**RESEARCH REPORT**

# LITERATURE REVIEW REPORT FOR JOBS, OCCUPATIONS AND QUALIFICATIONS THE PUBLIC SERVICE SECTOR

**MARCH 2021**

*Prepared for the Public Service Sector Education and Training Authority (PSETA)*

By

The Centre for Researching Education & Labour (REAL), University of the Witwatersrand.

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## Executive Summary

This literature review is a conceptual overview for the jobs, occupations and qualifications research project. This research project is one stream of the PSETA research chair awarded to the Centre for Researching Education and Labour at the University of the Witwatersrand as a PSETA higher education institution (HEI) research partner.

The primary focus, and methodological approach, of this particular research stream is theoretical and conceptual in nature. The literature review is built around an examination of five, often interconnected, concepts which are crucial to the understanding of the relationship(s) (actual, envisaged or emergent) between the worlds of education and work. Education and work broadly framed but also as the two domains interact and intersect in the specific context of the South African public sector. The five concepts examined are: skills, knowledge, jobs, occupations and work.

Although the primary source of information drawn from is international and South African academic literature, empirical questions of potential relevance are also identified during the course of, and arising from, the literature review. As theory and concepts are examined consideration is given to the applicability thereof to the South African public sector. It is argued that international debates and discussions in the relevant literature, drawing from a wide range of disciplinary traditions and bodies of knowledge, are potentially applicable to the South African public sector context. The argument being that a more robust theoretical and conceptual understanding, drawing on a selection of key literature provided here, could inform critical and productive engagement not only at the level of policy formulation in the post school education and training domain– but even contribute to the formulation of reflexive praxis.

Considering the centrality of this line of reasoning, for this particular project but also for the research chair as a whole, it is worth providing an example from the literature to substantiate and support the argument being presented. Said argument, in essence, being that 'abstract' theory and concepts can and do have policy and practical/operational implications and value.

Take for instance the conceptual distinction made between knowledge- that and knowledge-how (Winch, 2004): or know-that and know-how. Knowledge-that is also referred to as propositional knowledge. Put in another way, "to learn a theory, 'is to learn a body of knowledge of general application within a recognized subject matter" (Clarke and Winch, 2004 cited in Shalem & Allais, 2018, p. 7). Citing another sociologist, Andrew Abbott referred to this type of knowledge as 'academic knowledge classifications' which pull together propositions along consistent rational dimensions and in this way, produce relationships and boundaries between ideas and these classifications are stronger when they refer to subject matter specific concepts"(Shalem & Allais, 2018, p. 7).

Know-how, which is conceptually distinct from knowledge-that, depends on small pieces of information, does not require complex deliberations (that is technical or moral deliberations) and is often learnt on the job(Shalem & Allais, 2018, p. 9). It could however also be found, by engaging in empirical research informed and guided by these concepts, that know-how in the South African public sector, for a selection of occupations at especially higher levels, is substantially different from know-how as conceptualised in the literature in that even small pieces of information require, to some extent at least, complex moral deliberations due to the imperative of acting in the public good–however defined. Or put differently that work in the public sector is not ethically or morally neutral or 'agnostic'–as is often the case in the private sector where the primary, if not sole, raison d'être is that profit maximisation. If this is indeed so it could lead to an argument that the public sector is unique and requires specialist education and training–such as that offered by the National School of Government.

The two concepts, or types of knowledge, are distinct yet can and do interact in complex and dynamic ways. For instance systematic knowledge is important because it gives workers the conceptual component of discretionary professional judgement; put in another way, it ensures that any professional judgement in specific situations which arise in the course of work, is both accurate and appropriate (Shalem, 2014; Winch 2010, p. 103 cited in Shalem & Allais, 2018, p. 8).

If the above-mentioned applies to the South African public sector, in that systemic knowledge contributes to the application of discretionary professional judgement, then

it would lead to due caution in terms of developments such as microcredentialing which in its most radical manifestations argues for the abolishment and/or the increased irrelevance of traditional degrees and education (Ralston, 2020). Said degrees being replaced by short term, discreet learning programs focused on narrow and specific "skills" or competencies (Ralston, 2020). To obtain grounded insights in this regard would require extensive empirical research, beyond the scope of this particular research project. Research of this nature could for instance enable the formulation of post school education and training policy which, for example, adopts a selective approach to microcredentials and continues to support 'traditional' degrees and institutions to develop the next generation of public servants and upskill and reskill the current public sector workforce as and when required.

The above has, hopefully, illustrated that no simple and clear distinction can be drawn between the worlds of theory and practice. The underlying rationale being that the best empirical research, which in turn informs policy and eventually practice, is informed by and based on rigorous theoretical frameworks and, at the very least, a robust attempt at conceptual clarity. The inverse also applies to the domain of theory–the most useful theories and concepts are those which arise from extensive structured, and theoretically informed, engagement with empirical data. One cannot simply blend positivist and post-positivist approaches–especially in a policy space which seeks to grapple with often complex and interconnected problems (Ryan, 2015). What is required is the critique of, with the requisite precision and clarity of intent and purpose, quantitative and qualitative research (Ryan, 2015). This particular literature review begins the process of conceptual and theoretical clarity which, in turn, informs quantitative undertakings.

All of the above, albeit in complex and indirect ways, impact policy formulation, implementation and ultimately not only the public sector's understanding of demand side dynamics but also, and definitely not unrelated, the quality and efficacy of its education and training supply side interventions.

# Section 1: Introduction to Literature Review Report and brief overview of the South African Public Service sector

According to the latest quarterly employment statistics, the government sector employs a total of over 1.6 million individuals, which excludes employment within the local government sector More specifically, approximately 804 049 employees within national and provincial government departments are employed under the Public Service Act and thus fall directly within the purview of the PSETA (PSETA, 2020).

The public service sector, broadly defined, consists of national and provincial government departments, legislatures, parliament, and public entities (PSETA,2020). There are three autonomous spheres of government – national government, provincial government and local government. The national and provincial departments (which fall within the PSETA scope) cover all employees employed in terms of the Public Service Act of 1994 (which excludes medical practitioners, nurses, teachers, police and the military) (PSETA, 2020).

It is important to be aware of the centrality of 'transversal skills' to the South African public service sector. These are the skills which are dubbed the 'business of government'(PSETA,2020).Transversal skills and functions include administration, management, planning, and legislation and policy development, which form the focus to drive the development of skills and competencies in areas that will make the delivery of the business of government more effective and efficient (PSETA,2020). The concepts overviewed in this literature review report will assist in further clarifying and understanding 'transversal skills' as they pertain to the South African public service sector.

Provincial departments make up the largest proportion of the sector (65%), making it the biggest sub-sector in terms of registered employers. Legislatures and parliament make up the smallest proportion of the sector (4%). The majority of the organisations reporting to PSETA are large employers, i.e. employers employing over 150 employees (PSETA, 2020).

Although the primary focus of this literature review is conceptual and theoretical in nature it is worth bearing in mind the that the public service sector, due to a constrained and challenged economic reality in South Africa, is facing ever increasing financial pressure leading to interventions such as budget cuts and early retirement (PSETA,2020)– all of which impact the  scope, form and content of skills planning and skills interventions in the sector.

## Section 2: A Conceptual Overview of 'Skill'

### 2.1. Introduction

In this section, we intend to present a broad overview of the concept of 'skill'. Due to the multidisciplinary nature of this seemingly simple yet nebulous concept, this overview will attempt to summarize how this concept is defined from various perspectives and disciplines and what this may imply for policy and practice in general and (for our current purposes,) for the Public Service sector specifically. In the first subsection we will present a rationale for the multidisciplinary and multi perspective approach that we have taken to foreground understandings of this concept. In the subsection following this, we present understandings of the concept of skill from dominant perspectives, using economic understandings of the concept since these have a major bearing on contemporary policy and practice. In the third subsection, we consider a few alternative or 'heterodox' approaches to understanding this concept as expressed in 'political economy' approaches; namely from the disciplines of sociology and industrial relations. In the final subsection we will present the potential implications of the multidisciplinary nature of the concept of skill for the Public Service sector policy and practice. We suggest that policy that is based on shifting or unclear conceptual foundations may have the potential to misdirect practice thereby curtailing or stifling its effectiveness.

**Defining 'Skill'**

*"As a historical concept, skill is a thundercloud: solid and clearly bounded when seen from a distance, vaporous and full of shocks close up. The common-sense notion— that "skill" denotes a hierarchy of objective individual traits—will not stand up to historical scrutiny..."*
(Tilly, 1988, pp. 452–453 cited *in Allais, 2011, pg.1*)

*"It might seem strange, to any new-comer to the topic, that 'skill' is at once held to be a pivotal object for modern social and economic life, while also a concept with no consensus as to what exactly it refers to."(Green, 2013, p. 21)*

Assumed within policy debates is the notion that 'skill' is universally and uniformly understood; that for all stakeholders, there is consensus about what exactly 'skill' is and what it constitutes. A closer look at the conceptual arena suggests that there are varied and sometimes contradictory understandings of the nature of 'skill' with multiple targets and  shifting terrain (Warhurst et al., 2017). Conceptually, (Bryson, 2017) argues that in the issue of defining skill, we are often not referring to the same thing, even though the same word is used to name it. She argues that there are three disciplinary perspectives on 'skill' and that these disciplinary perspectives can be further subdivided into disciplinary clusters (Bryson, 2017, p. 19). What makes defining skill an exercise that is far from consensual, is that these disciplinary perspectives are not so much 'perspectival' as they are 'ontological'; in other words, the problem is not that the same object is being studied albeit in different ways and approaches, but that the problem is that  different objects are being studied yet all are using the same name, i.e. 'skill' (Bryson, 2017).

In the first disciplinary perspective, 'political economy approaches to skill'  the economics cluster argues that  skill is an economic resource, a mere technical entity while in the very same category, from the social sciences cluster, it is argued that skill is socially and politically constructed  (Bryson, 2017, pp. 19–20). The second disciplinary approach (from the human resources) views skill as an organisational resource, as simply an attribute that is constructed in the job while the third approach, the learning theory approach, views 'skill' as an attribute of learning or a competency that is gained from learning (Bryson, 2017, p. 15). Bryson argues that each disciplinary perspective on 'skill' examines only part of the full nature of 'skill' and that to analyse (and operationalize) from only one or few of these perspectives, results in a limited view of 'skill' which then gives birth to policy that may be ineffective or even harmful. The image below is a graphical summary of the three disciplinary approaches and the variances in each. In the first column, is exemplified what skill is and means in each.

Table 1.1 Different perspectives on skill

| Typical broad theoretical approach | Political economy of skill | | Skill as organizational resource | Learning theory |
|---|---|---|---|---|
| Underpinning disciplines | Economics | Political science, sociology, industrial relations | Organization studies, HRM | Psychology and education |
| What is skill? | Economic resource<br><br>Skill as the input<br><br>Skill as an independent variable<br><br>Skill is technical, firm-specific, or general | Individual and social or collective resource (interdependency of skills)<br><br>Skill as a dependent variable<br><br>Skill is in the job | Organizational resource (RBV)<br><br>Skill in person and job | Individual attribute, competency<br><br>Skill as the product or output<br><br>Skill as an independent variable<br><br>Skill is in the person |
| How do we acquire skill? | Institutional arrangements for systems of skill formation | Socially constructed; social networks, institutions | Buy it in, develop on the job— dependent on organization strategy | Learning processes, pedagogical processes, skill transfer |
| Why have skill? How is it used? | Individual investment for personal gain or public good? | Human/social right/ entitlement to a level of skill | Organizations as learning environments; communities of practice | Individual performance and/or communities of practice |
| How is skill recognized? | Qualifications signal skill.<br><br>Differing pay levels as labour market supply and demand dictates | Occupational/ skill hierarchies/ ecosystems | Qualifications and matching at recruitment; performance on the job; completion of company-endorsed training | Formal assessment processes for task mastery and competence |
| What impacts does skill have? | Source of competitive advantage and economic growth | Personal and societal | Contribution to organization performance | Personal and interpersonal wellbeing |

(Bryson, 2017, p. 19,20)

The meaning of 'skill' is highly contested, context-specific and time-dependent, yet policy-makers, in their desire to represent it as a simple, technical concept, treat it as uniformly understood, as that which can be applied unproblematically across all

interest areas (Warhurst et al., 2017), whether in education, employment, skills policy and initiatives of economic development. At stake here is the fact that if stakeholders in the realm of 'skills' do not fundamentally agree as to the basic meaning (and subsequent roles, characteristics, valuations and development methods) of such a critical and cross-cutting concept as 'skill', this could be the underpinning factor behind many skills-crises and these crises could plague us for a long time to come.

