ability of professional bodies to jockey in political processes and convince the state and society of their expertise is equally important in enabling autonomous expert practice (Freidson 2001). However, autonomous practice in a specific context could be justified by specialised knowledge and enabled by the social organisation of work in occupations or by varying degrees of both. In providing for flexible relationships between concepts, my intention is to develop a dynamic notion of occupational capacity that accommodates contextual variations in training (education) and practice (work) relationships, for analysing current occupational training and, potentially, future education reforms.

The paper starts by explaining how occupational capacity is expanded through the concepts of specialised knowledge and social organisation of work. In drawing out occupational capacity, I am often referring to that which is developed in preparation for work in learning programmes requiring both institutional and workplace training. Next, specialised knowledge and its relationship to expert practice is examined through systematically organised knowledge, occupational practice, skill, and autonomy. The final section shows how the social organisation of work influences training for expert practice through professional bodies, institutions, and

state regulation. I conclude the paper by reflecting on the need to better understand occupational expertise in order to acknowledge and support contextual variations in preparation for work.

2 Occupational Capacity

Holistic approaches to training that can serve as an alternative to CBT approaches are, as I have mentioned earlier, difficult to find. Christopher Winch's (2010) description of occupational capacity as the requirement for practice seems to best encapsulate the different aspects of training and practice. Later, Winch worked with his colleagues to further develop this notion of occupational capacity (Clarke *et al.* 2013), with them drawing on David Marsden's (1999) book, *A Theory of Employment Systems.* In this book, Marsden distinguishes between systems based on a production approach and those based on a training approach. A production approach sees skills as work-based and firm-specific, leading to training that is mostly defined by an individual employer and specific to a job (Clarke *et al.* 2013, 933). In contrast, a training approach emphasises a person's ability and a certified qualification (Clarke *et al.* 2013, 933) as well as institutional regulation of training. Additionally, as Linda Clarke *et al.* (2013, 933) explain, a training approach is typically based on an occupational labour market that is collectively and industrially organised and contains the scope of activities, know-how, knowledge, and competences, as well as the value of the associated qualifications, which can vary substantially within different industrial relations systems (Clarke *et al.* 2013, 933–934). This distinction between the training and production approaches defining a holistic training approach, as an alternative to CBT approaches, that is similar to the production approach.

In order to understand the distinction between the two approaches, Clarke *et al.* (2013) use Marsden's distinction in a comparison of labour markets in Germany and the United Kingdom (UK). They describe how the German notion of occupation is based "on the principle of developing occupational capacity through negotiation and regulation by a range of stakeholders, including the social partners (trade unions and employers representatives) and educationalists" (2013, 933). Drawing on their insights, Clarke et al. argue that occupational capacity is concerned with a broad notion of know-how, understood in terms of "ability based on some permutation of dexterity, practical knowledge, theoretical knowledge and social ability" (2013, 935). As they (2013, 935) explain, "occupational know-how" goes beyond mastery of a technique related to task performance and extends to a grasp of the requirements of the occupation as a whole, including the carrying out of extended projects and specification of the broader context into which individual tasks are integrated. The work of Clarke *et al.* (2013) thus emphasises two broad concepts that work together to form occupational capacity in a holistic training approach, and which I draw out – i.e. specialised knowledge and social organisation of work. In the next section, I explain specialised knowledge as the basis of an occupation.

2.1 Specialised Knowledge

There is agreement, to some extent, on the relationship between occupation and knowledge among scholars from different disciplines. Theorists of political economy, sociology of work, and philosophy of education agree that occupations often identify with bodies of abstract and

practical knowledge (Abbott 1988; Freidson 2001; Standing 2009; Winch 2010). Standing explains that occupations involve "some combination of forms of knowledge that go beyond conventional notions of skill – abstract, technical, inferential and procedural" (2009, 11). Similarly, Freidson argues that any type of work presupposes knowledge and that the "social and economic organisation of practice plays a critical role in determining both what knowledge can be employed in work and how knowledge can be exercised" (2001, 27). Though agreement exists on the importance of knowledge for occupational practice, there is contestation over what kind of knowledge best prepares for work and provides jurisdiction and power.

In understanding specialised knowledge, I draw on how Winch (2010) – in work done prior to his collaboration with Clarke *et al.* (2013) – bases occupational capacity on two kinds of knowledge: know-that (often in the form of subject knowledge) and know-how (dependent on know-that, and often in the form of practical knowledge), both of which are drawn from Gilbert Ryle's work. Winch's work also draws attention to the need for vocational training educators to consider how occupational capacity is developed in training both in the education institution and at the workplace. His analysis of knowledge types shows the importance of including both know-that and know-how, which underpins the development of inferential comprehension abilities (discussed later) in occupation-oriented training. His more nuanced development of know-that and know-how provides insight into the complex relationship between bodies of knowledge and skill that plays out in expert practice.

Winch's (2010, 144) notion of occupational capacity is drawn from the German context. For him (2010, 52), occupational capacity can be best illustrated by using an example, specifically a carpenter's skill. Winch (2010, 52) observes that a carpenter's skill often refers to a collection of skills, and not to the general skill of a carpenter. The notable variation arises when discussing a proficient carpenter, whose competence to practice goes beyond different skills or Anglo-Saxon CBT-based/task-based descriptions of competency, which, for Winch (2010, 52), is occupational capacity. In what follows I explain the four key concepts that I consider to be instrumental to the internal characteristics of an occupation: systematically organised knowledge, skills, occupational practice, and autonomy.

