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Bridging the skills gap: Strategies to increase TVET enrolment in South Africa

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ABSTRACT

South Africa's technical and vocational education and training (TVET) sector remains under-enrolled, with preliminary 2025/26 headcount enrolment of 432 505 falling below the National Development Plan (NDP) 2030 target of 2 500 000. This article argues that the binding constraint on enrolment is supply-side and institutional – enrolment capping driven by funding limitations and lecturer vacancies – rather than demand-side failure. Drawing on credentialism, social cognitive career, human capital and systems theories operating at distinct analytical levels, the article develops a conceptual model spanning demand-side perceptions, supply-side and institutional constraints, and the labour market interface. Department of Higher Education and Training (DHET) data reveal that 24.9% of TVET lecturer posts were vacant in 2024, R580 million was returned to the National Treasury over two years due to underspending and per capita National Student Financial Aid Scheme (NSFAS) allocation to TVET students was about one-third the university level. The article proposes strategies such as lifting enrolment caps, expanding NSFAS capacity, professionalising the TVET lecturer workforce and realigning the Quality Council for Trades and Occupations (QCTO) qualification transition to address the supply-side bottlenecks that constrain the sector's capacity to absorb latent demand, which South African scholarship shows is socially produced and structurally mediated.

Keywords: NEET youth, funding asymmetry, QCTO transition, conceptual model, post-school education, occupational qualifications

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Introduction

South Africa faces a persistent and deepening skills mismatch that constrains economic growth, exacerbates unemployment and perpetuates inequality. Despite the National Development Plan (NDP) target of producing 30 000 artisans annually and enrolling 2 500 000 students in technical and vocational education and training (TVET) colleges by 2030, the sector remains chronically under-enrolled (NPC, 2012). Preliminary headcount enrolment for 2025/26 stands at 432 505, a figure still subject to validation across all 50 colleges according to the parliamentary response of the minister of higher education and training (Manamela, 2026). This is in contrast to a funded target of 480 547 (DHET, 2025). The 2025/26 enrolment thus represents a shortfall of approximately 83% relative to the NDP target, which raises fundamental questions about whether the constraint lies primarily on the demand side, as is commonly assumed, or on the supply side.

The prevailing policy narrative frames TVET under-enrolment as a demand-side problem rooted in societal stigma, poor perceptions of vocational education and a cultural preference for university qualifications (Makola et al., 2023; Tlapana & Myeki, 2020). While these perceptions are real and documented, this article argues that they constitute a necessary but insufficient explanation. The evidence suggests that the binding constraint is in fact supply-side: enrolment capping driven by funding limitations, lecturer vacancies and institutional capacity deficits that prevent the TVET system from absorbing the latent demand that demonstrably exists. Approximately 3.5 million young South Africans aged 15 to 24 are not in employment, education or training (NEET), according to Statistics South Africa's (Stats SA's) Quarterly Labour Force Survey for Q1 2022 (Stats SA, 2022), which is a substantial pool of potential TVET candidates whose access is structurally constrained rather than voluntarily withheld.

This article acknowledges that the demand–supply distinction, while analytically useful, does not capture the full complexity of the TVET enrolment challenge. Supply-side deficiencies – including lecturer shortages, poor infrastructure and weak graduate outcomes – simultaneously shape perceptions of TVET and therefore influence demand, creating feedback loops that the conceptual model is designed to capture. The article develops an integrated analytical framework drawing on credentialism theory, social cognitive career theory (SCCT), human capital theory and systems theory to map the interconnected factors influencing TVET enrolment. The resulting conceptual model (Figure 1) identifies three domains: demand-side perceptions, supply-side and institutional constraints, and the labour market interface, all situated within a broader macro-context. The analysis suggests that, while demand-side interventions are necessary, they are unlikely to succeed without first addressing the supply-side bottlenecks that cap enrolment and undermine programme quality. The article concludes with evidence-informed strategies prioritising the lifting of enrolment caps, expansion of National Student Financial Aid Scheme (NSFAS) capacity, professionalisation of the TVET lecturer workforce and realignment of the Quality Council for Trades and Occupations (QCTO) qualification transition.

Literature review and theoretical framework

The TVET enrolment paradox: Demand versus supply

A substantial body of literature attributes TVET under-enrolment to demand-side factors, particularly societal stigma and the cultural premium attached to university education. Tlapana and Myeki (2020) document the pervasive perception that TVET qualifications are inferior to university degrees, while Makola et al. (2023) identify parental influence, peer pressure and limited career guidance as key deterrents. These findings are consistent with international evidence from sub-Saharan Africa, where vocational education is widely perceived as a second-chance option for academic underperformers (Atchoarena & Delluc, 2001; Oketch, 2007). The demand-side narrative is reinforced by South Africa's credentialism dynamic, in which employers and society alike privilege formal academic credentials over occupational competence (Collins, 1979; Kraak, 2008). However, as McGrath (2012) has argued, vocational education and training (VET) policy in developing countries is frequently grounded in outmoded development models that assume skills supply will automatically meet demand, thus neglecting the structural constraints that limit the system's capacity to deliver.

South African scholarship on student demand for TVET

A growing body of South African scholarship has demonstrated that student demand for TVET is considerably more complex than the stigma narrative suggests. Powell and McGrath (2014), drawing on interviews with further education and training (FET) college students, argue that enrolment decisions are embedded in 'life projects' that extend beyond narrow employability to include community contribution, self-esteem and family responsibility. The work of these authors therefore challenges deficit-based accounts that frame TVET entrants as academic failures. The major Department of Higher Education and Training (DHET)-commissioned study by Powell et al. (2024) provides the most direct empirical engagement with student demand to date, documenting enormous unmet demand and finding that large proportions of applicants who meet entrance requirements are nevertheless rejected because of supply-side capacity limits. Sibiya et al. (2021) extend this picture by examining TVET engineering students' perceptions of their qualifications and employment prospects, finding divergent and ambivalent views shaped by labour market conditions as much as by intrinsic interest in the trade. Collectively, this literature shows that student demand itself is socially produced, aspirationally mediated and shaped by broader structural and institutional factors, including the very supply-side deficiencies this article centres on. The present analysis builds on these findings by foregrounding the feedback loops through which supply-side constraints depress, distort and reshape student demand. Maluleke (2021), although focusing on lecturer rather than student career development, underscores the same point through his application of careership theory to TVET colleges: decisions to enter and remain within the TVET system are structurally and biographically co-produced.