It is for the reasons presented above that we also adopt this multidisciplinary approach in presenting definitions of 'skill' so as to give a broad overview without taking the nature(s) of this concept for granted. For practical purposes, this conceptual overview will however only focus on political economy approaches to conceptions of skill.

## 2.2. Dominant Perspectives on 'Skill'

### 2.2.3. Economics

The economics approach is argued to be the main conceptual base for understandings of 'skill' in much educational and labour policy (Mournier & Australian Centre for Industrial Relations Research and Training, 2001, p. 2). According to (Mournier & Australian Centre for Industrial Relations Research and Training, 2001) there are three theoretical positions from the economics discipline that underpin the policy space; the 'holist view of current social and economic evolution', the 'microeconomic view of current transformations' and the 'individualistic view of income formation'. These then form a three-pronged neoclassical economics approach which seems to influence much policy. Each of these will be briefly presented.

1. Holistic view based on Economic and Social Evolution

   Very briefly, with higher education levels, economies gain high skills and these become the new conditions of economic growth in a high technology, competitive, globalized economy (Mournier & Australian Centre for Industrial Relations Research and Training, 2001, p. 2). The assumptions behind this position are first that the productivity of labour, increases in income for individuals and economic growth increases are the result of improvements in

skill. This assumption it is argued is based on endogenous growth theories. The second assumption is based on the economic idea that the competitive advantage of nations in a globalised economy depends on the level of education (i.e. the knowledge and skill) of population. This assumption it is argued, is based on the "factors proportion" theory in economic international relations.

2. Macroeconomic View of Current Transformations

Here the assumption is that company performance which depends on technological and organizational innovation, leads to competitiveness and innovation which, but all this is a function of the level of skills of the labour force (Mournier & Australian Centre for Industrial Relations Research and Training, 2001, p. 2). It is argued that these assumptions are based on Schumpeterian and Neo-Schumpeterian theories.

3. Individualistic View of Income formation

Very briefly, in this position, it is assumed that better educated people can in the long run better their incomes and in the long run reduce the possibility of getting unemployed. This assertion is based on the argument that labour income is related to labour productivity, but labour productivity is in turn related to education and 'skill' level (Mournier & Australian Centre for Industrial Relations Research and Training, 2001, p. 2). It is argued that these assumptions are based on income distribution theories and human capital theory.

This three-pronged approach is mutually-reinforcing and is believed to ultimately form a virtuous-cycle that is said to sustain economic growth and development. The empirical reality however is much more complex.

## 2.3. Alternative Perspectives on 'Skill'

Sociology and Industrial Relations

1. Mournier (Mournier & Australian Centre for Industrial Relations Research and Training, 2001)

> For Mournier, skill is not an entity that exists somewhere out there in nature, it is not objectively available to be studied. In this perspective skills are social relationships that are best understood by studying industrial relationships since here, skill is socially constructed and therefore defined. When social (more specifically labour) relationships change this changes the nature and definition of skill. Mournier further argues that the two places where this definition is constructed are in work and in education. In this perspective skill is argued to be a major tool for regulating the labour market since what is at stake in the definition is the degree of labour mobility (i.e. the ability of capital to gain control over the allocation of labour or the mobility of workers between jobs, sectors and locations and the struggle by labour to resist this). In this argument it is suggested that in different time periods and in different contexts what it means to be skilled has a different definition.
>
> In an attempt to broaden the definition of skill, Mournier argues that skill is made up of three dimensions or 'logics' which have unequal weighting across occupations and across different time-periods and are shaped by the type of relationship that exists between entrepreneurs and their workers. The first dimension is the technical dimension that deals with technical skills such as the use of equipment and productive methods. The second dimension is the behavioural dimension which is the ability to obey instructions, follow commands, basically the personal attributes of a worker to deal with relationships that are characterised by labour that belongs to and is dependent on business owners. The final dimension is the cognitive dimension that looks at the level of education of workers. Mournier suggests that what it means to be skilled is determined by what is seen as the important dimension in any occupation. For example, historically, craftsmen were independent labourers

that were considered 'skilled' due to their technical abilities and not necessarily their interpersonal relationships or their level of (formal) education. Entry level factory workers are considered skilled for the job due to the behavioural dimension and later to the technical dimension and not necessarily the cognitive dimension. Mournier suggests that policy debates around skill are exacerbated by a lack of clarity about which dimension(s) is/are important in each job/occupation and an ignorance of the social (or behavioural) dimension in contemporary definitions of skill

2. Braverman (Braverman, 1998)

Similar to Mournier, Braverman argues that skill is socially defined and that its definition changes over time and context. On the other hand, the emphasis is placed on the labour process itself and how it is altered by the changing nature of labour relationships as shaped by the growth and development of global capitalism. In this approach, the unification of conception and execution as exemplified by traditional craft work is what it means to be skilled. In other words, when a worker is independent and therefore is able to plan the labour process (and the products thereof) and has the liberty to execute this work process by themselves without needing the first process to be handled by management (as is seen the modern-day form of job design). The ability to execute is automatically assumed within this definition. It is when these two aspects of skill are separated that one is considered 'deskilled'. In other words, when a worker is not responsible for designing the work process and is only given a fragmented task that is a small part of larger production process, they cannot be considered as 'skilled' since skill has a cognitive (not to mention autonomous) and technical dimension. When these are separated in the work process, then there is no 'skill'.

Braverman argues that the 'degradation of skills' is an inherent, defining characteristic of the capitalist mode of production. What Braverman means is that wherever and whenever capitalism is, there will be found diminishing rather than increasing levels of skill. By the 'degradation of skill' he means the cheapening of workers' skills through the gradual, inevitable loss of craft

knowledge and autonomous control over the work process by skilled labour, in exchange for a fully thought-out work process that requires minimal to no skill to perform. For Braverman, the 'capitalist mode' of production is the systematic, deliberate, division of labour into minute tasks, which ultimately leads to the cheapening of skill in the name of economic efficiency and for capitalist profit accumulation (Braverman, 1974, pg. 57).

3. Freidson (Freidson, 2001)

For Freidson, skill and knowledge are two closely linked but analytically distinct dimensions of work and are both important for the performance of work. In this approach skill is buttressed by the twin principles of competence and proficiency; in other words, it is the ability to do something well. This approach implies both mental and physical proficiency (i.e. knowledge and understanding about a problem coupled by the knowledge of how to arrive at a solution as well as the physical dexterity to do so). Put in another way, skill is the capacity to accomplish a task using the substantive knowledge that is connected with the task itself – it is 'facilitative' in nature; in other words it connects the use of bodies of knowledge, rules of discourse and the capacity to use them in solving specific problems or performing specific tasks as part of intellectual and manual specialization. Freidson asserts that skill is the application of knowledge to the performance of a task. Assumed within this approach is the presence of bodies of knowledge which may be obtained formally or informally. Freidson makes the example of a machine operator; he suggests that a machine operator is 'skilled' if they not only know what product a particular machine produces but also how to operate the machine. This would then mean that two machine operators can have the same substantive knowledge about what products a machine produces but if their ability to use the machine differs then they are cannot be considered to be equally 'skilled'. This approach then implies that qualifications alone may not be the accurate barometer to indicate a person's skill level. This also suggests that indications of skill can only be clearly ascertained when qualifications are coupled with demonstrations of proficiency in practise or on the job.

Freidson distinguishes between Two types of skills : 'Systematic or Codified' Skills and Tacit Skills. 'Systematic or codified' skills are argued to be formal in character, systematized or codified in texts or described clearly and systematically in the course of training for work. These could include work that has much to do with theoretical thought, of which 'skill' is constructed deliberately and consciously at work or in the classroom. Tacit skills are argued to be unspoken or unspeakable or describable, not part of the corpus of codified or systematic technique but still a critical part of skill. These are the skills that can only be attained through much practice and experience in in the field as opposed to the training room or classroom. It is constructed through many instances of problem-solving in real time, adopting, changing, repeating methods in order to arrive at solutions. Rather than formal theory that is learned and articulated, it is forged during the course of working and as a result, it is neither formal in character nor systematically articulated. It is found in all levels of work, from the performance of physical tasks, to scientific research, to writing a research paper, novel or poem. In this approach, it is this latter type of skill that leads to dexterity.

4. Winch (Winch, 2011)

Winch uses the contextual approach to show that skill as a word has various meanings in various contexts. He does this by showing how the English conception of skill is very different to the conceptions of skill within continental Europe even though the same word is often used. This illustrates that the way that the word is interpreted affects what it means and how it can be used in practise. In the English sense skill is first described as an individual attribute/property. The notion of skill is used in a similar way to know-how and technique, meaning the worker with skill is understood to possess know-how appropriate to the task in hand. What this conception then implies is that a person that possesses 'skill' may or may not possess a qualification that certifies this, since the qualification indicates that the person knows the formal rules of discourse but not necessarily that they can apply these rules to performing a task which then questions the possession of the skill. This is part of the reason why in the English context, employers relied on informal

assessment measures and the actual performance of a task to ascertain skill meaning that the possession of a qualification was not seen as necessary or adequate for the workplace.

Skill in the English sense initially applied to activities requiring manual or physical tasks but has grown to include mental and social tasks such as communication skills, self-management skills and even the personal attributes that are required for completing a PhD. This then leads to what he refers to conceptual conflation, that is that skill although initially associated with coordinative and manipulative abilities now includes virtues, and character attributes such as wisdom. The problem with this conceptual inflation is that while policy documents such as qualification frameworks still focus on manual and or physical tasks, this obscures the reality that in the workplace, these 'skills' must be accompanied by other character attributes which are subsequently valued by employers. This then suggests the importance of conceptual clarity since in this context, what it means to be skilled from an education policy perspective is limited as opposed to what it means from a labour market perspective.

**Key Insights**

In this section we have endeavoured to illustrate the multi-perspectival, multi-disciplinary sometimes contradictory and ontologically varied nature of the concept of 'skill'. There implications of this reality are vast and far reaching. Even though 'skill' is expected to hit multiple targets (that is to say solve multiple problems including revitalizing the economy) (Warhurst et al., 2017), and even though everyone clings to 'skill' there are a number of debates that academics, economists, and other stakeholders are yet to resolve and worse still even though these debates remain unresolved, education and labour policies continue to make critical decisions in this arena without reliable conceptual bases (Mournier & Australian Centre for Industrial Relations Research and Training, 2001). These debates are illustrated by a number of questions, such as "Do we need higher skills or intermediate skills?", "Does the global situation show down-skilling or upskilling?", "Do we need generic or specific skills?",

"Can Vocational Education and Training (VET) compensate for the failures of markets to match skills demand and supply or should we try to reform the market?" (Mournier & Australian Centre for Industrial Relations Research and Training, 2001).

The challenge created by the above is firstly that it will be difficult to measure and compare skill if its nature and content changes and if it is not properly defined and if this definition changes through time space and discipline(Mournier & Australian Centre for Industrial Relations Research and Training, 2001; Shalem, Yael & Allais, Stephanie, 2018, p. 5). Secondly it will be difficult to understand how and if VET will improve skills if we don't agree on how skills are acquired and what they are made up of.

As a final note on the issue of skills we borrow from Mournier and Bryson and suggest a few preliminary questions which may jumpstart further research and inform public sector policy and practise in the South African context:

1. Are skills defined from the job or the worker?
2. Are skills technical or behavioural?
3. Are skills acquired on the job or in education and training?
4. Are skills improvements stimulated by welfare provisions or by education?
5. Are skills better provided by public or private institutions?

# Section 3: A Conceptual Overview of Knowledge

## 3.1. Introduction

The purpose of this section, following from the previous one, is to map the various dimensions of knowledge. In this section we present conceptualizations of knowledge in an indirect manner, i.e., by presenting how the question of knowledge has been conceptualized in its varying dimensions especially related to the worlds of education, work and their associated policies. We have chosen this approach to avoid the purely philosophical approaches to defining knowledge as illustrated in debates about the theory of knowledge i.e., Epistemology. We suggest that this approach has a direct bearing on the education-work nexus and will begin to tease-out considerations of critical importance to the public sector. Very briefly and as an entering-wedge into this concept, it is argued that the question of knowledge is concerned with two main questions which give birth to a third: firstly "What is knowledge?", secondly "What can we know?" (and if one thinks they have the capability to know) a third question arises which is "how do we know that we do know" (Greco, 1999, p. 1). We suggest that the first and third questions are critical for the public sector, but our main intention is to present how the first has been tackled through its 'multi-dimensionality' specifically for education and or work. Though the third question is critical (and has a direct bearing on the issue of skills development for example), we will not suggest implications for these approaches to public sector policy and practice at least at this stage.