2.1.1 Systematically Organised Knowledge

The concept of systematically organised knowledge foregrounds how knowledge is learned and inferential comprehension abilities (which combine different types of knowledge) developed for practice, such as when, for example, a plumber listens to the sound of pipes in the wall of a residential home to diagnose a problem. When considering how knowledge is learned, I again turn to Winch (2015, 172), who argues that an individual must possess systematically organised knowledge to exercise professional judgement and to justify their actions in the course of decision-making in an occupation. Drawing on the German context, he (2010) identifies two kinds of propositional knowledge within a body of knowledge: *Kenntnis* and *Wissen*. *Kenntnis* refers to contingent knowledge and discrete propositional knowledge; while *Wissen* refers to organised propositional knowledge, commonly referred to in English as scientific and theoretical knowledge (Winch 2010, 103). It is possible to attribute *Kenntnis* and even *Wissen*

to an artisan based on their activity in the workplace. *Wissen* is associated with practice because relevant systematic knowledge is required for professional action to be successful (Winch, 2010, 103). *Wissen* is also essential for providing evidence of professional judgement in the workplace, as a requirement for learning practical knowledge that consists of assessing, performing, and justifying professional action in relevant situations (Winch, 2010, 104).

It is important to note that in Winch's notion of occupational capacity, professional judgement (and its development thereof) is based on several types of knowledge working together. These knowledge types include practical knowledge, knowledge by acquaintance, and disciplinary knowledge. In drawing on Winch's work, I have intentionally not expounded how he draws on Ryle's work to use know-that and know-how; instead, I have detailed how he uses *Kenntnis* and *Wissen* for a better understanding of inferential comprehension abilities, which is essential to how I further develop occupational capacity. Winch's explanation of inferentialism provides greater insights into how know-that and know-how work together in the exercise of inferential comprehension abilities in expert practice.

To grasp the roles of *Kenntnis* and *Wissen* in professional judgement, Winch (2013) turns to Robert Brandom's work to explain inferentialism's role in understanding the subject matter that reveals how know-that and know-how work together in practice and are often taught together in the classroom. echnical training rarely locates disciplinary knowledge solely in the classroom and practical knowledge in the laboratory); rather, such training combines different types of knowledge to develop inferential abilities. Winch uses inferentialism to show connections between bodies of knowledge in systematically organised knowledge and their relationship to know-how in practice. Brandom, as explained by Winch, posits that in order to understand and apply concepts based on related propositions, such as in a systematic body of knowledge, an individual requires an understanding of the inferences that can be made from propositions that use the concept (Winch 2013, 130). Brandom thus suggests that even though knowledge by acquaintance is one way of grasping a situation – i.e. an aspect described by a proposition – it can only go so far as justifying one's genuine belief in the proposition and is not sufficient to justify practice (Winch 2013, 130). Furthermore, Brandom's position, Winch argues, leads to the conclusion that one cannot know a proposition unless one understands the inference of the proposition (Winch 2013, 130). The implication is that knowledge does not consist of isolated propositions but is found within a conceptual structure comprised of other related concepts (Winch 2013, 130). Winch emphasises that inferentialism within a systematic body of knowledge (know-that) is critical to having a nuanced understanding of professional judgment in expert practice – which can be used to justify levels of autonomous practice (discussed later).

In Winch's work, there is a relationship between inferential comprehension and know-how. Engaging with know-how requires an acknowledgement, on some level, of rules and an exercise of agency for carrying out actions. Explanations of know-how can be very detailed. For Winch (2006, 414), inferential comprehension or understanding relations between different propositions is a form of practical knowledge. This kind of knowledge is difficult to develop through formulaic methods as it is not only derived from theory but is also context-dependent

(Winch 2006, 408). A broader view of the role of practical knowledge is required to understand inferential comprehension because it is a way of knowing how that goes beyond being a version of rule-following (in the performance of a task). An informed definition of applying a technique requires reasoning and intentionality, which leads to a sound professional judgement.

In considering the development of occupational capacity, Winch explains that Brandom's work further suggests that propositional knowledge is often found within academic subjects, which are located within broader disciplinary knowledge. This implies that propositions are inherently interrelated within the conceptual make-up of disciplinary knowledge structures (Winch 2010, 112). I.e. a proposition inevitably does not stand alone but is often part of a chain and joined up with other propositions (Winch 2010, 112). A student who gains knowledge in a discipline will learn the propositions and also understand how they relate to each other (Winch 2010, 112). Understanding relationships between propositions leads to an inferential ability in students that reveals their level of expertise (Winch 2010, 113). Inferential ability in students thus builds the foundation for professional activities, which are based on systematically organised knowledge.

The implication of Winch's use of Brandom's work is that the development of inferential comprehension in trade-based occupations requires training that includes theoretical and practical knowledge (context-specific but also inferential comprehension) in classrooms and workplaces respectively. In contrast, learning sets of propositions that are only related to a task can be problematic from the point of view of gaining the ability to make inferences from the subject matter found in systematically organised knowledge and hence to apply general principles, conceptual relationships, and central propositions within a subject (Winch 2015, 172). Thus, applying a notion of occupational capacity to the requirements for learning programmes reflects a deeper understanding of inferential comprehension, as the relationship between know-that and know-how is one that goes beyond what is only 'relevant' to the mechanical performance of work tasks.