However, demand-side explanations cannot account for the structural reality that hundreds of thousands of qualifying applicants are turned away from TVET colleges annually because of enrolment caps. DHET data indicate that the TVET sector has never exceeded the 702 383 headcount enrolment achieved in 2014 and has since contracted significantly (DHET, 2025). The funded enrolment target for 2023/24 was 557 035, while actual enrolment was 564 089, suggesting that demand marginally exceeded funded capacity even at these depressed levels. This pattern is inconsistent with a purely demand-side diagnosis: if students were unwilling to enrol, funded targets would not be met or exceeded. The evidence points instead to a supply-side constraint that rations access below the level of latent demand.

Credentialism theory and TVET stigmatisation

Credentialism theory, as articulated by Collins (1979), suggests that educational qualifications function primarily as status markers rather than as accurate signals of productive competence. In the South African context, Kraak (2008) argues that credentialism drives a qualitative hierarchy of qualifications in which university degrees are positioned at the apex and TVET certificates at the base, irrespective of labour market demand. This hierarchy is reinforced by historical patterns of racialised access to education under apartheid, where university education was reserved for white South Africans and vocational training was imposed on black communities as a mechanism of labour control (Allais, 2012). The legacy of this history continues to shape perceptions: TVET colleges are widely seen as institutions of last resort rather than as pathways to skilled employment. Wheelahan (2007) extends this analysis by demonstrating how competency-based training frameworks structurally deny vocational students access to theoretical knowledge, reproducing class-based hierarchies between academic and vocational pathways and undermining genuine parity of esteem.

The implications for enrolment are significant but nuanced. Credentialism explains why TVET qualifications are culturally devalued and why students with the option to pursue university education overwhelmingly do so. However, it does not explain why the millions of young people who do not qualify for university admission, and who are currently NEET, are not enrolling in TVET programmes. The gap between the 3.5 million NEET youth and the approximately 432 505 enrolled in TVET colleges suggests that the barrier is not solely attitudinal; it is also structural. Enrolment caps, funding constraints and institutional capacity deficits prevent the TVET system from absorbing the demand that exists, even after accounting for the credentialism discount. Allais (2024) has recently shown how globally borrowed VET policy tools have further undermined local institutional capacity in South Africa, deepening rather than resolving this structural gap.

Social cognitive career theory and occupational choice

Social cognitive career theory (SCCT), developed by Lent et al. (1994), provides a framework for understanding how self-efficacy beliefs, outcome expectations and contextual barriers shape career choices. In the TVET context, SCCT suggests that students' decisions to pursue vocational education are influenced by their confidence in their ability to succeed in technical programmes (self-efficacy), their expectations about the employment outcomes of TVET qualifications (outcome expectations) and the structural barriers they encounter (contextual factors). Research by Makola et al. (2023) confirms that South African students perceive significant barriers to TVET participation, including inadequate career guidance, limited programme information and concerns about programme quality.

SCCT is particularly useful for understanding the interaction between demand-side perceptions and supply-side constraints. Students who encounter poor facilities, high lecturer vacancy rates and inadequate equipment at TVET colleges receive negative efficacy signals that reinforce their pre-existing doubts about the value of vocational education. Supply-side deficiencies do not merely limit access; they actively undermine demand by creating a negative feedback loop. The 24.9% lecturer vacancy rate in 2024 (DHET, 2023; Taylor & Sadeck, 2024) is not simply a capacity constraint; it is also a perceptual barrier that discourages potential applicants, who interpret staff shortages as evidence of institutional dysfunction. Similarly, the return of R580 million to the National Treasury over two financial years owing to underspending (PMG, 2024) signals administrative incapacity that damages the sector's reputation. This feedback dynamic challenges any rigid distinction between supply and demand: the two are causally intertwined.

Human capital theory and the skills gap

Human capital theory (Becker, 1964; Schultz, 1961) provides the foundational economic rationale for public investment in TVET. The theory holds that education and training increase individual productivity and earnings, generating returns both for the individual and for society. In the South African context, the skills gap is conventionally understood as a mismatch between the skills produced by the education system and those demanded by the labour market (DHET, 2024a). The 2024 National List of Occupations in High Demand (N-OIHD), published in Government Gazette No. 50510, identifies critical-shortage occupations that TVET colleges are well positioned to address, including occupations such as electrician, welder, plumber and information and communications technology (ICT) technician (DHET, 2024c).

However, human capital theory's assumption of rational investment decisions by individuals breaks down when structural constraints prevent access to education. The theory predicts that individuals will invest in education when the expected returns exceed the costs. However, this calculation is irrelevant when enrolment slots are unavailable. The current situation, in which TVET colleges are capped well below the level of demand, represents a market failure that

human capital theory alone cannot resolve. Public intervention is required to expand supply capacity. Wheelahan (2015) has further argued that an exclusive focus on skills in VET policy – without attention to the knowledge architecture that underpins occupational competence – limits the transformative potential of vocational education.

Systems theory and the TVET ecosystem

Systems theory (Von Bertalanffy, 1968) provides the integrative framework for understanding TVET enrolment as an emergent property of multiple interacting subsystems. The TVET ecosystem comprises interdependent components, including government policy, institutional capacity, labour market dynamics, societal values and individual decision-making processes. Changes in any one component propagate through the system, generating feedback loops that can amplify or dampen enrolment trends. For example, underfunding of TVET colleges reduces programme quality, which depresses enrolment, which reduces political support for TVET funding, which further reduces programme quality, all in a self-reinforcing cycle of decline.

The systems perspective is essential for understanding why isolated interventions have consistently failed to increase TVET enrolment. Efforts to improve the sector's image through marketing campaigns cannot succeed if the underlying institutional capacity is insufficient to absorb additional students. Similarly, increasing NSFAS bursary amounts is futile if there are no lecturers to teach the additional students that the bursaries would attract. The conceptual model presented in this article (Figure 1) reflects this systemic understanding by situating the three domains of demand, supply and labour market interface within a macro-contextual envelope and by specifying the feedback mechanisms that connect them.