## 3.2. Different Dimensions of Knowledge

Using the ideas of Christopher Winch, it is argued that the first two critical dimensions of knowledge are 'knowledge that' (systematic knowledge) and 'knowledge how'(procedural/practical knowledge) (Shalem & Allais, 2018, p. 7). Each of these will now be explored below.

**'Knowledge That'**

Systematic knowledge is knowledge that contains a deductive set of propositions which can be applied to classes of cases (i.e. it is generalizable) or it can with proper modifications, be borrowed for particular situations (Shalem & Allais, 2018, p. 7). This type of knowledge is also referred to as propositional knowledge. Put in another way, "to learn a theory, 'is to learn a body of knowledge of general application within a recognized subject matter" (Clarke and Winch, 2004 cited in Shalem & Allais, 2018, p. 7). Citing another sociologist, Andrew Abbott referred to this type of knowledge as 'academic knowledge classifications' which pull together propositions along consistent rational dimensions and in this way, produce relationships and boundaries between ideas and these classifications are stronger when they refer to subject matter specific concepts(Shalem & Allais, 2018, p. 7). So, for example the concept of 'photosynthesis' provides a strong classification because it can only be explained by one discipline which is Botany.

Freidson referred to this type of knowledge as 'bodies of knowledge' some of which is descriptive (or concerned with the description of facts for example in the profession of medicine or engineering), some of which is normative (or concerned with the behaviors of individuals and social norms for example the profession of education or law) and some of which is aesthetic (or holds aesthetic authority such as professions in the arts) (Friedson, 2001, pp. 157-158 cited in Shalem & Allais, 2018, p. 7). Other ways of classifying systematic knowledge include that of Bernstein who differentiated between horizontal hierarchical and horizontal knowledge structures which focus on the strength of different bodies of knowledge in developing conceptual generalizations and describing observable facts with greater accuracy (Bernstein, 2000 cited in Shalem & Allais, 2018, p. 7). Becher and Biglan also offer another way to classify systematic knowledge using the distinction between 'pure' and 'applied' sciences and within each of these, further delineating between 'hard' and 'soft' sciences which then produce four categorizations 'hard-pure', 'soft-pure', 'hard-applied' and 'soft-applied' (Muller, 2009 cited in Shalem & Allais, 2018, p. 7). The following table (Vergotine, 2014 cited in Shalem & Allais, 2018, p. 7) seeks to summarize each of these categorizations (with their bodies of knowledge) and provides examples of their associated professions and disciplines:

| Disciplines | Example of occupational fields | Disciplinary distinctions (Biglan) | Type of knowledge (Becher) |
|---|---|---|---|
| Pure sciences (Natural sciences) | Physics | hard-pure | Cumulative; concerned with universals; impersonal; value-free; clear criteria for knowledge verification and consensus over significant questions |
| Humanities and pure social sciences (Social sciences) | Psychology | soft-pure | Reiterative; holistic; concerned with particulars; personal; value-laden; dispute over criteria for knowledge verification and obsolescence; lack of consensus over significant questions |
| Technologies (Science based professions) | Engineering | hard-applied | Purposive; pragmatic; concerned with mastery of physical environment; applies heuristic approaches; uses both qualitative and quantitative approaches; criteria for judgment are purposive |
| Applied social sciences (Social science-based professions) | Teaching | soft-applied | Functional; utilitarian; concerned with enhancement of semi-professional practice; uses 'case' studies and case law to a large extent |

The critical point to note is that academic knowledge classifications that class knowledge into a deductive set of propositions or bodies of knowledge are radically different from the circumstantial, discrete knowledge that we use in our everyday also known as 'everyday knowledge' (Shalem & Allais, 2018, p. 8).

Freidson distinguishes between the two types of knowledge thus far mentioned; systematic knowledge or what he refers to as 'formal knowledge' and everyday knowledge (Freidson, 2001). Everyday knowledge is the knowledge that all normal adults must possess in order to perform the tasks of everyday life it is different across time and space, it is segmented by race, class and gender it is used unselfconsciously (i.e., people don't reflect on it, it is taken-for-granted knowledge, common-sense knowledge), may not be verbalizable (that is to say since people cannot reflect on some of it, they may not be able to articulate it), most is taught informally to children during their life-course in the family and community (this applies to not yet industrialized societies) or children are required to attend school where they are formally taught much more of this by teachers (this includes everyday knowledge such as reading, writing, arithmetic etc.) ( this applies to industrialized societies) (Freidson, 2001). Formal Knowledge on the other hand (what we have thus far referred to as systematic knowledge or bodies of knowledge), is institutionalized into disciplines and epistemic communities; though it is rooted in everyday knowledge (that is to say though it has elements of everyday knowledge) (Freidson, 2001). These disciplines which are anchored in 'epistemic communities' are set apart from everyday life through

their institutional organization and intellectual workers (whose work is to create, preserve, debate, transmit and revise disciplinary content) are the guardians of this type of knowledge (Freidson, 2001). Freidson further argues that formal knowledge is much more abstract and general in nature and therefore cannot be applied directly to specific problems.

What then is the significance of systematic or formal knowledge and its distinction from the mundane everyday knowledge for the public sector? Systematic knowledge is important because it gives workers the conceptual component of discretionary professional judgement; put in another way, it ensures that any professional judgement in specific situations which arise in the course of work, is both accurate and appropriate (Shalem, 2014; Winch 2010, p. 103 cited in Shalem & Allais, 2018, p. 8). The only caveat is that as suggested above, this type of knowledge is context-independent and is focused on general applicability whereas the work that people do daily in the public sector requires situated (or context-dependent) knowledge whether simple or complex (Shalem & Allais, 2018, p. 8). A response to this is that in order for workers to adequately perform their tasks and duties, they must not be trapped within the context of situated knowledge (that is to say, knowledge for a specific task) but must be able to have a set of concepts that can be shown with sufficient evidence to apply to cases of classes (from which they can select appropriate applicability to various situations) (Clarke and Winch, 2004 cited in Shalem & Allais, 2018, p. 8). Of course, the knowledge of how (and when) to apply discipline-specific knowledge and under which occupational situation is critical. This then brings us to a discussion of practical knowledge or 'knowledge how'.

### 3.3. 'Knowledge How'

For Freidson, knowledge-how or practical knowledge, is also known as 'working knowledge' (Freidson, 2001). Practical knowledge is regarded as the knowledge that is used in work; it is exists somewhere between formal knowledge and everyday knowledge (since its performance includes one or both); it is largely free of formal concepts and theories, learned by experience and is instrumental in performing concrete tasks in concrete settings (Freidson, 2001). Freidson argues that it has a

narrower scope than everyday knowledge since it is geared towards the sole purpose of accomplishing work apart from the performance of tasks in the household or community and is not shared by the general population but it is segmented into bodies of practical knowledge, both conscious and tacit, and it is shared only by those who perform the same work, sometimes in the same work-setting (Freidson, 2001).

'Knowledge how' or know-how is the concept that was used by Winch to describe the application of systematic knowledge or bodies of knowledge within occupational situations (Shalem & Allais, 2018, p. 9). Knowledge how is (systematic) knowledge that is 'actioned-into' a task or applied to a situation (Shalem & Allais, 2018, p. 9). There are three types of 'knowledge how' and each of these is related to different aspects of one occupation and not necessarily to different occupations and depending on the scope and nature of the task, they become different kinds of working-knowledge or practical knowledge or know-how (Shalem & Allais, 2018, p. 9).

## 1. Exercising a Technique

The emphasis in exercising a technique is descriptive and the object of this activity is bounded and limited and this limitation or 'boundedness' applies to the task itself (that is a technique can only be exercised on a specific task) and to the range of contexts (that is, this technique can only be applied in this situation or in these limited contexts) (Shalem & Allais, 2018, p. 9). Here the emphasis is on the actual procedure, but reference must be made to the knowledge that is needed to exercise the task beyond simply describing the technique (Shalem & Allais, 2018, p. 9). This seems to suggest the interrelatedness between systematic knowledge and practical knowledge. It is argued that know how depends on small pieces of information, does not require complex deliberations (that is technical or moral deliberations) and is often learnt on the job(Shalem & Allais, 2018, p. 9). This then implies the significance of on-the-job experience for workers in the public sector.

## 2. Polymorphous Abilities

This aspect of knowledge-how, deals with a range of abilities which are not connected with one specific task but with 'longer periods of agency' that are manifested differently in different types of tasks (Winch, 2013, p. 288 cited in Shalem & Allais, 2018, p. 9). According to Winch, these are activities that demand action over extended periods of time involving the carrying out of sequences of tasks with the goal of something larger like producing an artefact or rendering a service (Winch, 2013, cited in Shalem & Allais, 2018, p. 9). Examples of polymorphous abilities include planning, controlling, communicating and evaluating (Winch, 2013, cited in Shalem & Allais, 2018, p. 9). These abilities are referred to as 'polymorphous' because they change form and complexity in different contexts, are connected to something bigger than one task and contain a number of techniques which are not delimited (Shalem & Allais, 2018, p. 9).

Andrew Abbott referred the process of using polymorphous abilities as 'diagnostic classifications' (Abbott, 1988, pg. 53 cited in Shalem & Allais, 2018, p. 9). To produce a diagnostic classification, a worker must collect information on the type of case they are dealing with; this information will form a complex picture according to the criteria that is specific to the systematic knowledge that is connected with the occupation, secondly, the worker will refer this picture to the academic knowledge classifications that are known to the profession (for example a formal theory or concept) then decide what type of case they are dealing with (Shalem & Allais, 2018, p. 10). Abbot argues that in order to perform this this second process workers must know what kind of evidence is relevant and irrelevant, valid and invalid as well as the rules that specify the level of ambiguity (1988, p.42 cited in Shalem & Allais, 2018, p. 10). Sometimes the deduction is faster and easier if the problem in the task is familiar and solutions have been applied before but sometimes the problem in the task is new, so 'inferential reasoning' must be applied before a routine is selected that will aid in applying a solution (Clarke and Winch, 2004, p. 517; Freidson, 2001, p. 111; Gamble, 2018, p. 39 cited in Shalem & Allais, 2018, p. 10). This is the most challenging know-how because although it relies on task-skills to solve

various problems the selection, collection and organizing of these task skills for specific projects requires professional judgement and diagnosis (Shalem & Allais, 2018, p. 10)

### 3. Project Management

In this type of know-how, the emphasis is on a divisions of labour where by different spheres of activity are allocated to different individuals or groups (Winch, 2013, p. 293 cited in Shalem & Allais, 2018, p. 10). This is the widest form of know-how and nested within it are the previous two which is exercising a technique and polymorphous abilities and all these are suspended by systematic knowledge (Shalem & Allais, 2018, p. 10). It is argued that over time and through experience in this type of know-how, workers develop an integrated view of their role in the organization, to obtain truth validity of judgement to weigh between competing modes of action, and to obtain a balance between technical and moral considerations (Shalem & Allais, 2018, p. 10).

Although know-how (in all its three forms) is intimately linked with judgement since the application of systematic knowledge relies on a person's ability to make decisions that they can justify by referring to a chain of reasoning that goes beyond specific contexts; knowing conceptual classifications (systematic knowledge) connected with those decisions which can be called upon if a decision needs to be changed or to account to team members is critical (Shalem & Allais, 2018, p. 10). For the public sector, this would mean that in all levels of work, in order for workers to adequately perform their tasks and duties workers must have access to 'a reservoir of deductive propositions or bodies of knowledge' (systematic knowledge) that workers can use in practice (Shalem & Allais, 2018, p. 10). Shalem and Allais argue that access to systematic knowledge enhances a worker's practical ability in two ways; firstly it allows the worker to decide what is not relevant to the case (that is which concepts are not relevant to the task/problem) and secondly, a worker who understands the subject matter they are confronted with will know which evidence is reliable and which is less reliable (Shalem & Allais, 2018, pp. 10–11).

This then means that formal knowledge is a necessary condition for practice, meaning that formal knowledge is not a by-product of practice but is actually the prerequisite of practice (Winch, 2010. p. 104 cited in Shalem & Allais, 2018, p. 11). Shalem and Allais argue that when formal knowledge and practical knowledge are aligned, workers' 'inferential ability' (the ability to understand the relationship between concepts) and workers' 'referential ability' (the ability to understand the relationship between a concept and a real-world object or phenomenon such as a problem that must be solved, a product that must be produced a service that must be rendered etc.) are coherent and strongly integrated (thus improving their capacity) (Shalem & Allais, 2018, p. 11). For the public sector this would mean avoiding an overemphasis on work-based learning and cultivating a mutually reinforcing relationship between knowledge-how and knowledge that within its labour force to improve overall productivity and well-being. The specifics of this last point lie beyond the scope of this section/ literature review.