2.1.2 Skill

Specialised knowledge embraces skill. Skill refers to the ability to perform a task, solve problems based on expert knowledge, and engage in social relationships that enable performance (Clarke/Winch 2006, 256). Clarke and Winch (2006) highlight the different characteristics of skill such as technical abilities, social attributes, and behavioural and cognitive abilities. While Clarke and Winch (2006) provide a broad understanding of skill, I draw on Streeck's (2012) work on craft skills and general skills during the Industrial Age in this section. His account of craft skills and general skills development in skills formation systems shows how different types of skills were closely linked and also provides insight into how different actors advocated and negotiated for skills development in line with their own agendas. My interest here lies in what the agendas of different actors mean for understanding occupational capacity. Streeck's work provides the means to understand how different actors might advocate for certain skills in the development of specialised knowledge.

Streeck (2012, 319) shows how craft skills and general skills were influenced by relationships and conflicts among trade unions, employers, and workers in the German and Anglo-Saxon skills formation systems. Craft skills were valued as advanced skills during the Industrial Age, but they tended to be narrow, specific high-level skills (Streeck 2012, 319). These high-level skills were associated with knowledge in a particular field, which often included mastery in the use of equipment found in different workplaces (Streeck 2012, 319). In contrast, general skills were unspecific but were widely used in industry and needed manual or physical labour (Streeck 2012, 319). Streeck (2012) shows that in the Anglo-Saxon and German contexts, industry demanded different combinations of craft skills and general skills. His work provides some insights into how changes in skill demands are related to contextual factors, such as mass production and changes in technology, in a specific setting.

Streeck (2012) explains how, in the Anglo-Saxon environment, trade unions controlled skilled labour supply and wages. Trade unions held significant bargaining power and control over what work their members performed and how it was valued. If a trade union's members had to learn to use new machines, higher wages were often demanded to learn the new skill (Streeck 2012, 320). This system, in which trade unions controlled wages based on specific skill types, became unmanageable for industry, as it clashed with the latter's need to introduce new machinery for mass production to remain competitive (Streeck 2012, 320). As Streeck (2012) explains, problems erupted because employers refused to meet the workers' demands for higher pay. The result was that to avoid dealing with the issue of wages, industries pushed instead for automated factories (Streeck 2012, 320). The Anglo-Saxon case points to the complexity of defining skills in a context where interactions between industry, trade unions, and economic interests influence the demand for certain skills.

The German system, meanwhile, had highly skilled workers, which allowed employers to deploy new technology rapidly. Streeck (2012) describes the German workers as having both advanced specialised and general skills due to widely accessible and publicly supervised apprenticeships. There was an ample supply of skilled industrial workers in Germany during the Industrial Age, which supported the easy retention and redeployment of workers (who were also highly mobile in external labour markets) while allowing workers to engage quickly with new technologies that added a competitive advantage to their industries (Streeck 2012, 321). As Streeck (2012, 319) explains, employers in the German system were willing to invest large amounts of money in the development of skills. The trade unions supported companies' upskilling of employees for their benefit while simultaneously pushing for more general training for their members (Streeck 2012, 319). It is important to note that crucial role-players in the German context prioritised both high-level skills and general skills, which gave German industries a unique competitive advantage.

Streeck's (2012) descriptions of the Anglo-Saxon and German social and economic systems show how context influences skills development. Streeck (2012, 319) explains that in contrast to the German system, the roles of collective bargaining and wage-setting were performed separately by each stakeholder in the Anglo-Saxon context. He argues that the most notable characteristic of the German system was joint regulation of the vocational training system at

the industry level. The joint regulation meant that collective bargaining and wage-setting were done by trade unions and employer associations, who jointly administered a set of rules and were licensed by the state. External pressures, such as mass production and bargaining power for wages, influence which skills are valued and the extent to which they are demanded. The connection between the demand for different skills – i.e., workers with high-level and general skills versus less-skilled labour in automated factories – inevitably has an impact on the required types of knowledge for practice in the workplace. However, Streeck's detailed account of skills in the Anglo-Saxon and German systems during the Industrial Age suggests that power relations and specific collective bargaining affect skills formation. From this, it could be inferred that the same occupation in different contexts might draw on different combinations of craft skills and general skills for practice. The result is that the composition of specialised knowledge found in training for an occupational practice may vary due to the characteristics of a skills system.

Streeck's (2012) work is important to understanding how contextual conflicts and power dynamics in the social organisation of occupations shape skills development and, ultimately, specialised knowledge for occupational capacity. His work highlights that prioritisation of general skills or specialised craft skills that influence the composition of specialised knowledge in training is driven by contextual social factors such as employer and trade union priorities and state regulation. His comparison of the Anglo-Saxon and German skills formation systems helps in understanding how the relationship between the state's actions and key stakeholders in the social organisation of work can either support or hinder occupational training and practice.