Theoretical integration: Rationale for the multi-theoretical framework

The four theories are not merely listed in sequence; they are integrated through a layered analytical architecture in which each theory operates at a distinct explanatory level and the conceptual model specifies the causal pathways that connect them. Credentialism theory (Collins, 1979; Kraak, 2008) operates at the macro-social level, explaining the cultural devaluation of vocational qualifications; SCCT (Lent et al., 1994) operates at the micro-individual level, specifying the mechanisms such as self-efficacy, outcome expectations and contextual barriers through which macro-cultural devaluation is translated into individual occupational choices; human capital theory (Becker, 1964) operates at the meso-economic level, linking individual choices to labour market outcomes; and systems theory (Von Bertalanffy, 1968) operates at the integrative meta-level, specifying the feedback loops through which outcomes at one level propagate to and reshape conditions at the other levels. Integration is achieved not by collapsing these theories into a single framework but by assigning each a specified analytical role within the conceptual model (Figure 1): Credentialism and SCCT jointly illuminate the demand-side domain; human capital theory illuminates the labour market interface; and systems theory binds all three domains through bidirectional causal arrows. This layered architecture resolves the theoretical pluralism concern by ensuring

that each theory is invoked only for the analytical question it is best equipped to answer, while the model specifies the inter-theoretic bridges that constitute the article's explanatory contribution.

Methodology

This article adopts a conceptual policy analysis approach, situated within the interpretive policy analysis tradition (Yanow, 2000) and combining a structured review of theoretical literature with analysis of publicly available secondary data from DHET annual reports and statistical publications (DHET, 2024a; DHET, 2025), DHET policy documents, including the N-OIHD (DHET, 2024c), Parliamentary Monitoring Group (PMG) records (PMG, 2024) and published academic research on TVET enrolment, demand and institutional capacity. The approach is consistent with the conceptual policy analysis genre recognised in the VET research literature (McGrath & Yamada, 2023) and serves the purpose of reframing policy debates by bringing new analytical lenses to bear on existing evidence. The analysis is subject to the usual limitations of secondary data, including reporting lags and inconsistencies between sources, which are discussed in the 'Limitations' section.

Conceptual model

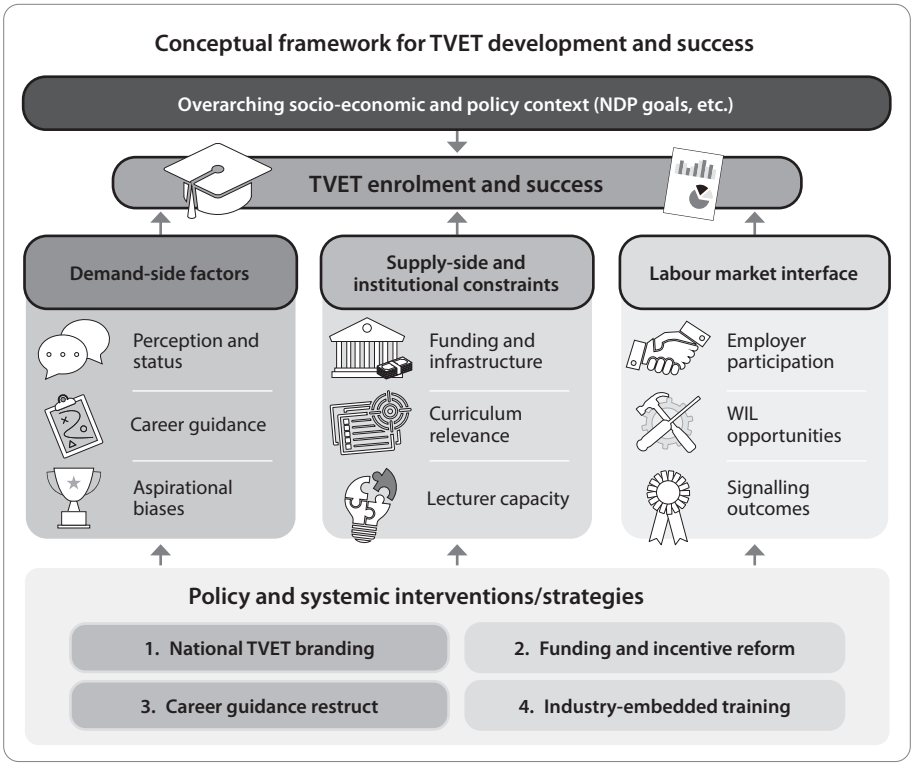
Figure 1 presents the conceptual model developed through the integration of the four theoretical perspectives discussed above. The model identifies three primary domains that influence TVET enrolment: demand-side perceptions, supply-side and institutional constraints, and the labour market interface. These domains are situated within a broader macro-context encompassing policy frameworks, societal values and economic conditions. Bidirectional arrows between the central node and each domain indicate mutual causation, while dashed feedback loops illustrate the systemic interactions that amplify or dampen enrolment dynamics.

The model designates supply-side and institutional constraints as the primary binding constraint, visually indicated by the heavier border around this node (Figure 1 note). This designation is based on the empirical evidence presented below: latent demand for TVET places exceeds funded supply, enrolment caps are the direct mechanism by which demand is rationed and institutional capacity deficits – particularly lecturer vacancies and infrastructure backlogs – are the proximate cause of enrolment capping. The model captures the mutual constitution of supply and demand: supply-side deficiencies shape demand-side perceptions, meaning that the distinction between supply and demand is analytical rather than ontological.

The macro-context node acknowledges that all three domains operate within a broader environment shaped by national policy (including the QCTO qualification transition), societal values (including credentialism and the cultural premium on university education) and economic conditions. Feedback from the macro-context to the supply side reflects the policy-funding nexus, while feedback from the supply side to the macro-context reflects the

reality that institutional failures undermine political confidence in the TVET system. The bidirectional relationship between demand-side perceptions and the labour market interface captures the dynamic whereby employment outcomes shape perceptions of TVET value and perceptions, in turn, influence the supply of labour to vocational occupations.

Figure 1
Conceptual model of factors influencing TVET enrolment in South Africa



Note: The supply-side and institutional constraints node is visually emphasised (heavier border) to indicate its designation as the primary binding constraint, based on the evidence presented in this article.

Demand-side perceptions of TVET

Societal stigma and the cultural premium on university education

The demand-side literature consistently identifies societal stigma as the primary perceptual barrier to TVET enrolment. In South Africa, TVET colleges are widely perceived as inferior alternatives to universities, a perception rooted in both the colonial and apartheid legacies of racialised education and the contemporary dynamics of credentialism (Allais 2012; Kraak, 2008). Tlapana and Myeki (2020) found that parents, teachers and career guidance counsellors

actively dissuade students from considering TVET pathways, characterising vocational education as suitable only for those who fail to meet university admission requirements. As McGrath et al. (2004) document, the apartheid-era legacy of technical education as a mechanism of labour control for black workers continues to shape contemporary attitudes and post-1994 reforms have not succeeded in overcoming this historical imprint.