## 3.4. The 'Tacitness' of Knowledge

It is important to note that a crosscutting characteristic of all the forms of knowledge is 'tacitness'. Although knowledge theorists disagree about the exact meaning of this term, there is relative consensus that it permeates all three forms of knowledge that we have introduced (Winch, 2010, p. 117). Winch (while conceding that knowledge that and knowledge how can all be 'tacit' under certain circumstances) argues that the 'tacitness of knowledge' is intimately linked with our inability to bring knowledge forward for conscious inspection or our not being consciously aware of it, but he adds that it is not always knowledge that we are necessarily not aware that we are exercising (Winch, 2010, p. 117). Freidson on the other hand argues that the tacitness of knowledge is a function of practical or working knowledge or more accurately, it is another form of practical knowledge (know-how) that carries all the characteristics mentioned above with the exception that it is neither verbalized nor codified; it is as important in the performance of any work as the tacit skills employed to use it and leads to dexterity in practice (Freidson, 2001).

### 3.5. Powerful Knowledge

Another type of knowledge formulated by Young and Muller using the ideas of Durkheim and Vygotsky is the idea of 'powerful knowledge' (Muller & Young, 2019; Young & Muller, 2013). The following are the defining characteristics of powerful knowledge as articulated by Young and Muller (2013): powerful knowledge is regarded as specialized knowledge in the sense that unlike unspecialized or everyday knowledge it focuses on a particular stream of study and specializes in the concepts contained within it; powerful knowledge due to its 'specialized' character requires then the establishment of specialist institutions like universities, colleges and research institutes; powerful knowledge is systematically revisable (meaning that since it is the pursuit of what is 'considered truth at the time', it must adhere to standards of testing the 'bestness' of propositions to describe reality and old propositions must give old to newer and better ones according to these criteria, thus yielding disciplinary innovation); powerful knowledge is emergent, this means that it is produced by social conditions and contexts but cannot be reduced to them (in other words it's explanatory power is not limited to the contexts from which it originates; powerful knowledge is about something other than itself and it speaks of this thing in a robustly reliable way meaning that what it claims can indeed be found in the world (that is in nature or in society or culture); powerful knowledge is produced in socio-epistemic formations or in disciplinary communities (traditionally) located in institutions like universities with their own internal rules, solidarity and norms of truth (Muller & Young, 2019, p. 15; Young & Muller, 2013, pp. 236–238). From these characteristics, it appears that powerful knowledge is simply another reiteration of systematic knowledge. The significance of powerful knowledge is in its social transformative and generative capacity and the power of systematic knowledge highlighted by Young and Muller. What makes this knowledge 'powerful' is that it is argued to free those who have access to it (from the chains of the status quo) and allows them to imagine alternative and new possibilities of reality (Muller & Young, 2019, p. 15; Young & Muller, 2013, p. 245). Powerful knowledge it is argued allows those who have access to it to generate facts that are anchored in the objective methods of their peer-communities; the findings from these then become avenues for debates about alternative policies, thus contributing (in some cases) to society's conversations about itself; furthermore, by formulating testable predictions powerful knowledge has a policy implication in that

these can be used to remind policy makers and politicians about the gap between their intentions and the consequences that accompany their actions which can become an avenue for activism, for imagining moral and aesthetic alternatives and for providing space for creativity and innovation (Young & Muller, 2013, p. 245).

### 3.5.1. Powerful Knowledge: A Case for VET

The significance of this last concept for the public sector is illustrated in the framing it provides for the current state of knowledge in the Vocational Education and Training sector in anglophone countries. We tentatively suggest that this account may provide lessons for the South African context in light of the similarity of education policies between it and these anglophone countries.

Wheelahan argues that in anglophone countries, while VET has been unproblematically positioned as applied, experiential and work-focused learning; a solution for those who have been excluded from academic education, it is actually a key mechanism through which inequality is mediated and for the reason that it excludes its students from accessing the theoretical knowledge (or powerful knowledge) they need to partake in debates and controversies that have to do with their societies and fields of practice (Wheelahan, 2015, p. 750). The problem in anglophone countries is that VET has been represented as being about skills (the ability to perform tasks) instead of being abut knowledge and curriculum questions have been reduced to "what skills are needed in the job" and for allowing students access to work and if there is any knowledge it is subordinated to skills (Wheelahan, 2015, pp. 750–751). By virtue of the discussion in this section, it is important to specify what dimensions of knowledge she is referring to, the one having been subordinated to the other in VET. It is argued that VET at present, is concerned with skills for work (knowledge how, practical knowledge etc.) and this precludes VET from providing students with access to the formal knowledge that they may never gain at home or in the community (everyday knowledge) and at work (Wheelahan, 2015). Due to the global drive to use VET as a mechanism for promoting economic growth, VET is viewed as a way to provide skilled labour for the economy and to provide social inclusion for disadvantaged youths who do not do well in school (OECD, 2015 cited in Wheelahan, 2015, p. 751). This then means that the ability to use formal knowledge

for social-transformative purposes, for creativity and innovation will be inaccessible to these youths and thus reproduce epistemic and social inequalities.

Another issue that is raised by Wheelahan is the pedagogic contradictions that are presented by the focus on practical knowledge at the expense of theoretical knowledge. Two arguments are used to promote this approach; firstly, it is argued that (struggling) students find it easier to grapple with curriculum that relates directly to their everyday lives and relates to the primary objective of getting a job; secondly, vocational (task based or competency based) curriculum is much more motivating for these students and these two arguments are supported by a narrow view that participation in society is equivalent to getting a job instead of broader social, civic and political participation (Preston and Green, 2008 cited in Wheelahan, 2015, p. 756). This leads to the following contradiction: while it is argued that if VET students are excluded from bodies of knowledge and are only inducted into those procedures that will be applicable to their immediate work contexts and it is also argued that this approach will promote better progression, it will not lead to better applicability in the workplace since this applicability is enhanced by a firm grasp of the bodies of knowledge that underpin it. This then betrays not only the goal of motivating these students during training but also providing productive employees for the world of work.

For the public sector (subject to contextual verification) this may have massive implications for gaining productive members of the labour force who will not only enhance the business of government but go on to provide creative and innovative solutions to the challenges that the public sector faces.

# Section 4: Jobs, Occupations & Work (Implications for the South African Public Sector)

## 4.1. Introduction:

This section of the literature review will over a conceptual overview of three distinct yet interrelated concepts: jobs, occupations and work. Although these concepts are often used not only in policy contexts but also in our daily conversations, they are often ill defined or not defined at all with the meanings taken for granted or unclear. This section will aim to illustrate that, upon more careful examination and reflection, that these concepts potentially have divergent, nuanced and complex meanings. Furthermore, that they are, to an extent at least, socially, historically and contextually determined and bounded. If one of our objectives in the South African post school education and training domain, in the public sector but also other sectors of the economy, is to provide the "skills" needed to produce socially responsible and economically active and productive citizens, then it follows that a clear yet nuanced understanding of one of the most critical termini of education and training programs and structures, namely jobs, occupations and work, is a pre-requisite of policy interventions.

### Jobs:

A not uncommon practice is to use the concept of "job" and "occupation" interchangeably. An example of this would be:

"Thus, the evidence suggests that a growing number of *jobs and occupations* (emphasis added) are joining the ranks of those traditionally associated with boundaryless careers." ( Tolbert, 1996,p.335).

Throughout her analysis Tolbert does not offer a distinct, or conceptually substantive, definition of jobs but she does however expand on the concept of occupation as there is an established body of literature which has engaged with this concept. This is not necessarily inherently problematic, as the two concepts are often used

interchangeably by specialists and non-specialists alike, but others argue that jobs are indeed distinct and can be defined separately from concepts such as occupation and profession (conceptualised by some as a sub-category of occupation).

> Jobs are bundles of tasks performed by employees under administrative job titles; a given job is thus particular to a specific workplace, just as a job title is often particular to a specific workplace. An occupation, on the other hand, is broader membership in a shared community that spans across jobs. A given occupation is therefore a category of work that is concretely instantiated as particular jobs in particular organizations under particular job titles. (Cohen, 2013, p.243; Grant, Berg & Cable, 2014).

What stands out from the above definition of jobs is that they can be categorised as(sometimes narrowly) contextually bounded and determined. They are specific to a particular workplace, although there are at times broad similarities between jobs in different organisations, and arise from the specific operational needs of a specific organisation and/or division/department within the organisation.

How the concept of job is defined also has a potential impact on the education and training required for a specific job or set of jobs–specifically in terms of which institution, or set of institutions, are best placed to provide the requisite education and training for a particular job or set of broadly similar jobs within an organisation. Adding on the definition provided by Cohen and Grant et al.(2013;2014) it could be argued that a job has three main components or dimensions: an organisational/department specific dimension(there could also be industry level similarities), an occupation orientated dimension and a general dimension–general knowledge, skills and competencies–which cuts across jobs, institutions and even sectors. For some jobs one or more of the dimensions could be dominant although there are jobs where the three dimensions are equally distributed. An example of jobs with strong occupational dimensions (which includes the sub-category of professions) would be some artisans (for example: electricians and millwrights) and many if not most of the medical professions(general practitioners, specialists etc.).

What are the education and training implications of the above? If for instance a job is mainly organisationally focused (i.e. the requirements of the role being of such a nature that it is highly specific to the organisation in question) it raises doubts as to whether a general post-school education could directly and immediately contribute to the ability of individuals to perform tasks at the requisite level set by the organisation in question. If for instance a job requires predominantly general knowledge, skills and attributes, then it would follow that general post-school education and training would be able to mostly, if not fully, prepare those entering the workforce to perform the tasks associated with their given jobs. The distribution of dimensions for any given job or set of jobs is an empirical question which falls beyond the scope of this literature review. It is nonetheless an area of enquiry meriting further in-depth examination and exploration in especially a public sector context. If the above analysis is further expanded it could potentially lead to a scenario where a differentiated and context sensitive approach to understanding jobs, and their education and training needs, is developed as opposed to a one size fits all model.

The definition of jobs offered by Cohen and Grant et al. is relatively value and judgement free and descriptive in nature (2013;2014). Keep and James offer a more critical appraisal of jobs (2012). Although their insights arise from an analysis of the United Kingdom there is a potentially broader applicability to their analysis–including to a South African context. They argue that many jobs are "dull, routine, lower paid" and in certain instances "dead ends" (Keep and James, 2012, p.211) or what they call "bad jobs." They further argue that there is very little incentive for those at the bottom of the labour market in the UK to learn and that the promises made by proponents of the knowledge economy have largely failed to materialise– for a whole range of reasons (Keep and James, 2012). The central belief of the knowledge economy can best described as follows by one its earlier advocates:

> We are living through a transformation that will rearrange the politics and economics of the coming century. Each nation's primary assets will be its citizens' skills and insights. Each nation's primary political task will be to cope with the centrifugal forces of the global economy which tear at the ties binding citizens together—bestowing ever greater wealth on the most skilled and

insightful, while consigning the less skilled to a declining standard of living. ( Reich, p.15, 1991).

Whether the above belief is justified or not is one of intense debate. There is however reason to doubt, if not necessarily outright reject, some of the central principles and beliefs of a knowledge economy (intimately interconnected with a human capital theory) discourse. Recent research, primarily from the United States and other OECD countries, has shown that there are potentially substantive issues with certain central assumptions of the knowledge economy and human capital theory discourse. Not least of which that its theoretical assumptions do not align with empirical realities ( Brown, Lauder and Cheung, 2020).

Brown et al. conducted an extensive review of labour market data for a period of 50 years in the United States. Their findings point to the fact that there are a whole range of factors, over and above education and training, which determine labour market success; including factors such as race, gender and socio-economic background (Brown et al., 2020). They also found noteworthy differences within occupational groupings–i.e. a doctor working in the public sector as opposed to one working in the private sector (Brown et al., 2020).

Although many of these insights are potentially applicable to the South African context extensive empirical work is required to determine not only the validity and applicability of these insights but to also develop an understanding of jobs which is grounded in a South African contextual reality– at an economy wide level but also examining specific nuances that are determined at the industry and sector level. An example of this being the prevalence and centrality of transversal competencies in the South African public service.