2.1.3 Occupational Practice

Looking at occupational practice under specialised knowledge when conceptualising occupational capacity provides a contrast to Johan Muller's (2009) critique of outcomes-based training for containing "contextually tacit procedural knowledge". This section identifies the difficulties in moving from observation of occupational practice to the development of know-that and know-how found in training for practice. Broadly, as I have shown elsewhere, observation of task performance does not easily translate into how specialised knowledge (know-how, know-that, and inferential comprehension abilities) is developed in teaching and learning processes in training for practice (Alphonsus 2022). Here, I turn to Jim Hordern (2016), who uses the work of Winch (2010; 2014) and Michael Young and Johan Muller (2014) to provide a compelling argument for extending the differentiation of occupationally related knowledge to the consideration of occupational practice. Young and Muller's (2014) work, in particular, is concerned with the nature of knowledge and curriculum that is affected by institutional structures and cultures and the experiences of individuals within them. What is especially useful for this paper is Hordern's use of their work to reveals forms of occupational practice that have been differentiated based on their underpinning knowledge and institutional conditions shaping knowledge.

Hordern (2016, 1) establishes that understanding the nature of occupational expertise requires differentiating the structure and purpose of types of knowledge. He (2016, 4) argues that occupational practice requires a knowledge base assembled from education institutions and the workplace. Both education institutions and the workplace expose novice practitioners to a wide range of curricula, and pedagogic and workplace representations of specialised and non-specialised knowledge. Hordern (2016, 6) draws the two types of specialised knowledge identified by Young and Muller (2014)—"conceptual generality and contextual purpose"—into the discussion on occupational practice. While the "conceptual generality type is related to the conceptual development to be found in academic disciplines, the contextual purpose type is located in occupation-oriented disciplines" (Hordern 2016, 6). What Young and Muller's (2014) work highlights is that conceptual development within the broad discipline and contextual purpose within the occupation-specific discipline work together to form the specialised knowledge that underpins expert practice.

Hordern (2016, 10) emphasises the importance of understanding context in occupation-oriented disciplines but cautions against understanding specialised knowledge only in the context of judgement and actions that are "situated" or highly contextual to an observer (Hordern 2016, 10). He (2016) argues that judgements and actions are products of a broader framework of reasoning that guides decision-making and action-taking in an occupation. Similar to Winch's explanation of propositions in systematically organised knowledge, Hordern emphasises the link between bodies of knowledge and occupational expertise through which there is often access to the conceptual resources that underpin how practitioners think through problems encountered in their practice and how they think through alternatives and reject inappropriate solutions (Hordern 2016). The implication for approaches such as CBT is that breaking tasks down into actions associated with performance criteria is not a full representation of occupational practice for training.

Here, I am using Hordern's (2016, 2) work to argue that when training is focused on situated knowledge for tasks in the workplace, the disciplinary knowledge required for occupational practice is undermined. In particular, Hordern aptly describes the ways in which focusing on observed tasks in practice can be confusing when identifying disciplinary knowledge for the curriculum. The likely consequence is that systematically organised knowledge (knowledge based on a body of facts or truths that is organised to reflect general laws or build concepts) becomes less critical for the curriculum (Hordern, 2016, 2). Therefore, Hordern's work supports my argument that the types of knowledge enacted in occupational practice are not easily discerned through observing practice as in CBT. The problem lies in identifying the systematically organised disciplinary knowledge that is enacted in occupational practice. Hordern (2016, 10) argues that systematically organised disciplinary knowledge provides enhanced technical and situated capability, which is essential for occupational practice. Thus, engendering a more nuanced understanding of the relationship between specialised knowledge and the social organisation of work can lead to developing the occupational capacity needed for expert practice. In the following section, I examine how knowledge validates autonomy and control of practice in occupations. The role of knowledge within a broader conceptualisation

of occupation is enhanced by understanding how a professional is limited or enabled by certain boundaries by specialised knowledge in practice.

2.1.4 Autonomy

As mentioned earlier, the professional/occupational practitioner who is empowered to practice in an occupation requires a means of legitimation that convinces the general public. As I discuss in this section, legitimacy to practice can derive from qualifications or work-based learning programmes regulated by the state or professional bodies, or a combination thereof. Additionally, as Freidson writes, authority to practice in a particular area "is based not on economic or administrative status but rather on the content and character of its expertise and the functional relationship of that expertise" (2001, 56). According to Freidson (1973), professionalisation means that members of the occupation have attained exclusive competence and can control their scope of work. He explains that professional work includes elements of autonomy and self-control. Authority to practice has a strong relationship to the specialised knowledge found in a distinct kind of expert practice.

By associating distinct expert practice to specialised knowledge in the social organisation of work, the professional/occupational practitioner can legitimise their practice in the public domain. Control over the scope of work is often defined by a professional community central to determining the organisation of an occupation. Freidson (2001) highlights that control over occupational practice can be exerted in two ways in an ideal type of profession. It is reflected, first, in the extent to which a professional has control over their scope of work and, second, in the extent to which they have discretion in applying their knowledge to the work. The latter is related to the division of work among a group of professionals, where the profession has control over the labour process. Both elements of autonomous practice draw on the social organisation and structure of specialised knowledge in relation to the division of labour, wherein professionals under an occupational structure can perform and apply knowledge in their scope of work.

As I discuss later, the ability to establish and advance an occupation lies with the members of professional communities and is subject to state regulation and labour market dynamics. There is often consensus that professional work needs to identify with bodies of abstract knowledge (Freidson 2001; Standing 2009). Such bodies of knowledge enable professional communities to defend or advance their domain of influence and to create a validated source of required knowledge to respond to the changing nature of the professional practice (Freidson 2001; Standing 2009). Hordern (2014, 2) argues for the importance of a community of professionals in legitimising the specialised body of knowledge related to their work, where they are tasked with recognising and validating knowledge. Thus, autonomy to practice certain kinds of work is based on specialised knowledge but often requires professional communities, who act as sources of expertise, to validate and legitimise the specialised knowledge for autonomous practice. While drawing out this link between autonomy and specialised knowledge in expert practice may seem to overly narrow the definition of autonomy for some, I am foregrounding this link because it relates strongly to the role of professional bodies in the next section. Additionally, the linking of concepts within specialised knowledge to the social organisation work is

not always obvious to actors invested in Anglo-Saxon CBT approaches who struggle to think of ways to describe work in terms other than tasks.