The cultural premium on university education is reflected in application patterns. Despite the NDP's emphasis on expanding TVET enrolment, the vast majority of school leavers who qualify for university admission apply to universities first, with TVET colleges considered only as a fallback. The South African Qualifications Authority (SAQA) has noted that the National Qualifications Framework (NQF) has not succeeded in establishing parity of esteem between vocational and academic qualifications (SAQA, 2023). Wheelahan (2015) argues that genuine parity of esteem requires substantive access to theoretical knowledge within vocational programmes, a condition that is far from being met in South Africa. The challenge is compounded by employer behaviour: many employers continue to require university degrees for positions that could be performed by TVET graduates, thereby perpetuating the credentialist bias in hiring practices.

The NEET population and latent demand

The scale of the NEET population provides the strongest evidence that demand for post-school education and training substantially exceeds current TVET capacity. Statistics South Africa's Quarterly Labour Force Survey for Q1 2022 reported approximately 3.5 million young people aged 15 to 24 who were not in employment, education or training (Stats SA, 2022). Subsequent data suggest that this figure has continued to rise, reaching approximately 3.82 million by Q1 2025 (Stats SA, 2025; UCT Children's Institute, 2024). The NEET population represents a vast reservoir of latent demand for TVET programmes that is not being captured because of structural supply-side constraints and not because of insufficient interest in vocational education.

Critically, the NEET population is not composed exclusively of individuals who have rejected TVET education. Many NEET youth have attempted to enrol in TVET colleges but have been turned away because of enrolment caps, programme closures or the unavailability of their desired programme at a nearby college. Others are deterred by the poor conditions they observe during the application process: overcrowded facilities, insufficient equipment and evidence of staff shortages. These observations are consistent with SCCT, which predicts that contextual barriers reduce self-efficacy and lower outcome expectations, thereby depressing enrolment intentions even among individuals who would otherwise be motivated to pursue vocational education. This dynamic illustrates the difficulty of maintaining a rigid demand–supply distinction: what appears as insufficient demand is, in part, a demand-side effect of supply-side deficiencies.

Supply-side and institutional constraints

Enrolment capping as the binding constraint

The most direct mechanism by which supply-side factors constrain TVET enrolment is the system of enrolment capping imposed by DHET. Colleges are assigned annual, funded enrolment targets based on the available budget and colleges that exceed these targets do not receive additional funding for the excess students. The practical effect is that colleges are financially incentivised to limit enrolment to the funded target, regardless of the level of demand. Table 1 summarises the funded and actual enrolment figures for recent years, demonstrating that actual enrolment has consistently remained close to or slightly above the funded target, suggesting that the cap, rather than demand, is the operative constraint.

Table 1
TVET college-funded targets and actual headcount enrolment, 2014–2025/26

Year	Funded target	Actual headcount	Variance
2014	610 000 (estimated)	702 383	+92 383
2019	~603 000	~603 000	Approximately at target
2021/22	568 569	589 083	+20 514 (+3.6%)
2022	582 048	518 584	–63 464 (–10.9%)
2023	557 035	564 089	+7 054
2025/26	480 547	432 505 (prelim.)	–48 042

Sources: DHET (2025); PMG (2024); Manamela (2026). The 2019 funded target is approximate and should be confirmed from DHET annual reports. The 2025/26 actual headcount is preliminary and subject to validation across all 50 colleges.

The data in Table 1 reveal several patterns. First, the 2014 peak of 702 383 was achieved during a period of relatively generous funding. However, subsequent budget constraints led to a sharp contraction in funded targets and actual enrolment. Second, the 2021/22 figure of 589 083, confirmed by parliamentary data (Manamela, 2026), represents a recovery that interrupts the narrative of uninterrupted decline. Nevertheless, this recovery was short-lived, as enrolment fell to 518 584 in 2022 before recovering to 564 089 in 2023. Third, the preliminary 2025/26 figure of 432 505 represents a sharp decline even from the reduced funded target of 480 547, suggesting that the system is now underperforming relative to its own diminished capacity targets. The gap between the NDP target of 2 500 000 and actual enrolment of 432 505 in 2025/26 is 82.7%, indicating that the NDP goal appears increasingly unachievable without a fundamental restructuring of TVET funding and capacity.

Lecturer vacancies and teaching capacity

The second major supply-side constraint is the acute shortage of qualified lecturers. DHET data indicate that 24.9% of TVET lecturer posts were vacant in 2024, representing a significant erosion of teaching capacity (DHET, 2023; Taylor & Sadeck, 2024). This vacancy rate means that, even where physical infrastructure and funding exist to enrol additional students, the absence of qualified lecturers prevents colleges from offering the necessary instructional hours. The vacancy rate is particularly acute in technical and engineering subjects, where the gap between TVET lecturer remuneration and private-sector salaries is widest.

Table 2
TVET lecturer workforce and institutional capacity indicators

Indicator	Value	Source
Lecturer vacancy rate (2024)	24.9%	DHET, 2023; Taylor & Sadeck, 2024
Eastern Cape: Acting principals	7 out of 8 colleges	PMG, 2024
Lecturers without required qualifications	Estimated as >30%	DHET, 2024b
Average lecturer-to-student ratio (target)	1:30	DHET norm
Average lecturer-to-student ratio (actual)	1:35–1:40 (estimated)	Calculated from DHET data

Sources: DHET (2023, 2024b); Taylor & Sadeck (2024); PMG (2024). The lecturer-to-student ratio is estimated from headcount enrolment and filled posts and may vary by programme.

The institutional capacity crisis is further illustrated by the situation in the Eastern Cape, where seven of the province's eight TVET colleges were operating with acting principals as of 2024 (PMG, 2024). This level of leadership instability undermines strategic planning, financial management and academic governance, creating a vicious cycle in which poor management leads to underperformance, which further erodes political and financial support. The return of R580 million to the National Treasury over two financial years owing to underspending is symptomatic of this dysfunction: colleges with acting principals and vacant lecturer posts are unable to spend their allocated budgets effectively, creating the perverse situation in which the sector is both underfunded and underspending simultaneously.