Nonetheless contemporary international debates need to be critically engaged with as dominant discourses, no matter how problematic, are often prevalent in South African policy and academic circles. One line of reasoning developed by South African economists clearly illustrates the uncritical replication of the core assumptions of human capital theory:

Education is a strong predictor of labour market outcomes in terms of employment and is, in turn, a determinant of economic growth. A striking result of this research is the lack of contribution, on average, to economic growth from those workers with schooling as well as some form of post-schooling (but non-degree) certification. The only cohort that contributed significantly to economic growth as measured by the Olley and Pakes methodology was degree-holders – suggesting that this would be the most productive education cohort. ( Bhorat, Cassim & Tseng, p.326, 2016).

One convincing argument presented by Bhorat et al. is that degree holders have substantially better labour market outcomes, especially as measured by employment levels, than workers with schooling and workers with non-degree certification(2016). They substantiate their research with extensive empirical data. What they do not however engage with, potentially as a result of there being a lack of research which examines this area in South Africa, is the nature of employment of graduates in South Africa. What are they being paid compared to non-degree holders? Not just on average but what patterns and differences are there within the group of workers with degrees? Are they underemployed? These are all questions which need to be empirically engaged with in the South African context.

How does the above relate to jobs? If the knowledge economy is not all it is made out to be, and if many cannot participate meaningfully and gainfully in knowledge work, what other options are available? Of particular interest are "bad jobs" ( Keep and James, 2012). The extent and nature of bad jobs within the South African public sector would require empirical investigation. To assume that all public sector jobs are great seems to be somewhat of an untenable position. What also needs to be determined is whether, and to what extent, occupations and professions can over time and due to political economy developments become bad jobs–dead end, insecure and mundane.

 If some jobs are bad, which is not a radical claim, in that they are by their very nature routine, dead end and mundane, and continuing with the line of reasoning developed by Keep and James, then it follows that other interventions need to be considered to ensure workers are productive, motivated and treated with dignity and respect. Keep and James argue that more and better education is not the magical solution it is sometimes made out to be (2012). One argument which they present is that welfare

measures (improved public services, social security, increased job security and renumeration) should also be given due considerations as policy interventions to improve lives and livelihoods (Keep and James, 2012). This argument has also been applied to a South African context by Allais. She argues that in order to improve specifically vocational education and training, although her arguments have potentially broader applicability, that broader systems and structures also need to be considered as part of initiatives to improve VET in South Africa– such as the development of regulated occupational labour markets and improved social welfare (2012, p.640).

This section has illustrated that conceptual clarity regarding the concept of jobs begins the process of opening up the space to begin thinking critically and laterally about the limitations and potential of post school education and training. The arguments presented here will be developed in greater depth and detail in later sections of the literature review.

## 4.2. Occupations:

Although, as pointed out in the previous section, some use the concepts of "job" and "occupation" interchangeably there are reasons, to be examined here, to argue that an "occupation" is conceptually distinct from a "job."

Occupation has many meanings but can be defined as:

"...socially constructed entities that include: (i) a category of work; (ii) the actors understood—either by themselves or others—as members and practitioners of this work; (iii) the actions enacting the role of occupational members; and (iv) the structural and cultural systems upholding the occupation." (Anteby, Chan, & DiBenigno, 2016, p.187).

As can be seen from the above definition occupations are not necessarily defined primarily by the organisation in question. An occupation can be viewed as being determined by additional forces and structures, primarily social, operational within but not solely located within and determined by a company specific context. Various jobs, each different based on the company specific context in which they arise and are located, could belong to the same occupation.

Guy Standing offers an expanded definition of occupation. His conceptualisation of occupation has both a descriptive and normative component. Normative in the sense that he argues for a more central role, in our individual lives and society more broadly, for occupations ,or what he terms "occupational citizenship", which encompasses the notion that our occupational identities, and the communities they are a part of and partially arise from, can and should have a broader societal function and impact (Standing, 2010). Herewith his normative, or aspirational, definition of occupation:

> A good occupation is a sphere of work where fascination meets intellectual challenge, where the mind and the hands are in balance according to a person's capabilities and aspirations. A 'happy' person is someone doing what he or she aspires to do. *Few are so fortunate* (emphasis added). It is nevertheless the thesis of this book that we should moving towards giving everyone the opportunity to pursue 'occupation' and promoting 'occupational citizenship' conducive to building new forms of civic friendship and social solidarity in the Global Transformation (Standing, 2010, p.10).

Before critically engaging with Standing's normative definition of what an occupation should or could be herewith his high level, expanded conceptual definition of occupation:

> Occupations have been historically forged social constructs… For our purposes, we may say that an occupation consists of an evolving set of related tasks based on traditions and accumulated knowledge, part of which is unique. An occupation involves some combination of forms of knowledge that go beyond conventional notions of skills–abstract, technical, inferential and procedural.

> Another feature is non-homogeneity. Within any occupation, differentiation may be by task (specialisation), subordination, type of client, type of workplace and forms of renumeration.

> One should also see occupations in terms of conflict and at least moral competition. They are also inherently transient, not permanent constructs. They exist within wider societies and suffer from internal tensions and tensions with

other economic and social interests. Indeed, to form an occupation, a group must be able to define itself in opposition to others or at a minimum in contrast to another group. *Prospective members must have a common identity–a perception of common interests, standards of practice and behaviour.*(emphasis added).

An occupation is never a purely productive activity. Members perform a social function, which may include imparting norms to recruits, monitoring standards of behaviour and expertise, and giving mutual support. An occupation embodies notions of social inclusion, entailing a sense of substantive belonging and continuity. (Standing, 2010, p. 10–11).

Firstly a critical examination of Standing's normative ideal of occupation. It would be difficult to argue against his notion of an occupation where an individual who is part of such a community finds fulfilment, meaning and purpose in their work. How far removed many people's working lives are from this ideal is what is disconcerting and merits critical engagement. If, as Keep and James argue, many people merely have 'jobs', and often 'bad jobs' at that, what is the likelihood or probability of them being able to become active members of an occupation? It would seem there are various barriers, not least of which the current structure of the South African and global economy, that would inhibit them from transitioning to a form of 'occupational citizenship'. There is also the very real risk that by pursuing a renewed and revitalised notion of occupation it forecloses on the consideration of other measures, such as increased regulation of labour markets, more active democratic participation by labour in organisations(state or otherwise) and improved social welfare, to improve lives and livelihoods. Another line of critique would be that Standing's position is premised on an insufficient understanding of work and occupation in the global South, or that he at the very least bases his universal recommendations on an understanding which is primarily informed by the evolution of work and occupations in the global North during the 20th and early 21st century (Scully, 2016).

"However, it is a fact that, in the face of the precarious economic realities that Southern workers have faced for generations, pooling of household income has been a key economic strategy for survival." (Scully, 2016, p.166).

Or has been argued by Ceruti in her analysis of the class structures and relations in a Johannesburg working class township:

"Understanding class in Soweto in an era of work restructuring requires primarily a consideration of how the worlds of work are mixed at the level of the household." (Ceruti, 2013, p.104).

She also argues that due the often-unstable nature of employment, for the fortunate few who do manage to secure and maintain formal employment, that they move between different worlds of work over the course of their working lives (Ceruti, 2013, p.112). For some it could be argued that there is some sense of continuity, belonging and stability linked to their occupational identity–such as for example certified artisans, administrators and even professionals from working class backgrounds. What is however worth empirical exploration and analysis is the extent to which the 'precarious' (Standing, 2014) nature of employment for many erodes or weakens occupational identity and belonging in the South African context. Standing defines the precariat, or precarious employment, as follows:

> One defining characteristic of the precariat is distinctive relations of production: so-called 'flexible' labour contracts; temporary jobs; labour as casuals, part-timers, or intermittently for labour brokers or employment agencies. But conditions of unstable labour are part of the definition, not the full picture. More crucially, those in the precariat have no secure occupational identity; no occupational narrative they can give to their lives (Standing, 2014, p.10).

A large part of Standing's political project in promoting 'occupational citizenship' is in response to what he argues are the detrimental consequences of increased precarious employment.

> What makes the precariat the new dangerous class is that it is internally divided, virtually at war with itself. One faction consists of what we might call 'atavists', those who have fallen out of manual proletarian communities, who relate their frustration to a denial of what their parents had as members of the proletariat. A second faction consists of the ultimate denizens, migrants and minorities,

who feel deprived by having no sense of the present, no sense of home. These may be called 'nostalgics'. The third faction consists of the highly educated, mostly young, who were led to believe that in following tertiary schooling they would be enabled to have a career, a trajectory of labour security and social mobility. They suffer from acute status frustration because they have no sense of future and because they suffer most from precarity traps (Standing, 2014, p.971–972).

Although it could be argued that Standing's arguments for why the precariat is new are questionable, as Scully (2016) argues that in the global South, including South Africa, it is debateable whether the precariat is indeed a new phenomenon; or whether it is indeed a crisis of the magnitude Standing makes it out to be. It would be difficult to argue that the precariat does not have conceptual and theoretical merit, but the arguments presented by Scully does point to the need for critical engagement with the concept.

It will be argued here that the concept of the precariat is potentially of relevance to the South African public service. Firstly, it raises a series of interconnected empirical questions. To what extent can employment in the public service be considered precarious? What role does education and training play in determining precariariaty? What is the relationship between a worker's position in the public service occupational hierarchy and the likelihood of precariariaty?

It also opens up the space for reflection on how, if it all, new public management can, or does, inhibit or enable the transition to a public service where there is a strong sense of public service occupational identity, purpose, community and continuity. The extent to which new public management is still a dominant paradigm in the public sector, broadly defined, is also a matter for empirical investigation. New public management can be summarised as:

Break up of centralised bureaucracy; wide personnel management; shift to desegregations of units in the public sector, involving breaking up of former monolithic units; unbundling public sector into corporative units organised by products; with developed budgets and dealing with one another at 'arm's length'

basis; shift to greater competition in the public sector through term contracts and public tendering procedures; stress on private sector-styles of management practice – involving a move away from military style public service ethic to more flexible hiring, rewards and more use of public relations (Nasrullah, 2005, p.202–p.203).

Hood argues that new public management, in essence, is an ideological system and paradigm, with often far reaching practical, operational and strategic implications, that was imported from the private sector to government departments and the business of the state (1995). Vyas-Doorgapersad also points out that although originating in the UK and New Zealand, new public management has been influential in many developing world contexts–including South Africa (2011).

If new public management is still a dominant paradigm, that influences inter alia human resource management practices including education and training, then it raises questions about the ability and capacity of the public sector to realise the ideals of occupational identity, belonging and purpose. New public management could be an enabling or constraining factor in this regard. If it is indeed the case that:

"An occupation is never a purely productive activity. Members perform a social function, which may include imparting norms to recruits, monitoring standards of behaviour and expertise, and giving mutual support." (Standing, 2010,p.10–p.11).

The above it could be argued applies specifically, and in potentially unique ways, to the public sector in South Africa. This arise from the observation, to be determined empirically as there does not seem to be any established body of literature on this topic at present in South Africa, that occupations in the public sector have an additional social function which exceeds, or moves beyond, that of occupations located in the private sector. This could be due the fact that 'prosocial motivation' (or the desire to help other people)(Grant, 2008), although critical to increased performance and productivity for many occupations in the private sector (Bing & Burroughs, 2001; Brewer & Selden, 1998), is particularly pronounced, or at least it could be argued should be aspired to, in the public sector (Ayaita, Gulal & Yang, 2019).

It could therefore be argued that public sector occupations have a dual social identity, orientation and ensuing responsibilities– although in certain instances one or the other could be dominant. The one being that of a social commitment to the occupational community in question (engineer, doctor, artisan, accountant etc.) and the other being a commitment to act in the best interest of the broader society and economy by performing their particular duties and responsibilities as defined by the organisation where they are employed. The interlinkages and tensions between these two subtly, but critically important, social dimensions is worth further investigation.

Guy Standing(2010;2014), and others (Scoville, 1966; Karmel, Mlotkowski & Awodeyi, 2008) do recognise the importance of education in training and its role in shaping and informing the development of occupations. Nonetheless the above overview, and arguments presented, illustrates that occupations are much more than just education and training and raises serious doubts as to whether there can ever be a 1 on 1 correlation between occupation and qualification. Occupations specifically, but also the broader relationships between education and work in the public sector and elsewhere, need to be examined and analysed from an educational perspective but also from other theoretical perspectives. Not as a purely 'academic' exercise but to ensure that policy is formulated which is informed and framed by diverse and complex occupational realities located within changing, historically and contextually embedded, socio-economic, political and cultural realities.