In summary, the characteristics of specialised knowledge internally shape the nature of occupational capacity and thus expert practice. In conceptualising specialised knowledge, I have raised some complicated issues such as the cultural context of skills, different types of knowledge, and the application of knowledge in practice, as well as the essential role of knowledge in relation to autonomy in practice. As discussed earlier, Winch's notion of occupational capacity foregrounds the relationship between know-that and know-how that results in inferential comprehension abilities, providing a more holistic view of knowledge; and yields a broad conceptualisation of occupation. The notion of skill helps us understand the influence of contextual factors on the structure of work, which prioritises varying combinations of craft skills and general skills in training and practice. In the discussion on occupational practice, I reflected on combinations of knowledge types that are enacted in practice, while noting how observation of practice is a difficult starting point for differentiating the various knowledge types that combine into specialised knowledge. The notion of autonomy further reflects the centrality of specialised knowledge, which is the basis for expert practice and provides enclosures for the scope and jurisdiction of work. In the next section, I turn to the external force that shapes preparation for occupational capacity—i.e. the social organisation of work in which knowledge and practice are located.

2.2 Social Organisation of Work

In this section, I show that occupational capacity is shaped by social factors as an external force that can either hinder or support occupational practice and training. The theoretical discussion here leans towards outlining the characteristics and roles of various actors in society that strengthen occupations. It also reflects on the network of relationships that could exist between these actors who influence occupational practice and training. There are various social factors that shape preparation for occupational capacity. Standing (2009, 12) identifies occupations as being part of a society in which their functions reproduce economic and social relations in the broader community. He defines an occupation as an "evolving set of related tasks based on traditions and accumulated knowledge, part of which is unique" (Standing 2009, 11). Standing's (2009) work implies that the meaning of an occupation is inextricably tied to its social functions in a specific context. In this section, I now examine how actors in professional communities, institutions, and the state influence training and practice.

There are two reoccurring ideas in the social organisation of work. First, the professional/ occupational practitioner has certain rights that are won by them and afforded to them through different kinds of social struggle. Standing (2009, 11) highlights rights such as a monopoly of practice, a structure of public payments, setting of work procedures, creation of regulations, control of recruitment and training, and licensing of practitioners. Second, society is dynamic and often changing, and this can affect the relationship between education (training) and work (practice) embodied in preparation for work.

Occupations were often established, and have since evolved, amid power relationships, social pressures, and economic changes (Standing, 2009). The question that then arises is: how does an occupation gain power to practice in society? Freidson's (1973, 17–38) earlier work provides some insight in this regard. He argues that occupations, or more specifically professional bodies, gain power by being able to license and mandate their members, which provides legal authority to their members to recruit, train, and examine the ranks of the occupation (Freidson 1973, 29). He further explains how continuous political activity is required to maintain a profession's position, which can further improve its place in the market and also affect the division of labour within the profession (Freidson 1973, 29). As mentioned earlier in the discussion on autonomy under specialised knowledge, Freidson's (1973) argument underscores the point that a crucial part of the authority to practice as an expert among professionals/occupational practitioners is their claim to specialised knowledge, but that another crucial part is professional bodies' navigation of social and political processes to establish their right (i.e. their members' right) to practice certain work.

It is worth noting here that Freidson (1973) also explains that power dynamics in society can unfairly favour a group of people who influence social and political processes. Similarly, Standing too notes that the dichotomy between professions and crafts may reflect "little more than artificial deference of privilege and occupational domination that exists in a particular society" (2009, 24). In so doing, he is highlighting that the power of occupations and the (esteemed) place they occupy in society may not relate to expertise but to how privilege manifests in a particular context.

Historically, occupations and work have moved from being defined by self-governing guilds in the medieval period to being defined by industry and employers during the Industrial Revolution, and then to being influenced in a more nuanced manner by the state and international organisations in the modern era (Abbott 1989; Freidson 2001). What follows is a discussion on how professional bodies, institutions, and the state have historically played a role in occupation formation, establishment, and maintenance – which provides insights into the types and consequences of the social organisation of work that shape occupational capacity.

2.2.1 Professional Bodies

The stability of an occupation in a society can be associated with particular characteristics of professional bodies (also referred to as occupational/professional communities). Standing (2009, 19) shows that an established occupation is rooted in a community in which the work of individuals is self-monitored and self-evaluated, and the 'self' extends to one's chosen peers. Professional body members can collectively bargain, lobby, and exercise collective practitioner control through training barriers such as entrance exams, licenses, and ethics codes (Standing 2009, 19–20). Standing shows that communities of practitioners able to exercise jurisdiction or monopoly of practice (such as guilds) have the power to determine a structure of payments, work procedures for practitioners, regulations, recruitment, training, and licensing controls (Standing 2009, 25). He highlights ways in which professional communities justify their expertise and how they secure the exclusive right to practice particular kinds of work. A large

part of justifying their expertise is their strong association to a form of specialised knowledge that underpins their recognised practice in society (internal characteristics). However, understanding the characteristics of professional bodies in terms of the social organisation of work in occupations requires examining their historical emergence, to which I now turn in this section.