Funding asymmetries: TVET sector versus university sector

The funding disparity between the TVET and university sectors is stark and provides compelling evidence of the supply-side constraint. Table 3 presents comparative DHET and NSFAS allocation data, revealing that per capita DHET spending on TVET students is less than 60% of the university level, while the average NSFAS bursary for TVET students is approximately one-third of that received by university students. This disparity persists

despite the NDP's explicit commitment to expanding TVET as a proportion of post-school education and training. The table also includes the approximate distribution of enrolment across the major post-school subsystems to contextualise the TVET sector's relative size.

Table 3
Comparative funding allocations and post-school enrolment distribution, 2023/24

Category	Universities	TVET colleges	Other/notes
DHET allocation 2023/24 (R billion)	R44.63	R12.8	DHET, 2024a
NSFAS total allocation 2023/24 (R billion, estimated)	R48.6	R13.70	NSFAS Annual Report
NSFAS-funded students 2023/24	~480 000	~450 000	Estimated
Average NSFAS bursary per student	~R101 000	~R30 400	Ratio approximately 3.3:1
Per capita DHET allocation	~R40 600	~R23 000	Ratio approximately 1.8:1
Headcount enrolment (approximate)	~1 100 000	564 089 (2023)	Council on Higher Education (CHE), 2022; DHET, 2025
Share of post-school enrolment	50%	26%	Approximate
Private higher education institutions (HEIs) and colleges			~150 000 (7%)
Programmes funded by sector education and training authorities (SETAs)			~300 000 (14%)
Community education and training (CET) colleges			~80 000 (4%)

Sources: DHET (2024a, 2025); CHE (2022); NSFAS Annual Report 2023/24; SETA annual reports. Figures are approximate and drawn from different reporting periods. NSFAS figures are estimated from the most recently available annual reports.

The funding asymmetry has direct implications for enrolment capacity. Universities receive substantially more per student than TVET colleges, enabling them to offer better facilities, smaller classes and more attractive working conditions. The disparity is compounded by the NSFAS allocation pattern, where university students receive significantly higher bursary values than their TVET counterparts, despite the fact that TVET students are overwhelmingly from lower-income households. The per capita funding gap is a structural barrier that prevents the TVET sector from expanding its capacity to absorb latent demand. At approximately

R30 400 per annum for TVET students, the NSFAS allocation is insufficient to cover the full cost of education, including accommodation, transport and learning materials, thereby contributing to high dropout rates.

Infrastructure and equipment backlogs

Infrastructure deficiencies constitute a further supply-side constraint that limits both enrolment capacity and programme quality. Many TVET colleges operate in ageing buildings with outdated or broken equipment, particularly in workshop-based programmes such as engineering, construction and hospitality. DHET's own assessments have identified significant infrastructure backlogs across the TVET college system, with some colleges unable to offer certain high-demand programmes because they lack the necessary workshops, laboratories or specialist equipment (DHET, 2024b). These backlogs are both a capacity constraint, limiting the number of students who can be accommodated, and a quality constraint, undermining the learning outcomes and employability of those who are enrolled.

The infrastructure problem is compounded by the QCTO qualification transition, which requires colleges to adapt their facilities and equipment to meet the requirements of the new occupational qualifications. Government Gazette No. 51771 (December 2024) provides the regulatory framework, but the costs of compliance – including retooling workshops, updating curricula and retraining lecturers – impose additional burdens on an already resource-constrained system. The risk is that the QCTO transition, while theoretically sound in its aim of aligning qualifications with occupational standards, could in practice further reduce enrolment capacity if colleges are unable to meet the new requirements within existing budget constraints.

Programme-level complexities: NC(V), NATED and NSFAS dynamics

The analysis thus far has treated TVET enrolment as a single aggregate, but the sector comprises distinct programme types with different enrolment dynamics, completion rates and funding implications. The two principal programme types are the National Certificate (Vocational), known as NC(V), introduced from 2007 as the preferred curriculum for TVET colleges, and the NATED (National Accredited Technical Education Diploma) (Report 191) programmes, which are legacy qualifications dating from the apartheid-era technical college system that consist of stand-alone, trimester-based subjects. Enrolment dynamics differ significantly: NC(V) enrolment has generally declined as colleges have struggled to implement the curriculum effectively, while NATED enrolment has proved more resilient, partly because the modular structure allows students to combine study with employment (Akoojee, 2008; Garraway, 2022).

Throughput rates at TVET colleges are low: a significant proportion of students who enrol do not complete within the minimum time and many do not complete at all. Garraway (2015) has documented the difficulties students face in transitioning between college and workplace

practicums, which contribute to extended programme durations and high attrition rates. Low completion rates mean that the effective output of the TVET system is substantially lower than headcount enrolment figures suggest. NSFAS dynamics further complicate the picture: NSFAS bursary administration has been characterised by delays and errors that disrupt registration. Moreover, the relatively low TVET bursary value (approximately R30 400 per annum as against R101 000 for university students) means that even funded students may be unable to cover living costs, thus contributing to dropout. These dynamics illustrate that the boundary between supply-side and demand-side constraints is blurred: NSFAS is a supply-side funding mechanism, but its inadequacy generates demand-side effects by depressing enrolment and retention.

Labour market interface

Occupations in high demand

The labour market provides both the demand signal for TVET programmes and the outcome measure by which TVET success is judged. The 2024 N-OIHD, published in Government Gazette No. 50510, identifies the occupational categories where labour market demand significantly exceeds supply (DHET, 2024c). Table 4 presents selected high-demand occupations relevant to TVET programme offerings, based on the official N-OIHD rankings.

Table 4
Selected occupations in high demand aligned with TVET programme offerings

Occupation	OFO code	Demand category
Electrician	6711	High demand
Welder	7212	High demand
Plumber	6426	High demand
ICT technician	3514	High demand
Diesel mechanic	6533	High demand
Chef	5120	High demand
Automotive motor mechanic	6531	High demand
Boilermaker	6513	High demand
Fitter and turner	6523	High demand

Sources: DHET (2024c); N-OIHD, Government Gazette No. 50510. 'OFO codes' refers to the four-digit Organising Framework for Occupations (OFO) groups used in the South African classification system. Occupations marked with an asterisk (*) in the gazette also have a comparatively large number of unemployed individuals on the Employment Services of South Africa (ESSA) database.