## 4.3. Work and Labour

This section will start with a very broad conceptual distinction being drawn between work and labour and the relevance of this distinction to the South African public sector context will also be developed and presented. As work is an extremely broad topic the focus will then be narrowed to begin the process of offering an examination of work specifically in the public sector service context. The insights offered will be primarily conceptual in nature but during the course of the analysis empirical questions will be generated which are potentially applicable to the public sector in South Africa.

Labour can be defined as:

'Labour' is done for a wage or some form of remuneration. It has exchange value and is an activity, that of devoting time and effort to working or someone else, in some position of subordination. We obviously need this category, which goes with employment and jobs. (Standing, 2014, p.964).

To a certain extent working in the public sector does entail labour as defined above. The question does however arise of whether it is 'just' labour, or are there further(additional) critical components to being a public servant? Such as for instance that it requires a form of 'civic virtue' (Graham, 2000).

The definition provided for work, as conceptually distinct from labour, developed by Standing could begin to offer some generative insights. However, for contemporary labour process analysis, one should disaggregate work that is not labour into several components: care work (done mainly by women looking after children, the home and so on); a broader idea of reproductive work (including training, retraining and preparing oneself for labour or other work); waiting-for-labour—important as a form of time use in tertiary and developing countries (Jeffrey and Young, 2012); work-for-labour (unremunerated but exploited activity, on or off workplaces);work-for-debt; and work-for-state (which is increasingly significant in tertiary society).(2014,p.964)

The above raises several questions. Firstly, to what extent does public sector employment consist of work which can be categorised as reproductive work? Secondly, how important is reproductive work to the strategic objectives and often legislatively mandated functions of various public sector organisations in the South African public sector? Thirdly, where is the primary site, and whose responsibility is it, to ensure that reproductive work is undertaken to ensure the development of public sector employees who can contribute meaningfully and substantively to the actualisation of the ideal of a developmental state?

Another category work which is potentially relevant to the public sector is that of work-for-state. The distinction between labour and work is relevant to the public sector on a descriptive and normative level. Empirically there is a need to determine which of the two modes dominate and to examine the complex and nuanced interlinkages between the two is most prevalent–from an organisational and a systemic perspective. If it is

found that the public sector is qualitatively unique and distinct from the private sector then it would follow that organisations, systems and structures which operate solely or primarily in a labour mode merit closer critical scrutiny and analysis –as an exclusive focus on labour could lead to work, such as reproductive work, not being given the due consideration it deserves. That is if the argument that reproductive work in the public sector is indeed essential is accepted in the first instance.

In his analysis of labour and work Standing makes another observation meriting brief discussion here:

"If we do not make some such distinctions and instead compress all forms of work into a generic term of 'labour', we lose the capacity to understand patterns of exploitation and control, as well as the patterns of political consciousness that they generate or encourage." (2014, p.965)

Many would argue that capitalism, the dominant socio-economic system globally, and the businesses which operate within and constitute a significant part of capitalist systems, are prone (or even inherently driven by the logic of the system) to exploit workers. Part of this process of exploitation involves not recognising, or downplaying, the connections, and networks/interdependencies, which exist between labour and work. Exploitation can be defined as:

Against the background of the Marxist labour theory of value, exploitation is understood as appropriation of the workers' surplus labour by capitalism, that is, as appropriation of that which the worker has produced in addition to what is necessary for the reproduction of his or her labour power. In other words, exploitation is the appropriation of surplus value (Jaeggi,2016,p.56)

Is the concept of exploitation applicable to the public sector? Or is the public sector in some way distinct from the private sector? If it is argued that it is distinct, in the sense that the primary function is to act in the best interest of society as a whole as opposed to surplus value generation and extraction, then it follows that paradigms which are informed by variations of new public management are potentially problematic. Problematic in the sense that what works in the private sector will not necessarily work

in the public service sector. This does not foreclose on partnerships, relationships and networks being established between the domains, or that there could not be productive and generative synergies established. It does however point to the need to recognise that public sector employment is, to an extent at least, unique and distinct from other organisational types.

There is also a need, if the aim is to understand the relationship between education and work, to better understand the domain of work within a particular context. The paradigm used to investigate the two domains is to a large extent dependent on the point of departure selected. Does one start with education or with work? As higher education, especially in South Africa, is often general and not directly occupationally focused, there is need to examine the relationship between education and work by making the point of epistemic departure that of work. What theoretical and conceptual tools are available to better understand the nature of work in the public sector? A potentially generative framework, which consists of two dominant models of public sector organisations, is provided below. This model could potentially assist with framing and informing an investigation of work, labour and occupations, and the interlinkages with education and training, in the South African public service sector.

TABLE 2
Comparison of Two Models

| | Bureaucratic Model | | Governance Model |
|---|---|---|---|
| 1. | Clear Cut Authority and Power | 1. | Diffusions of Authority and Power |
| 2. | Centralized Decision Making | 2. | Decentralized Decision Making |
| 3. | Coordination through Hierarchy and Authority | 3. | Coordination through Networks |
| 4. | Specialization / Division of Labor | 4. | Generalist Administrators / Changing Job Responsibility |
| 5. | Internal Focus – Efficiency | 5. | External Focus – Ensuring Performance from Partners |
| 6. | Direct Service Provision | 6. | Rise of "Third Party" Service Providers |
| 7. | Organizational Structure Stable | 7. | Organizational Structure Ever-Changing |
| 8. | External Environment Relatively Predictable | 8. | External Environment Rapidly Changing |
| 9. | Supervision of Routine Workers | 9. | Supervision of Knowledge Workers |
| 10. | Homogeneity of Workforce | 10. | Diversity of Workforce |
| 11. | Problems Geographically Contained | 11. | Problems are Cross-National and Cross-Sectoral |
| 12. | Neutral Impersonal Procedures | 12. | Responsiveness to Citizens |
| 13. | Administrative Accountability through Legislative Body | 13. | Administrative Accountability through Performance Contracts |
| 14. | No Concern for Citizen Relations | 14. | Citizens as Customers |

(Soni, 2011, p.82)

The above could be a generative and informative point of departure as all 14 characteristics of each model could influence the form and multi-faceted content of occupations, and their associated education and training requirements and norms, within the South African public sector. It could also emerge that both models are operational simultaneously within the public sector or within certain institutional contexts. An examination of authority, power, decision making and specialisation are all concepts which could form the basis of examination of occupation and/or qualification hierarchies within the public sector.

## 4.4.    Conclusion

This section has provided a critical and in-depth initial overview of three key concepts: jobs, occupations and work. This overview forms an integral part not only of the literature review but will also be the conceptual and theoretical basis for further conceptual, empirical and practical initiatives during later stages of the research. Although informed by and based on academic literature, and therefore conceptual in nature, it was illustrated how critical debates and discussions in the academic domain could potentially be applied to assist with the formulation of research which in turn informs and contributes to policy related to human resource development, and specifically education and training,  in the South African public sector.

# Section 5: Occupation and Qualification Hierarchies

## 5.1. Introduction

This section will provide a brief overview of occupation and qualification hierarchies. An in-depth and detailed hierarchical classification framework will be developed and presented during a later, subsequent phase of the research project.

Before proceeding to an examination of literature on hierarchies some initial points need to be raised. As indicated in previous sections education and training is but one dimension of an occupation as occupations are complex and multifaceted socio-historically shaped entities which change over time. It therefore follows, although this would need to be empirically investigated in various and diverse contexts as well, that to assume a direct and 1:1 relationship between occupation and qualification ( to practice in occupation y qualification x is required) is somewhat problematic. There are relationships which exist between occupations and qualifications, and therefore between occupational hierarchies and qualification hierarchies, but these can often be complex and indirect.

It is therefore recommended that two separate analytical processes take place. The first part will be the examination of occupational hierarchies followed by an examination of qualification hierarchies. Once an adequate account of each hierarchy has been provided, including the justification of these hierarchies in various socio-historical contexts, the interlinkages between the two domains can be critically explored. This process will be initiated here, by engaging with relevant literature from a range of disciplines and perspectives, and further developed during subsequent phases of the research project.

**Occupational hierarchies**

Do occupational hierarchies matter? The literature examined here would seem to indicate that they do indeed matter for a variety of reasons. The first reason being that there are technical and operational implications if hierarchies are not properly understood and analysed. If for instance it is found that an occupation, or family of occupations, require a high level of context specific know-how (recalling earlier discussions presented in this literature review), but there is an over-emphasis on know-that, as acquired during formal general education, in determining placement within a given organisational hierarchy, it could easily lead to a situation where, put simply, the wrong person is placed in the wrong job at the wrong level. Or alternately where know-that is a necessary ,but insufficient, pre-requisite for a given level of occupational performance it could lead to an organisation providing inadequate support to employees in terms of acquiring the requisite know-how. The inverse could also apply: i.e. where there is an over-emphasis on know-how and a subsequent neglect of know-that.

There also broader socio-economic reasons, beyond the examination of hierarchies within particular contexts, to understand and analyse occupational hierarchies. Research has found that belonging to a higher ranked occupation can lead to better health outcomes ( Fujishiro, Xu and Gong, 2010), more social capital (Van Der Gaag and Snijders, 2005) and more positive social interactions (Matthews et al.,2000). Alternately belonging to lower ranked occupations can lead to adverse social outcomes for those belonging to occupational communities perceived, rightly or wrongly, as being low status and/or low skilled (De Camargo and Whiley, 2020).

To argue that there is no technical and operational justification, (and justified to some extent at least by actual education and training requirements) for occupational hierarchies would be deeply problematic and quite probably factually incorrect. Nonetheless the recent global health pandemic, which broke out in early 2020, the impact of which is set to be far reaching for many years to come, has clearly illustrated that occupations, and occupational prestige, are indeed social-historical (Standing,

2010) constructs. In the UK for instance a new category of worker, 'essential workers', was created nearly overnight (De Camargo and Whiley,2020). Occupations deemed 'low skilled' and low status as recently as December 2019 were elevated to the status of 'heroes' to be celebrated and supported by the public by early 2020(De Camargo and Whiley, 2020). The same holds true for South Africa where low status, and some would argue 'low skilled'( Bhorat, Cassim and Tseng,2016), occupations were also elevated, probably only temporarily so, in terms of their positions in occupational hierarchies during the global crisis. Many occupations identified as essential, such as a large proportion of health care workers, those working in private and state security and especially food wholesale and retail ( Ramaphosa, 2020), are occupations located at the bottom of conventional occupational hierarchies during 'normal' times.

These sociologically informed, and critically important, arguments regarding the centrality of socio-historically determined power relations and the role they play in determining occupational hierarchies, should however be approached with due caution–especially in the context of a country such as South Africa. Our recent past and continued struggle with  socio-economic injustices , often linked to the system of apartheid, adds a layer of complexity and contestation to these debates not necessarily seen elsewhere. One of the reasons for this being that positions of power and authority related to and arising from your occupational designation, historically (Webster, 1985) but also presently (Seekings and Nattrass,2008; Schneider, 2018), are still often strongly correlated (causation being another matter entirely; requiring rigorous and sophisticated empirical engagement and analysis) with one's position in other socially determined hierarchies which exist *within* and *outside* of workplaces: such as those of race, gender, class and sexual orientation (Schneider, 2018). In certain instances causal relations could and do exist but these need to be determined separately and carefully in order to avoid simplistic and problematic causal attribution. It has for instance been found that unequal education outcomes in post-apartheid South Africa are closely aligned with race and socio-economic status and background (Van der Berg and Gustafsson, 2019).

The above raises two questions: how is this relevant to the literature review presented here and why are these debates relevant to the South African public service sector? The answers to these questions are interconnected and the lines of reasoning

developed by Young and Muller (2013)(covered in earlier sections) in support of their arguments for 'powerful knowledge' in education offers a potentially generative analytic point of entry. Young and Muller argue that:

> Let us start with the word 'powerful' and its strong association with the idea of 'power of someone over something or someone'. This takes us directly to one objection to powerful knowledge; it can be seen as fundamentally undemocratic, in two senses. In the first sense, powerful knowledge as we have described it, is never distributed to all in an egalitarian manner. This is itself a consequence of specialisation; not everyone can be equally specialised in all things, even though everyone can, at least in principle, be offered access to the basic powerful knowledge deemed critical for responsible citizenship in a society. Powerful knowledge is not only distributed unequally, but those who tend to get it are generally those already privileged—'in power' in this sense. *This has led in turn to a conflation of the two senses of power a conflation that is not only a category mistake but also one that has had tragic consequences*[emphasis added] (2013,p.231).