I start by looking at medieval guilds, drawing mainly on Standing (2009) here. Medieval guilds held historical, economic, and social dominance through centuries (Standing 2009, 15). They had notably more power in society than most professional bodies do today. Guilds gave their members status and identity within a community. Guilds set up the framework of training for their members, maintained the status of the occupation, created buffers for entry and exit out of the occupation, and facilitated the market under which these occupations functioned (Standing 2009, 22). Guilds typically operated on the basis of an hierarchy that consisted of master craftsmen, journeymen, and apprentices (Standing 2009, 15). Master craftsmen owned equipment and places of work and employed journeymen on short-term contracts. Journeymen typically worked and waited to become master craftsmen. They depended on the assets and openings allowed by master craftsmen.

During the medieval period, occupations could be found in guilds similar to modern professional bodies. Standing (2009, 15) describes guilds as self-governing, where a hierarchical community was built to perform certain kinds of work and training. He draws similarities between medieval guilds and modern-day professional bodies as groups of people engaged in the same work, who often share values, norms, and perspectives that extend beyond work-related matters (Standing 2009, 15). Additionally, they share tasks, rituals, standards of behaviour, and work codes (Standing 2009, 15). In contrast, Abbott (1989, 275) critiques the idea of occupations as a social group in modern times, as it implies communication within this group in which there is a social and cultural understanding that comes from openness around the same kind of work. He notes that there might have been a social group of professionals in early modern society, but that this rarely exists today (Abbott 1989, 275). Considering Standing's (2009) and Abbott's (1989) insights into professional communities today, it is important to understand the functions of professional bodies, which are often located within a specific training and practice context but which in modern times can draw from international practice in an occupation in complex ways. Their work has been particularly important, for example, in analysing data that shows how education policy regulation in South Africa draws on advice for training and practice from international organisations that tend to undermine the input of local experts (similar to professional body members) in training development processes (Alphonsus 2022).

Power dynamics dominated the functioning of medieval guilds. Freidson (2001) and Standing (2009) show that guilds had strong associations with the elite, which enabled them to yield significant power to rule in their own interests in society. Freidson (2001, 32) explains that a guild's connections to elite classes created power relationships that determined the occupation's position in society. He further reflects on how the rise of powerful guilds created power dynamics that could be harmful to society and often required some form of regulation.

However, a reflection on guilds also reveals how professional communities can provide stability for an occupation within a society, which can ultimately benefit it.

Whether though power dynamics in collective social processes or hierarchical structures, professional bodies first require some claim to expertise in a particular area of practice, which is often based in specialised knowledge. The importance of occupational communities in stabilising practice through knowledge and agreement among peers cannot be overstated. Hordern (2016, 456) explains that communities establish and strengthen definitions of work behaviours, procedures, and practice based on the knowledge base of the occupation, both in terms of the specialised and non-specialised knowledge of the occupation. Freidson (2001, 201–202) argues that the process of establishing formal knowledge associated with an occupation assists in identifying the jurisdictional boundaries that create and maintain a coherent body of knowledge as a discipline. A critical component of developing a specialised body of formal knowledge and skills is a group of like-minded people who can learn and practice it (Freidson, 2001, 202). The group will recognise each other as colleagues due to similar training and experience and identify each other through specific tasks, techniques, and work problems that often give rise to debates (Freidson, 2001, 202). The importance of an occupation-associated community lies in it being able to provide the stability to identify, strengthen, and advance the occupation and enable careful consideration of the training of future practitioners.

In concluding this discussion on professional communities, I return to Standing's (2009) and Abbott's (1989) contrasting views, which show that identifying the characteristics of professional communities can be complex in modern times, especially when determining practice and training nationally in the context of an increasingly globalised agenda. The complexity lies in how our understanding of professional bodies possibly draws on the medieval guilds that often functioned in a local area. Today, individuals who perform particular kinds of work can be difficult to locate in a professional community in the national or global context, especially in occupations that are not regulated. Despite this modern challenge, an active professional community, whether located locally or nationally, can establish and maintain an occupation's position in a society. This section has sought to highlight the power that an occupational/professional body can hold over various aspects of the occupation, from training to types of work to salary setting. But how the professional body can shape the occupation in a local or national context is subject to other forces in society, such as institutions and the state, as well as international concerns. A professional community can enable, or potentially hinder, practitioners in navigating social norms and forces that are context-specific in terms of both occupational training and practice.

2.2.2 Institutions

The previous section explained how professional bodies support occupational practice and training by working within social and political processes to establish their claim to practice certain types of work. Professional bodies often must navigate institutional arrangements in the socio-political landscape, where economic and public welfare agendas can affect occupational training and practice. In this section, I use 'institution' as a generic term for any organisation

that seeks to shape occupations according to its own agenda, whether that be the production of goods, public services, philanthropy, or education. Thus, institutions include non-profit organisations, non-governmental organisations, and government departments. Here, scholarly work mostly centres on how production concerns in the Industrial Age shaped occupations in organisations, as this (production) is the example that best illustrates how institutions could shape occupations for their agenda. However, understanding how institutions can shape occupations in general is the point that I draw out. This section thus explains how institutional arrangements influence occupations by examining how such arrangements emerged historically.