The alignment between high-demand occupations and TVET programme offerings suggests that the TVET system is theoretically well positioned to address labour market shortages. However, the supply-side constraints identified above prevent the system from producing sufficient graduates to meet demand. The consequence is a paradox in which the labour market signals a clear need for TVET graduates while the education system is unable to respond because of funding and capacity limitations. This paradox reinforces the present article's central argument: the binding constraint appears to be on the supply side, though this constraint generates demand-side effects through the feedback mechanisms identified in the conceptual model.

Employer perceptions and graduate outcomes

Employer perceptions of TVET graduates are a critical component of the labour market interface. Research consistently finds that South African employers rate TVET graduates as inadequately prepared for the workplace, citing deficits in practical skills, workplace readiness and problem-solving ability (DHET, 2017; DHET, 2024a). These perceptions, whether fully justified or not, feed back into the demand side by reinforcing the stigma against TVET qualifications: students who observe that TVET graduates struggle to find employment are less likely to view TVET as a worthwhile investment. This feedback loop is captured in the conceptual model (Figure 1) through the bidirectional arrows between the labour market interface and demand-side perceptions.

Graduate outcome data, though limited by poor tracking systems, support the concern about TVET graduate employability. DHET's own research acknowledges that the transition from TVET college to employment is often prolonged and that many graduates end up in low-skilled jobs unrelated to their field of study (DHET, 2024a). This outcome is partly attributable to the quality constraints imposed by supply-side deficiencies: underqualified lecturers, outdated equipment and inadequate work-integrated learning (WIL) opportunities all contribute to graduate outcomes that fall short of labour market requirements. Once again, the demand–supply interaction is central: poor graduate outcomes (a supply-side quality issue) drive negative perceptions (a demand-side effect).

Enrolment trends and the NDP target

Table 5 presents the long-term enrolment trend data, including the shortfall relative to the NDP 2030 target. The addition of the 2021/22 data point (589 083) reveals that the decline in enrolment was not monotonic: the 2021/22 recovery to 589 083 exceeded the funded target of 568 569 by 3.6%, indicating that the system was capable of absorbing additional students when funded to do so. However, this recovery proved unsustainable and enrolment fell back to 518 584 in 2022 before partially recovering to 564 089 in 2023.

The trend data in Table 5 are consistent with the article's central argument. Enrolment peaked in 2014 at 702 383 and has since declined, with only the 2021/22 year showing a

meaningful recovery. The NDP 2030 target of 2 500 000 appears increasingly unattainable: at current rates of decline, enrolment would need to increase by a factor of approximately 5.8 times over the remaining five years to meet the target, a rate of growth that is unprecedented in the sector's history and infeasible without massive additional investment. The shortfall as a percentage of the NDP target has increased from 71.9% in 2014 to 82.7% in 2025/26, indicating that the gap is widening rather than narrowing.

Table 5
TVET college headcount enrolment trends and shortfall relative to NDP 2030 Target

Year	Actual headcount	Shortfall as % of NDP target
2014	702 383	71.9%
2019	~603 000	75.9%
2021/22	589 083	76.4%
2022	518 584	79.3%
2023	564 089	77.4%
2025/26	432 505 (preliminary)	82.7%

Sources: DHET (2025); PMG (2024). The 2019 figure is approximate and should be confirmed from DHET annual reports. The 2025/26 figure is preliminary and subject to validation. 'Shortfall as % of NDP target' is calculated as (2 500 000 minus actual) divided by 2 500 000, multiplied by 100.

Strategies to increase TVET enrolment

Lifting enrolment caps and expanding funded capacity

The most direct strategy for increasing TVET enrolment is to lift the enrolment caps that currently constrain the system. This requires a fundamental increase in the TVET sector's funded enrolment target, which has been progressively reduced from approximately 610 000 in 2014 to 480 547 in 2025/26. Restoring the funded target to at least its 2014 level would require an estimated additional R6 billion to R8 billion in annual DHET funding, based on current per capita allocation rates. While this is a significant sum, it represents a fraction of the R44.63 billion allocated to universities in 2023/24 and would be partly offset by reduced social grant expenditure and increased tax revenue from higher employment rates among TVET graduates.

Lifting enrolment caps must be accompanied by measures to ensure that colleges have the institutional capacity to absorb additional students. This includes filling the 24.9% of lecturer posts that are currently vacant, expanding physical infrastructure and providing the equipment and learning materials necessary to maintain programme quality at higher enrolment levels. The experience of the 2021/22 academic year, in which enrolment recovered to 589 083 against a funded target of 568 569, demonstrates that the system can absorb

additional students when resources are made available. The subsequent decline in 2022 and the sharp drop in 2025/26 reflect the consequences of failing to sustain that investment.

Expanding NSFAS capacity and equity in bursary allocation

Reform of the NSFAS is essential for both increasing enrolment and improving retention. The current disparity in average bursary per student – approximately R101 000 for university students versus R30 400 for TVET students – creates a perverse incentive structure in which financially needy students are incentivised to pursue university education, where the financial support is more generous, rather than TVET education, where the labour market demand is greater. Rebalancing NSFAS allocations to achieve greater parity between university and TVET bursary values would remove this distortion and enable more TVET students to complete their studies without financial hardship.

In addition to increasing the per-student bursary value, NSFAS capacity must be expanded to cover a larger number of TVET students. The current NSFAS allocation covers approximately 450 000 TVET students, but the sector's enrolment potential, if caps were lifted, is estimated at 700 000 or more. Expanding NSFAS coverage to this level would require a substantial increase in the TVET NSFAS budget, estimated at an additional R5 billion to R7 billion annually. This investment would generate returns through increased graduate output, higher employment rates and reduced dependency on social grants.

Professionalising the TVET lecturer workforce

Addressing the 24.9% lecturer vacancy rate requires both supply-side and demand-side interventions. On the supply side, DHET must invest in pre-service training programmes to develop a pipeline of qualified TVET lecturers, including establishing dedicated TVET lecturer training programmes at universities of technology and expanding learnership and apprenticeship pathways that enable experienced artisans to transition into teaching roles. On the demand side, TVET lecturer remuneration and conditions of service must be made more competitive relative to private-sector alternatives, particularly in high-demand technical fields where the salary gap between teaching and industry employment is widest.