The issue which arises from the above 'conflation' of 'powerful knowledge' and 'knowledge of the powerful' (Young and Muller,2013) is that it could be exacerbated by South Africa's socio-historical conditions and current inequalities. It is an undeniable fact that white males in South Africa were disproportionately, and systemically, privileged during the apartheid and colonial periods (Schneider, 2018). Nonetheless it is highly debateable whether their positions of power and dominance in South African workplaces arose solely from socio-historical forces. For many occupations, whether in the private or public sector, historically and at present, know-how and know-that are often critical: 'powerful knowledge' matters. If you do not possess the requisite know-how and know-that to fix a machine you will not be able to fix the machine. In the case of the South African public sector if you do not possess the requisite 'transversal skills'(PSETA, 2020) you will be unable to, or constrained, in your ability to fulfil your occupational, professional and civic duties and obligations.

Nonetheless social forces and dynamics are also critical–especially in a context such as South Africa. It is questionable, to put it mildly, that South Africa can afford to focus solely on know-how and know-that in determining our occupational hierarchies and the occupational preparation, selection, placement (and progression) processes and criteria which inform and shape these hierarchies. The South African public sector has made immense progress, especially in terms of transformation along racial lines, and its workforce is at present by and large demographically representative(PSETA,2020). Although it is difficult to find national level data there are strong indications that large parts of the economy remain untransformed in terms of especially race and gender ( Jaga et al.,2018).

This means that South Africa has a dual challenge it needs to navigate–in the public sector and elsewhere. While there is a need to ensure that the requisite know-that and know-how is developed, maintained and strengthened (as determined by occupational, academic/disciplinary, organisational and industry communities) there is also a need to ensure that the country makes substantive progress in terms of social transformation. It would therefore be deeply problematic to focus on know-how and know-that at the expense of transformation. Or alternately focus primarily on social transformation without continuing to focus on know-that and know-how.

Additionally it is also important to critically engage with hierarchies but in a more precise and focused manner. The issue that we face is that we need to, as accurately as possible, disentangle 'knowledge of the powerful' from 'powerful knowledge' whilst still being aware of the relationships between the two domains. This will be difficult. Over and above this, as argued in previous sections, there is a need to proceed cautiously to ensure that other measures(beyond but also supplementing) ,which do not fall within education and training domain, are given due consideration and implemented where required. An example of another measure would be that of allowing employees, in this case black female professionals, to better integrate their working and personal lives to ensure higher levels of occupational and organisational commitment and performance:

By promoting the value of fulfilment not only at work but also in the family, organisations can demonstrate, particularly to culturally diverse employees that career success does not depend on sacrificing family life ( Jaga et al.,2018,p.9)

Or for instance allowing greater flexibility in terms of working arrangements. There are also other, some would argue more radical measures, that could be adopted. This could entail questioning the justification of occupational hierarchies leading to more egalitarian practices and systems in organisations.

## 5.2. Qualification Hierarchies

This section will briefly examine the South African higher education qualifications sub-framework (DHET,2013). During a later phase of this research project other qualification sub-frameworks , and the national qualification framework(NQF,) will be examined in greater depth. From this analysis a framework to classify occupations and a critique of qualification frameworks, and qualification hierarchies, will be produced.

The higher education qualifications sub-framework has eleven qualification types mapped on to six levels of the NQF (DHET,2013). The framework comprises the following qualification types:

*Undergraduate*

Higher Certificate
Advanced Certificate
Diploma
Advanced Diploma
Bachelor's Degree

*Postgraduate*

Postgraduate Diploma
Bachelor Honours Degree

Master's Degree

Professional Master's Degree

Doctoral Degree

Professional Doctorate (DHET,2013)

A qualification is the formal recognition and certification of learning achievement awarded by an accredited institution. The HEQSF sets out the range of qualification types in higher education that may be awarded to mark the achievement of learning outcomes that have been appropriately assessed (DHET,2013).

Due to the technical and descriptive nature of the higher education qualifications sub-framework it is difficult to ascertain the underlying rationale for the ranking of qualifications. A close reading, and using inferential reasoning, would seem to indicate that vertical classification(i.e. hierarchical differentiation) is determined by the volume of work, as measure in study hours, required to reach the learning outcomes(DHET,2013) of a particular study program. Horizontal classification seems to be based on specialisation –either in terms of the broad study area ( a Bachelor of Science as opposed to a Bachelor of Commerce) or a further level of specialisation within a broad study area ( Bachelor of Commerce: Human Resource Management).

It does not seem that 'complexity' is used as a classification criteria. This is understandable as it would be extremely difficult, and contentious, to measure and hierarchically classify the complexity of the specific disciplines which constitute a qualification type and learning program. How does one even begin to hierarchically compare a STEM field of study, which often contains disciplines that are internally vertically structured (i.e. you must know x before you can proceed to the next higher level of y) with a business (combination of horizontal and vertically structured disciplines) qualification or a humanities qualification(primarily horizontal)?

As mentioned qualification hierarchies will be examined in greater depth during later phases of this project. Certain central debates, and tensions, will however be briefly highlighted here.

If a clear distinction can be drawn between 'knowledge of the powerful' and 'powerful knowledge' (Young and Muller, 2013), and if qualifications are mainly based and structured around 'powerful knowledge' it would follow that many of the critiques highlighted previously would not apply to qualification hierarchies. Or phrased differently: that qualification hierarchies are largely justified. Some would argue that they are not–especially in the South African context (Cross, 2015).

Before proceeding it is worth pausing for a moment to clarify, and do justice, to Young and Muller's (2013) position. Firstly they do recognise that no clear distinction can always be drawn between 'knowledge of the powerful' and 'powerful knowledge' (Young and Muller, 2013). One example of this would be tendency over the last couple of decades to argue (some arguments empirically justified and others fuelled by an ideological meta-narrative) that STEM fields are more powerful than humanities–or even more radically that STEM fields of study are 'powerful' whereas humanities are not (Young and Muller, 2013). Another example would be where there is aversion, or distrust of, humanities as they are seen as being more susceptible to being 'contaminated' by the 'knowledge of the powerful' and that STEM fields are more objective and universal (Young and Muller, 2013). Young and Muller therefore engage with, and recognise, these debates and tensions. It is however worth being very clear regarding the intended purpose of their arguments. They are arguing for 'powerful knowledge' as the basis of curriculum (Young and Muller, 2013). Using 'powerful knowledge', located within disciplines, as the primary or sole basis of curriculum can and should be critically engaged with(Beck, 2013; Zipin et al.,2015).It would however be problematic to critique Young and Muller in broad terms and without being cognisant of their intended purpose.

Whereas Young and Muller argue that although 'knowledge of the powerful' and 'powerful knowledge' can and do intersect they also argue that a clear distinction between the two broad types of knowledge can be drawn. Cross argues that this is not the case, although as will be shown there are subtilties to his arguments which should not be neglected:

> Given the apartheid legacy, the hierarchies of both the knowledge producers (who gains access, or who is legitimised) and of knowledge itself (what

knowledge is validated in the policy process) are primarily mediated and structured through the imagery of race,

class and gender (2015.p.54).

Cross is not arguing that no distinction can be drawn between the two types of knowledge and that 'knowledge of the powerful' always dominates (2015). To the contrary. He argues that being caught in a 'knowledge of the powerful' mode of thinking and analysis, i.e., that no distinction can be drawn between the 'knower' and the knowledge they possess and produce, can easily lead to a sterile, subjective and anti-intellectual position (Cross, 2015). It also raises the spectre of 'original sin' (Bourdieu, 2003; Cross, 2015). 'Original sin' being the position that if you are part of the oppressing group (presently or a group which historically was the oppressor) you are complicit and culpable by default (Cross, 2015). What follows is that only members of the same social group can lay claim to knowledge about that particular group. Such a level of subjectivity and relativism is deeply disconcerting and in a diverse socio-cultural context such as South Africa potentially untenable. Cross argues against such a position, but he does caution us, rightly so, to:

> The discussion exposes the ethical and epistemological consequences of privileging certain forms of knowledge in the policy process – be they propositional or experiential.

> The argument warns against the tendency to downplay the dynamics of power and interest, and contextual factors, particularly race, gender and other forms of social diversity, in policy research and choice, particularly in the South African context (Cross, 2015, p.38–p.39).

These arguments and debates will be discussed during the development of a qualification framework. It does however raise the question, not to be answered here, of whether the hierarchical ranking of qualifications, and the designation of certain types of knowledge as powerful, does not lead to an investable privileging of certain forms of knowledge?

# Section 6: An Initial Exploration of Education and Work Relationship(s)

## 6.1. Introduction

This section will provide a brief overview of the relationship between education and work. In order to test whether some of these insights hold true in the public service sector in South Africa will require extended and extensive empirical engagement which falls beyond the scope of this particular project. This section offers a broader perspective than those offered in previous sections which focused specifically on particular concepts such as skills and knowledge. The systemic perspectives overviewed here do however point to the fact that relationships between education and work are complex and often indirect.

## 6.2. The difference between education and work

Education and work are organised differently. Knowledge is used in but in very different modes.  Knowledge produced in the sphere of education is different from the specific and discrete forms of everyday working knowledge. And yet, many education programmes, both within higher education and vocational education programmes have the expressed purpose of preparing people for work, as if education and work can be directly linked unproblematically.

Often the blame is placed on education institutions for being inflexible and not producing programmes of learning relevant for the workplace and universities and TVET institutions are pushed to be more demand driven. The link between education and work is stronger for the regulated occupation and traditional trades (Wheelahan & Moodie, 2018, p. 135).

Knowledge is produced and transmitted in the sphere of education, by taking huge steps away from what is common and familiar—we call this distanciation, because it

involves creating a distance from our everyday experiences and delving into bodies of specialised knowledge which have been produced over time (sometime centuries) by scholars of different discipline specialisation. One key aspect of discipline specialisation is that concepts are connected to other concepts in discipline-specific ways, and form part of a greater and vertically structured body of knowledge. They are referred to as bodies of knowledge because they are structured by boundaries which rule what belongs within and what belongs outside a specialisation as well as what parts of the discipline comes before others. These bodies of knowledge help us research for more certainty and help us have more coherent analysis of the object we are investigating. Bodies of knowledge do not always speak directly to the problems we face in our day to day working lives. The sphere of work has systems and procedures as well as structure and order. But the logic of order is not about relation between ideas and concepts as they developed over time but rather about what will promote an efficient use of systems, machines and tools. Similar systems are clustered together, each embodies knowledge of experts, at times knowledge is drawn from a variety of disciplines. The sphere of work is also characterised by uncertainty of the end result and by fast pace. Many solutions to problems are standardised, many are not. The former sets of solutions consist of long and complicated standardised procedures, the latter require judgement, care and dextxerity (Gamble, 2018).

Often decisions are made in complex operational conditions such as insufficient appropriate material resources and lack of time, needing to maintain good labour whilst competing against market forces etc. Mistaken judgements are costly and may sever relations with clients. There is a further challenge at the sphere of work—it is changing fast because of technology, and space is no longer a local construct; it is becoming more and more global. How work is organised, its intensity and pace, and its effectiveness are subject to local, and global forces.

The drive for solutions exerts pressure on educational institutions to identify knowledge which fits for purpose, and procedures which reduce risk and help construct standardised operations. At times the two processes (knowledge production and finding solutions) dovetail but in general they are not. This is largely because of reasons to do with the methodology of knowledge production which requires time for testing and evaluation. In addition, some work situations are similar, but many are not

and so knowledge appropriation is a long inferential process. Given the pace of work, its organisation, and the variety of pressures affecting work, there isn't often, however, the luxury of time to select 'exactly that specific part' of what we know and fit it into solving a specific problem. In the end, it is worker's accurate and appropriate judgement which will have lasting positive effects, and the question then becomes **what prepares workers for professional judgement**–in general but also specifically in the South African public service sector context.

### 6.3. Qualifications as the labour market interface between education and work

Qualifications are generally seen to be a symbolic expression of sustained study for a designated period in a designated area. Qualifications are intended to stamp the ability of an individual to do something, which in turn, determines their place in a division of labour in the labour force, and their earnings. Because qualifications are used when persons move between education and the workplace, they are seen as a mechanism for translating something obtained in one area (e.g., TVET college) to something desired in another area (factory). They have come to be seen as an indicator of the skills workers have acquired through education which make them more productive, and of higher economic value in the labour market.