Changes to medieval guilds and the structure of work occurred at the start of the Industrial Revolution in the 18th century. Freidson (1973, 20) explains that changes to production led to a transformation of occupations during the Industrial Revolution. Historically, products were made by highly skilled craftsmen. In contrast, during the Industrial Revolution, unskilled labour used machines to perform certain parts of a production process (Freidson 1973, 20). The change in production processes led, according to Abbott (1989, 275), to an overarching change in the nature of work – it created a new division of labour based on organisational structure. Similar to Abbott, Freidson (1973, 20) argues that occupations defined by organisational structures came to embody an administrative principle of organising work. But this administrative principle of structuring and controlling work did not fully capture the government regulation of work and organisations, industrial trade unions, and their structure of work related to the economy and other terms and conditions of work (Freidson 1973, 21). Abbott (1989) and Freidson (1973) thus separately argue that the Industrial Revolution made production-related concerns in the organisational structure of a company or industry central to defining occupations. The administrative principle of organising work that they describe is in line with Freidson's (2001) definition of the bureaucratic division of labour.

Freidson's (1973) earlier work further reflects on occupations that are defined by industries or companies through the administrative principle of organising work. He (1973, 20) describes how a company's management formulates a plan with detailed instructions for what work occurs and how it occurs, where the worker requires a general skill level and has an administratively created job title in the organisation. However, this administrative job title provides no occupational identity and can be dissolved and remade as skills are general and created relative to consumer demand (Freidson 1973, 20). Moreover, consumption-related production requires flexibility in organisations to respond to the market and often calls for a high turnover of staff (Freidson 1973, 280). And, as Abbott (1989, 276) explains, occupations are difficult to understand when there is a high turnover of staff and careers are more fluid in response to the requirements related to production. Occupations defined by an organisation are firm-specific, making it difficult for individuals to move around in the labour market. The difficulty lies in occupational formation being driven by organisational structures—this is more likely to reflect the intentions of the organisation rather than the interplay of relationships between the state, employers, educators, and professional bodies in an occupational labour market. Understanding how organisational agendas driven by production priorities can shape an occupation raises questions about how professional bodies and the state respond to foreground their agendas (the main theme in this section). By explaining how these agendas play out in relation to each other

in the social organisation of work, I am laying the groundwork for identifying how these agendas play out in developing occupational capacity for expert practice.

Between the logic of occupations based on the organisational structure of work and the logic of an occupational labour market, there is much variation in how occupations are influenced by structures in institutions for work, alongside social and economic processes. Freidson's (1973) explanation of the administrative principle of organising work is that occupations draw their meaning from work as part of a production process, which can be unstable for occupations because institutional agendas change. In contrast, an occupation can draw on a unique identity related to specialised knowledge and practice supported by a professional community in an occupational labour market. In drawing out the contrast, I am arguing that there are implications for occupations in the varied ways in which they are socially organised. For example, the instability of occupations can lead to other problems in society, such as job scarcity, as described by Philip Brown, Hugh Lauder, and Sin Yi Cheung (2020).

In some ways, occupational training and practice based on the administrative principle of organising work could seem extreme in a work context, especially considering how work today is different from the Industrial Age embodiment of the structure of work. However, Freidson's discussion on the administrative principle of organising work has some similarities to CBT-based education policy reforms that prioritise employers' needs as the most important factor in defining training for work readiness. At the same time, professional bodies cannot ignore institutional arrangements and their meaning for training and practice because occupational practice functions within institutional arrangements. Thus, it is important to understand how these actors' agendas in the social organisation of work potentially influence occupational capacity both for training and for practice.

An example from my research is the unconducive training environment that can result in the context of increased production demands, where master craftsmen/senior artisans need to balance the pressures of the production schedule with training students. For example, a master craftsman/senior artisan must train a student on the machines used in their practice; however, taking the time to train the student to fix a problem on a machine takes longer and holds up production. In my research, I found that, when production and training demands clashed, production pressures were often prioritised over training. This condition reflects how institutions driven by Freidson's (1973) administrative principle of organising work can shape occupations according to their production agendas, but which can undermine workplace training essential to developing occupational capacity for expert practice.

2.2.3 State Regulation

Broadly, state regulation of occupations can have far-reaching effects on the kind of expertise developed within training systems. By locating state regulation under the social organisation of work in occupations, it is implied that the state functions within a specific context with institutions and professional bodies. More specifically, Abbott (1988), Freidson (2001), and Standing (2009) show that state regulation occurs in the context of power dynamics generated by the different agendas of different actors. In this section, I draw on these scholars' work to

identify how state regulation can either function as a mediator between actors to reach the best possible outcome for all or play a domineering role by placing the agendas of certain actors before those of others. It is more likely to be the case that state regulation is neither solely domineering nor solely mediatory but a combination of the two; however, the distinction assists in understanding the potential roles of the state.

Before discussing the role of the state though, there is a need to understand how the state regulates. Standing (2009) explains that the state typically regulates in three ways. First, occupational licensing, which is related to quality assurance of licensing, allows only those who meet the required standards to practice, limiting the number of (licensed) practitioners, with changes to qualification standards at times used to exclude practitioners (Standing 2009, 190). Second, negative licensing, which is used to disqualify someone from practising, is based on the breaking of rules associated with the competence standards of the occupation by an individual (Standing 2009, 195). Third, occupational accreditation or certification validates an individual to practice upon passing specific exams and meeting other conditions.