Professional development for existing TVET lecturers is equally important. A significant proportion of current lecturers lack the pedagogical qualifications required for effective vocational teaching and many have not had access to ongoing professional development. Research by Akoojee (2008) and Gamble and Hewlett (2022) identifies the lack of systematic lecturer development as a key factor in poor programme quality. Garraway and Winberg (2020) argue that vocational teacher development must bridge the theory–practice gap through expansive learning approaches. DHET's TVET Lecturer Development Strategy must be fully funded and implemented, with mandatory continuing professional development linked to lecturer registration with the relevant professional body.

Realigning the QCTO qualification transition

The QCTO qualification transition represents both a risk and an opportunity for TVET enrolment. The transition from the legacy NATED (N1–N6) and NC(V) qualifications to the new occupational qualifications under the QCTO framework has the potential to improve the alignment between TVET programmes and labour market needs, but it also imposes significant costs on colleges that must retool workshops, retrain lecturers and develop new curricula. Government Gazette No. 51771 (December 2024) provides the regulatory framework, but the implementation timeline and resource requirements remain challenging.

To ensure that the QCTO transition does not further constrain enrolment, DHET must provide dedicated transition funding, including capital grants for workshop retooling, training allowances for lecturers and technical assistance for curriculum development. The transition must be phased in a manner that allows colleges to continue offering existing programmes while developing capacity for the new qualifications, avoiding a gap in provision. Akoojee (2016) has cautioned that the gap between developmental TVET rhetoric and implementation realities in South Africa is wide, and the QCTO transition risks replicating this pattern unless accompanied by adequate resourcing and institutional support.

Discussion

The analysis presented in this article challenges the prevailing narrative that TVET under-enrolment in South Africa is primarily a demand-side problem. While demand-side factors, particularly societal stigma and the cultural premium on university education, are real and significant, the evidence suggests that they are not the binding constraint. The binding constraint appears to be supply-side: enrolment capping driven by funding limitations, lecturer vacancies and institutional capacity deficits prevent the TVET system from absorbing the latent demand that demonstrably exists. The 3.5 million NEET youth represent a vast reservoir of potential TVET enrolment not being captured because the system lacks the capacity to enrol, teach and support them. As the South African scholarship discussed above makes clear (Powell et al., 2024; Powell & McGrath, 2014; Sibiya et al., 2021), this demand is itself socially produced and structurally mediated, so the demand–supply distinction is analytical rather than ontological, and the two dimensions are causally intertwined through the feedback mechanisms identified in the conceptual model.

The conceptual model (Figure 1) captures the systemic nature of the problem: poor institutional capacity produces low-quality graduates, which depresses employer demand for TVET qualifications, which reinforces societal stigma, which further reduces political support for TVET funding, which further erodes institutional capacity. Breaking this cycle requires a supply-side intervention as the first mover. The 2021/22 enrolment recovery to 589 083, against a funded target of 568 569, demonstrates that the system can respond positively when funding and policy conditions are supportive; the subsequent decline and the preliminary 2025/26 figure of 432 505 confirm that one-off gains are insufficient.

The analysis does not claim that supply-side constraints are the only barrier; rather, they constitute the binding constraint that, if lifted, would yield the largest marginal increase in enrolment. Demand-side interventions remain necessary but are unlikely to be effective while the system lacks the capacity to absorb the students they would attract.

Limitations

This article is a conceptual policy analysis and does not present primary empirical data. The analysis relies on publicly available DHET data, parliamentary records and published research, which are subject to the usual limitations of secondary data sources, including reporting lags, inconsistencies between sources and the possibility of revision. The conceptual model, while grounded in established theory, has not been empirically tested and should be understood as a heuristic framework for organising the available evidence rather than as a confirmed causal model. The article treats TVET enrolment as an aggregate, although the programme-level analysis reveals significant differences between NC(V) and NATED programmes that aggregate data obscure; future research should disaggregate enrolment trends by programme type and address regional variation. The claim that supply-side constraints are the binding constraint is based on circumstantial evidence rather than direct econometric testing. Finally, the multi-theoretical framework, while analytically useful, draws on theories from different intellectual traditions; the layered integration proposed in this article is conceptual rather than epistemologically unified and future empirical work should seek to operationalise and test the model's propositions using quantitative methods, including structural equation modelling and time-series analysis.

Conclusion

The present article has argued that the binding constraint on TVET enrolment in South Africa is primarily supply-side and institutional, not demand-side. The evidence suggests that the TVET system has never been funded or capacitated to enrol anywhere near the number of students that the NDP envisions and the current trajectory is moving further away from, rather than toward, the 2030 target. The 24.9% lecturer vacancy rate, the R580 million returned to the National Treasury owing to underspending and the persistent per capita funding gap between TVET and university students all point to a system that is structurally unable to respond to the demand that exists. However, this conclusion must be qualified: the demand–supply distinction is analytical rather than ontological and the two dimensions are causally intertwined. Supply-side constraints generate demand-side effects through the feedback mechanisms identified in the conceptual model, meaning that addressing supply alone is necessary but not sufficient.

The strategies proposed in this article, such as lifting enrolment caps, expanding NSFAS capacity, professionalising the TVET lecturer workforce and realigning the QCTO qualification transition, are interdependent and must be implemented in concert. Lifting caps without filling vacancies will merely dilute programme quality; expanding NSFAS

without lifting caps will leave funded students unable to find places; and professionalising the lecturer workforce without competitive remuneration will fail to attract the talent the sector needs. The systems perspective embedded in the conceptual model (Figure 1) highlights the necessity of a coordinated, multipronged approach rather than isolated interventions. South Africa's unemployment crisis, particularly among young people, cannot be addressed without a functional, high-quality TVET system that produces the skilled workers the economy needs. The choice is not between demand-side and supply-side interventions; it is about sequencing. Supply-side capacity must be built first so that demand-side interventions can succeed.

REFERENCES

Akoojee, S. (2008). FET college lecturers: The 'devolving' link in the South African skills development equation. *Journal of Vocational Education & Training*, *60*(3), 297–313.

Akoojee, S. (2016). Developmental TVET rhetoric in-action: The White Paper for Post-School Education and Training in South Africa. *International Journal for Research in Vocational Education and Training*, *3*(1), 1–15.

Allais, S. (2012). Will skills save us? Rethinking the relationships between vocational education, skills development policies, and social policy in South Africa. *International Journal of Educational Development*, *32*(5), 632–642.