The literature on qualification points out the following problems:

- In some occupations, particularly in highly regulated occupations, instead of being used as indicators of productive skills in the labour markets, reports show that qualifications function as vehicles for social closure. Here qualifications function as a mechanism for legitimating inclusion and exclusion. They create labour market shelters for those who possess them (Freidson, 2001).

- Employers in unregulated occupations (clerical, management consultant, financial analyst, construction project manager etc.) use qualifications as a proxy for general ability to learn and of social attributes (such as the status of the provider) rather than as indicators of knowledge of the specific work the candidate applies for.

- Ronald Dore (1976) coined the phrase "diploma disease", to suggest a distorting effect on education systems. It is also referred as "credentialism" by Randall Collins (1979). The idea is that the social and economic value of qualifications diminishes while the level of knowledge in the programmes they represent remains the same. This, Dore argues, leads to a vicious circle of more and more people trying to obtain qualifications, which in turn further lowers the value of qualification. Qualification inflation or credentialism is a major contributor to what is perceived as education/labour market 'mismatches', when the actual content of learning programmes is seen as having an ever-diminishing relationship with the work needed for specific jobs.

It is also worth bearing in mind, if the question of knowledge is approached from an organisational perspective to be contrasted with a perspective more firmly grounded in that of the sociology of education and education more broadly, that knowledge (as generated, acquired, transmitted and 'stored') in organisational contexts is often: *mediated, situated, provisional, pragmatic* and *contested* (Blackler, 1995).

What is also needed in the public service sector is an examination of how different types of knowledge is contextualised and re-contextualised (Evans, Guile, Harris, & Allan, 2010) when moving from one site to another–i.e. from say the college or university to the workplace or vice versa. Evans at al. identify four kinds of re-contextualisation: content re-contextualisation, pedagogic re-contextualisation, workplace re-contextualisation, learner re-contextualisation (2010,p. 3–p.4). The concept of workplace re-contextualisation is potentially of central import to the public sector (and other) contexts. Herewith a brief explanation of what it entails:

Workplace environments fundamentally affect how knowledge is put to work, and they vary in the nature and quality of learning experience that they afford (Guile 2006). WR takes place through the workplace practices and activities that support knowledge development, and through the mentorship, coaching

and other arrangements through which learners/employees can engage with and learn through workplace environments.
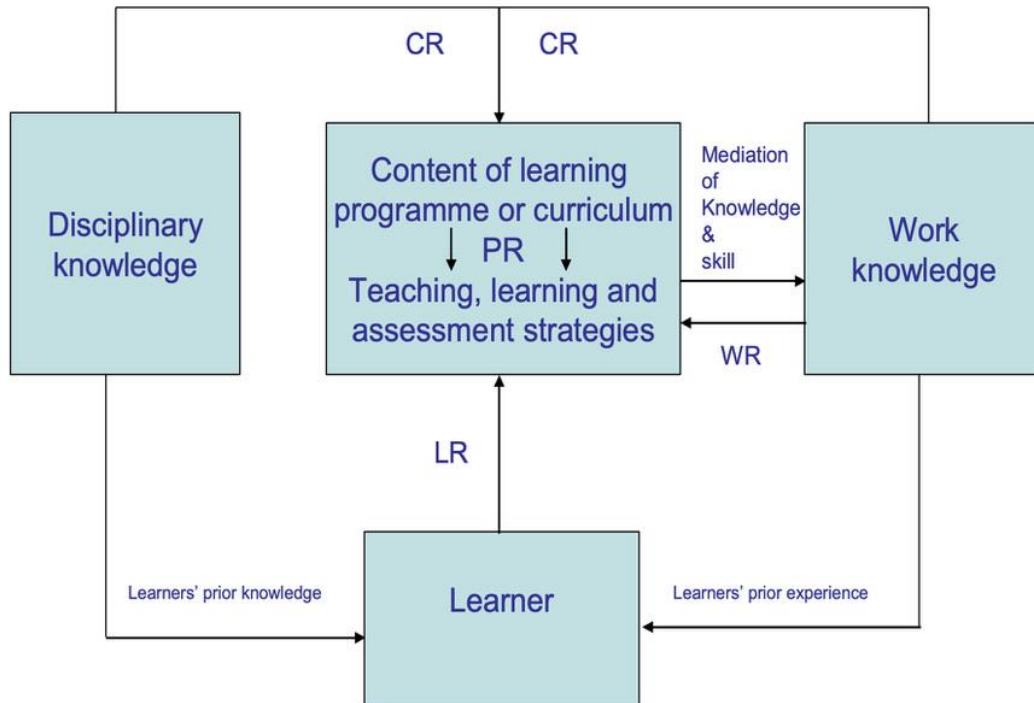
These practices and activities are fundamental to learners beginning to vary and modify existing workplace activities or to develop the confidence and capability to work with others to significantly change those activities. They allow us to see that we constantly 'progressively recontextualise' concepts in activity, for example, the concept of measurement takes many different forms in workplaces hence pedagogic contextualisation requires a range of supports.

*In the workplace, knowledge is embedded in routines, protocols and artifacts* [emphasis added](Evans et al., 2010,p.6)

In the public service sector it would be worth exploring, empirically, how the knowledge acquired at organisations such as the National School of Government is re-contextualised in workplaces. Furthermore what are the organisational and systemic enabling and constraining factors which inhibit or enable effective workplace re-contextualisation? What would constitute effective workplace re-contextualisation in a South African public service context? How can it be effectively monitored and evaluated; over and above the crude measure of successful completion of learning programs? What content and pedagogic re-contextualisation processes are, or need to be, in place to equip public sector employees with the requisite 'transversal skills' to perform not only their specific occupational duties but to deliver on their mandates as 'civil servants' acting in the public good?

The below framework, with additional theoretical and methodological approaches, could assist with thinking through what such a process would entail:

## Putting Knowledge to Work: Framework

```
                    CR            CR
┌──────────────┐   ┌──────────────────────────┐   Mediation   ┌──────────────┐
│              │   │  Content of learning     │   of          │              │
│ Disciplinary │   │  programme or curriculum │   Knowledge   │   Work       │
│ knowledge    │   │         PR               │   &           │   knowledge  │
│              │   │  Teaching, learning and  │   skill       │              │
│              │   │  assessment strategies   │               │              │
└──────────────┘   └──────────────────────────┘               └──────────────┘
                                                     WR
                            LR

  Learners' prior knowledge   ┌──────────────┐   Learners' prior experience
                              │   Learner     │
                              └──────────────┘
```

(Evans et al., 2010, p.3)

In conclusion, it would seem that although there are 'universal' theories, and attendant insights, which could be utilised to better understand the relationship(s) between education and work it is important not to lose sight of contextual nuances and systemic structures. Although there are general patterns between education and work it is not necessarily the case that it applies all the time in all contexts. Theory and concepts are important to understanding education and work in the South African public service sector but are not enough in and of themselves. They can however, as illustrated here, be generative points of departure(and of return) for conceptualising empirical investigations which could lead to policy insights and recommendations which could assist the public service sector, and its multiple and varied institutions, with delivering on its core mandates such as ensuring public servants are empowered to build a strong and capable developmental state.

## Section 7: Conclusion to Literature Review

This literature review has provided a conceptual overview focused on five key concepts: skills, knowledge, jobs, occupations and work. This conceptual overview aim is to inform other phases of the jobs, occupations and qualifications research project such as the development of a framework to classify occupations and qualifications and an occupations and qualifications classification report, OFO electronic tool training (and jobs to occupations map) and the final research report, journal article and editorial.

It also intended as a supplementing, and being 'in conversation with', other research projects which form part of the research chair such as the research projects on e-learning and the Sustainable Development Goals (SDGs). How we view, and frame, the concepts of skills, knowledge, jobs, occupations and work influence how we approach, study and understand specific topics such as the education and training(and/or other systemic and structural interventions) required of a public service sector empowered to achieve the SDGs. Or what the potentialities, limitations or constraining factors related to the implementation of e-learning in the South African public service sector context might be.

This literature review is not intended as a platform to provide definite answers. It is recommended that it be approached as a point of departure for critical debate and discussion within the public service sector. Not only for this specific research project but also for other research projects falling within the coverage of the research chair as well as future research undertakings which endeavour to develop and strengthen skills planning and provision within the South African public services sector.

At present the following policy insights are emerging from the literature review:

1. According to PSETA public sector is in the business of providing 'transversal skills' (i.e., the business of government) which include administration, management, planning, legislation and policy development, which are the focus in driving the development of skills and competencies in areas that will make the delivery of the business of government more effective and efficient (*PSETA-*

*Sector-Skills-Plan-2019-20.Pdf*, n.d.). In the section on knowledge, we argued that procedural knowledge has three dimensions, each which have a critical place in various stages or levels of an occupation. In order to develop these transversal skills, **we argue that all three dimensions of know-how (task skills, polymorphous abilities and project management) must be cultivated in Public sector workers through a focus on the bodies of knowledge that inform their practice.** We suggest that along with work integrated learning, theoretical knowledge in the form of abstract theories and deductive propositions must be blended into public sector training so that workers may possess more than the situated, context specific knowledge of their immediate work contexts. This we have suggested will not only enhance workers' wellbeing but may increase productivity and efficiency in the public sector.

2. In the sector skills plan (SSP 2020-2021) PSETA has highlighted that most hard to fill vacancies are in the senior management services level which is primarily made up of senior government officials, Finance Managers, Project Managers, and Policy and Planning Managers (*PSETA-Sector-Skills-Plan-2019-20.Pdf*, n.d., p. 66). We have argued that all know-how is intimately linked with judgement since the application of systematic knowledge relies on a person's ability to make decisions that they can justify by referring to a chain of reasoning that goes beyond specific contexts and knowing the conceptual classifications (systematic knowledge) connected with those decisions which can then be called upon if a decision needs to be changed or to account to team members. We argue that in order for workers to adequately perform their tasks and duties, workers must have access to 'a reservoir of deductive propositions or bodies of knowledge' (systematic knowledge) that workers can use in their practice. This then implies **that formal knowledge is a necessary condition for practice, meaning that formal knowledge is not a by-product of practice but is actually the prerequisite of practice.** For the public sector this would mean avoiding an overemphasis on work-based learning in training and cultivating a mutually reinforcing relationship between knowledge-how and knowledge that within its labour force to improve overall productivity and well-being.

3. It is argued that one of the challenges for VET students is that TVET college graduates remain largely unemployable in the Public Service Sector due to minimum entry requirements and not meeting the employers' expectations in terms of skill requirements (*PSETA-Sector-Skills-Plan-2019-20.Pdf*, n.d., p. 66). We have suggested that one way to circumvent this challenge is to give VET students access to 'powerful knowledge'. **We have argued that 'powerful knowledge' (theoretical knowledge in its socio-transformative capacity) allows those that have access to it to generate facts that are anchored in the objective methods of their peer-communities; the findings from these then become avenues for debates about alternative policies and innovative practices.** We suggest that it is the focus on largely context-specific procedural knowledge in VET that contributes to the inflexibility of VET graduates in meeting employer demands. We have argued that giving VET students access to powerful knowledge will enable them to be innovative and creative and thus contribute to their employability.

4. One of the skill priority areas for the public service sector it to "implement workplace-based learning programmes in building the workplace into a training space" (*PSETA-Sector-Skills-Plan-2019-20.Pdf*, n.d., p. 68). This includes increasing access to occupationally directed programmes and encouraging better use of workplace-based skills development (*PSETA-Sector-Skills-Plan-2019-20.Pdf*, n.d., p. 68). **We have suggested that occupationally directed programmes must be foregrounded by the bodies of knowledge that inform these specific occupations because as much as WIL contributes substantially to the formation of tacit skills (and knowledge) without theoretical knowledge, the transferability of skills will be difficult.** This would then mean that firstly, workers must be able to recognise the workplace and educational institutions as two equally important sites of learning, secondly they must appreciate the types of knowledge encapsulated within each (theoretical knowledge that underpins practice in the former and contextually specific applications of this knowledge in the latter), thirdly, workers must able to distinguish the two sites from one another and thus gain access to the ability to use each in its appropriate setting and navigate the boundaries between the two (Wheelahan, 2015, p. 759). This then means that practice-based learning

must face two directions simultaneously, it must move from being vocational learning to being applied disciplinary knowledge (Wheelahan, 2015, p. 759)

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# APPROVAL OF RESEARCH REPORT BY CEO

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|---|---|
| **Recommendation(s)** | Approved/~~Not Approved~~ |
| **Comments:** **Report approved** | |
| **Signature** | |
| **Name and surname** | **Ms Bontle Lerumo** |
| **Date** | **31 March 2021** |