Regulation can become a contentious issue, as too much or too little regulation affects the occupations found in the economy and society. Standing (2009, 180) shows that any regulation can cause labour market rigidities, such as barriers to entry into occupations and licensed practice. He explains how some may perceive state regulation and self-regulation as limiting the right to work and hindering the working of an idealised free-market society in which supply and demand provide the balance for markets (Standing 2009, 180). However, he also explains how others see the state regulation and self-regulation of occupations as protecting people in the occupations and communities from potential abuse (Standing 2009, 180). Abbott (1989) also argues that occupational regulation can allow the state, which may not always act in the public's best interests, to shape an occupation to benefit a particular group of people in a society. Therefore, state regulation can protect the public in the realms of both the economy and public utilities.

In line with protecting public interest, Standing (2009, 181) specifies four reasons for the state regulation of occupations. First, there is a need to limit market power to prevent monopolistic practices that would raise the prices of goods and services. Second, it is essential that the product or service information provided is fair, and consumers have as much reliable information as sellers do. Third, there is a need to mitigate any adverse outcomes for a third party in cases when transactions between buyers and sellers can affect a third party. Fourth, some social objectives and outcomes fall outside the occupation, and this requires consideration of different ways of practising and pricing. Standing (2009, 181) recommends that when considering regulation, four questions must be asked: whom, by whom, over what, and by what means?

Abbott (1989, 287) similarly recommends asking three critical questions to identify state priorities in regulating occupations: (1) Does the state favour organisational dominance? (2) Does the state listen to categorical groups? (3) How and why does the state utilise and control staffing structure? According to Abbott (1989), these questions provide insight into the use of state power to create hierarchy and competition between occupations.

State regulation is part of the social organisation of work because the state is located in relationships with professional bodies and institutions. Ideally, state regulation and self-regulation work together with other actors in the social organisation of work. This proposition draws on the notion of occupational capacity put forward by Clarke et al. (2013, 933), as expressed in the training approach. The training approach captures occupational labour markets, which are typically collectively and industrially organised. The role of the state in institutional arrangements requires careful consideration because of the risk of focusing myopically on one aspect of training (such as task performance in CBT approaches – where what is lost are the relationships between actors, and their associated roles in the social organisation of work and specialised knowledge development that support occupational capacity for expert practice.

In analysing the social organisation of work (the external force that shapes preparation for occupational capacity), I have looked at professional communities, institutions, and the regulative role of the state. I have traced professional communities back to medieval guilds to show that they are similarly committed to establishing, maintaining, and advancing an occupation's status for their members. I have further reflected on how when institutions use an administrative principle of organising work based on their own agendas, it can lead to occupational formation that is narrow and firm-specific, which, in turn, can cause other problems in society, such as job scarcity. The state, as an overarching body, typically influences an occupation through regulation in forms such as occupational licensing for entry into the occupation, negative licensing for removal of practitioners, and accreditation of training for entry into the occupation. By identifying the social organisation of work as one of two broad concepts that make up occupational capacity, I am foregrounding an important point that permeates the established literature: Training and practice are embedded in and shaped by relationships between professional communities, institutions, and the state. I am arguing that the development of occupational capacity, as a requirement for practice, must consider how the relationships within a specific context either enable or constrain occupational expertise. Thus, the idea of the social organisation of work is important for understanding how using a task-based definition of work in training (as in CBT approaches), which foregrounds the supply and demand for developing the occupational expertise required for practice, is unlikely to consider the social factors that are required for developing occupational capacity.

3 Conclusion

In summary, this paper centralises occupational capacity as the goal of training and the requirement for expert practice by theoretically developing the concepts of specialised knowledge and the social organisation of work. As mentioned in the introduction, I have not overly specified the relationships between the concepts; instead, I have sought to draw out the different connections that could be made between them. In doing so, I have laid out an occupations conceptual web that provides a systematic method of identifying and analysing occupational capacity through aspects of specialised knowledge and the social organisation of work in preparation for work. This approach has been shaped by my research on vocational education policy reforms in South Africa, in which I found that the connections between institutional

structures in international models and economic growth or higher employment outcomes were not clear (Alphonsus 2022). The challenge was best captured by the misinterpretation of different national vocational education and training systems discussed in the introduction (Wolf 2002) and by the misunderstanding, at times, of the structure of skills formation systems as being monolithic in work on the global North. Scholars such as Gerhard Bosch (2017), Marius R. Busemeyer and Christine Trampusch (2012), and Peter A. Hall and David Soskice (2001) have argued that national skills systems that have structural similarities can have significant differences in their education and employment systems based on products and services in the global North. As Bosch (2017, 425) explains, national education and training systems can have significant internal differentiation due to the many interactions between institutions and actors within a system.

I argue that understanding how relationships between specialised knowledge and the social organisation of work occur in the development of occupational capacity required for practice, provides a means to a much richer analysis of vocational and professional education and training in a specific context, and thus a more nuanced discussion of potential education reforms and their related outcomes. By implication, I am suggesting that further research is needed to understand how the enclosure of occupations shapes training for practice, where occupations function in relationships between the domains of work and education. Consequently, the conceptualisation of occupational capacity can provide the theoretical grounds to better understand and analyse the development of occupational capacity for expert practice in complex political, economic, and social systems.

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