Allais, S. (2024). How the global VET toolkit weakened local colleges in South Africa. *Journal of Vocational Education and Training*, *77*(1), 81–100. https://doi.org/10.1080/13636820.2024.2411509

Atchoarena, D., & Delluc, A. M. (2001). *Revisiting technical and vocational education in sub-Saharan Africa: An update on trends, innovations and challenges*. Paris: IIEP-UNESCO.

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education.* Chicago: University of Chicago Press.

Collins, R. (1979). *The credential society: An historical sociology of education and stratification.* New York: Academic Press.

Council on Higher Education (CHE). (2022). VitalStats: Public higher education 2022. Pretoria: CHE.

Department of Higher Education and Training (DHET). (2017). Employer perceptions of TVET college graduates and curriculum: First phase report. Pretoria: DHET.

Department of Higher Education and Training (DHET). (2023). Forecasting lecturer supply and demand in TVET colleges. Pretoria: DHET.

Department of Higher Education and Training (DHET). (2024a). Department of Higher Education and Training annual report 2023/24. Pretoria: DHET.

Department of Higher Education and Training (DHET). (2024b). Annual performance plan 2024/25. Pretoria: DHET.

Department of Higher Education and Training (DHET). (2024c). National list of occupations in high demand 2024, Government Gazette No. 50510. Pretoria: DHET.

Department of Higher Education and Training (DHET). (2025). Statistics on post-school education and training in South Africa: 2024. Pretoria: DHET.

Gamble, J., & Hewlett, L. (2022). In search of teacher professionalism: TVET teachers' 'dual narrative' of professionalism. *Journal of Education*, *89,* 122–145.

Garraway, J. (2015). Between college and work in the further education and training college sector. *South African Journal of Education*, *35*(1), 1–8.

Garraway, J. (2022). Designing complex, challenging and creative assessments for work preparedness: A review of competency-based assessment. *Journal of Vocational, Adult and Continuing Education and Training*, *5*(1), Article 20.

Garraway, J., & Winberg, C. (2020). Incorporating principles of expansive learning and activity theory in curriculum design to bridge work and education contexts for vocational teachers. *Journal of Vocational, Adult and Continuing Education and Training*, *3*(1), Article 21.

Kraak, A. (2008). Incoherence in the South African labour market for intermediate skills. *Journal of Education and Work*, *21*(3), 197–215.

Lent, R.W., Brown, S.D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, *45*(1), 79–122.

Makola, Z., Dube, I., & Tabane, R. (2023). Why TVET colleges are not attractive places of higher learning for South African high school learners. *International Journal of Research in Business and Social Science*, *12*(8), 435–444.

Maluleke, L. (2021). Careership: Exploring the perspectives of South African public TVET colleges lecturers on their career development. Unpublished Doctoral thesis. Gqeberha: Nelson Mandela University.

Manamela, K. B. (2026). Reply to Question 876 (NW987E) for written reply in the National Assembly, Internal Question Paper 6 of 2026. Pretoria: Ministry of Higher Education and Training. https://pmg.org.za/committee-question/37035.

McGrath, S. (2012). Vocational education and training for development: A policy in need of a theory? *International Journal of Educational Development*, *32*(5), 623–631.

McGrath, S., Badroodien, A., Kraak, A., & Unwin, L. (Eds) (2004). *Shifting understandings of skills in South Africa: Overcoming the historical imprint of a low skills regime.* Cape Town: HSRC Press.

McGrath, S., & Yamada, S. (2023). Skills for development and vocational education and training: Current and emergent trends. *International Journal of Educational Development*, *102*, 102853.

National Planning Commission (NPC). (2012). National Development Plan 2030: Our future – make it work. Pretoria. NPC.

Oketch, M. O. (2007). To vocationalise or not to vocationalise? Prospects and challenges of vocationalising secondary education in sub-Saharan Africa. *International Journal of Educational Development*, *27*(2), 220–234.

Parliamentary Monitoring Group (PMG). (2024). Meeting minutes: Portfolio Committee on Higher Education, Science and Innovation, 28 February 2024 – 2024 registration and enrolment; certification backlog in the TVET and CET colleges; DHET Q1–3 2023/24 performance. Cape Town: PMG.

Powell, L., & McGrath, S. (2014). Advancing life projects: South African students explain why they come to FET colleges. *Journal of International and Comparative Education*, *3*(2), 213–226.

Powell, L., Muronda, F., & Tini, S. (2024). Student demand for TVET colleges. Report produced under the Five-Year Research Programme on TVET Colleges, commissioned by the Department of Higher Education and Training (DHET) and funded by the National Skills Fund (NSF). Pretoria: DHET.

Schultz, T.W. (1961). Investment in human capital. *American Economic Review*, *51*(1), 1–17.

Sibiya, A.T., Nyembezi, N., & Bogopa, D. (2021). TVET engineering students' perceptions of the value of their qualification and the prospects of employment. *Journal of Vocational, Adult and Continuing Education and Training*, *4*(1), 130–145.

South African Qualifications Authority (SAQA). (2023). SAQA annual integrated report 2022/23. Pretoria: SAQA.

Statistics South Africa (Stats SA). (2022). Quarterly Labour Force Survey Q1:2022, Statistical release P0211. Pretoria: Stats SA.

Statistics South Africa (Stats SA). (2025). Quarterly Labour Force Survey, Quarter 1: 2025, Statistical release P0211. Pretoria: Stats SA.

Taylor, T., & Sadeck, M. (2024). Professionalisation of TVET lecturers in South Africa. *Journal of Research in Technical Careers*, *14*(1), 84–103.

Tlapana, T., & Myeki, Z. (2020). Students' perception towards technical education and vocational training (TVET) colleges in the Greater Buffalo City Metropole. *Global Media Journal*, *18*(35), 1–4.

University of Cape Town (UCT) Children's Institute. (2024). South African Child Gauge 2024: Early childhood development. Cape Town: University of Cape Town.

Von Bertalanffy, L. (1968). *General system theory: Foundations, development, applications*. New York: George Braziller.

Wheelahan, L. (2007). How competency-based training locks the working class out of powerful knowledge: A modified Bernsteinian analysis. *British Journal of Sociology of Education*, *28*(5), 637–651.

Wheelahan, L. (2015). Not just skills: What a focus on knowledge means for vocational education. *Journal of Curriculum Studies*, *47*(6), 750–762.

Yanow, D. (2000). *Conducting interpretive policy analysis.* Thousand Oaks: Sage.