Degrees of Freedom: Rethinking Higher Education Credentials in South Africa

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Abstract: The shifting landscape of higher education and the labour market has necessitated re-evaluating conventional degree programmes, leading to an exploration of micro-credentialing as a link between university offerings and industry requirements. This paper examines the traditional dominance of the degree and the concurrent rise of strategic partnerships between higher education institutions and businesses to develop credentials more closely aligned with the dynamic needs of the modern workforce. Traditionally, university degrees have been viewed as the bedrock of educational achievement and a prerequisite for professional success. However, rapid technological advancements and changing economic demands have exposed limitations in the degree model, particularly its often inflexible curriculum and lengthy completion time. Consequently, there is growing interest, especially within Private higher education, in micro-credentialing, which encompasses an array of non-degree awards that can be directly linked to specific skill sets and employment opportunities. Through qualitative analysis of partnership models across diverse industries and countries, this study identifies core elements contributing to the successful integration of micro-credentials into educational and professional spheres. These elements include co-creation of curricula (between industry and the university), shared governance structures between academic and corporate entities and robust assessment methodologies that validate learner competencies in a manner consistent with industry standards. Additionally, the study explores potential challenges and resistance within academia and industry, including credential recognition issues, balancing theoretical knowledge versus practical skills, and economic impacts on traditional degree pathways. It proposes strategic approaches to mitigate these challenges, emphasising the importance of transparency, stakeholder engagement, and continuous evaluation. The incorporation of micro-credentialing via university (both public and private), TVET college and Community College, business partnerships possess considerable potential to tackle future student discipline trajectories, the dire unemployment of South African youth and the growing needs of upskilling via life-long learning. It demands continuous innovation in educational models to guarantee these models promote individual career achievements and societal progress in an increasingly intricate global economy. This paradigm transition from the conventional degree to a more adaptable, competency-based credentialing structure signifies a crucial development in matching higher education and industry.

Keywords: Micro-credentialing, University-business collaboration, Skill-based education, Workforce alignment, Educational innovation, Labour market adaptation

1. Back to the Beginning

Before delving into a subject that describes future aspects of higher education in South Africa, it may be instructive to go back to the beginning and the National Commission on Higher Education (NCHE) report. The language employed in the report emphasises cooperation, accountability, negotiated settlements, and the diffusion of power across broad bases, aiming to include as many stakeholders as possible in policy formulation and implementation. In short, it was completely opposite to the language of the Nationalists. The document outlines various governance scenarios: advisory, strong steering, and cooperative governance. The latter emerged in the final report as the preferred model for relations between the state and higher education institutions.

Central to the report's conclusions was establishing two new higher education structures: the Higher Education Forum (HEF) and the Higher Education Council (HEC). These were envisioned as buffer bodies mediating between the Ministry and higher education institutions. The HEF would serve as an advisory body representing key stakeholders in higher education. At the same time, the HEC would act as a policy formulator and monitoring entity, operating in collaboration with the Ministry (1996, 174). The HEF was conceived as a forum to bring together stakeholders from the public and private sectors and independent research organisations. The aim was to foster a space for discussion and, ideally, reach a consensus among the various players in higher education. It was also intended as a space for collaboration and partnerships.

The impetus behind these recommendations aligned with the notion of cooperative governance, seen by the report's authors as a uniquely South African approach to state/institutional relations. The report was intended as a guiding document rather than an immutable directive. For instance, the recommendation for two higher education guiding bodies was ultimately replaced by establishing the Commission for Higher Education (CHE),

which was only an advisory body. At the same time, the guiding principles of diversification and interactivity were quietly discarded when The White Paper was issued.

The question must be asked: What went wrong? How did a cooperative and integrated vision for the future of higher education turn into, at times, a ruthless exercise in government enforcement, as seen with the mergers? While pinpointing the exact reasoning is impossible, one can make an educated guess. The root issue was that apartheid had so entangled higher education institutions that cooperation and institutional collegiality were virtually unimaginable. Higher Education institutions found themselves in a state of effective solitary confinement. Many Historically Disadvantaged Institutions (HDIs) were trapped within impoverished Bantustans, while others were ensnared by an ideology of Afrikaans nationalism that was rapidly losing support. Liberal universities cut off from the international community via boycotts that had long been their literal and metaphorical alma mater faced their unique challenges. Despite the differing sources of alienation, the end effect was strikingly similar across all institutional groupings.

In the face of such isolation, institutions naturally focused on areas where control and certainty still existed. Funds continued to trickle down through the higher education sector in the dying days of Apartheid, but priorities shifted towards ensuring the future survival of each institution. Consequently, the collective response to this isolation was introspection and self-preservation, with institutions becoming increasingly protective over their interests and survival. Moreover, with some degree of partnering that came with COVID-19, such has remained since.

The reason for this historical representation of alienation is simple. It is the contention of this paper that we stand now on the precipice of an entirely new educational world where to continue isolated and protecting our turf — from institutions like universities to the CHE, SAQA, DHET, etc. — becomes entirely untenable to deal with the problems of AI and a rapidly changing marketplace. Providing a feasible alternative to the PSET system to respond to this state of affairs becomes increasingly urgent.

2. The Mismatches

The incoherence of the current system has even more dire consequences. Student success should not merely be perceived as the attainment of diplomas, certificates, or degrees but also in terms of how well these students align with the requirements of the existing and future job market. As the DHET notes in “Skills Supply and Demand in South Africa Labour Market Intelligence Research Programme”, its key policies “all draw attention to the risks associated with the poor supply of skills from the national education and training system and the misalignment between skills supply and demand for the implementation of economic growth strategies” DHET (2021,19). This alignment is particularly significant considering the increasing dissatisfaction businesses express regarding the skills our graduates possess. As the DHET PSET Monitor states:

> *The report observes that the extent of mismatches between education and the labour market in South Africa is higher than in many other countries. Although this problem can only be partly attributed to the PSET system not providing programmes that are responsive to the needs of the labour market, it remains imperative that the PSET system continuously identify, develop, and deliver programmes that are flexible and relevant to the ever-changing needs of the economy and the labour market DHET (2021, 16).*

South Africa grapples with high levels of education-job mismatches. The country’s qualification mismatch incidence is 51.5%, surpassing the OECD average of 35.7%. However, the field of study mismatch in South Africa aligns with the OECD average, indicating that this issue is not limited to South Africa DHET (2021, 89). With 51.5% of graduates being underqualified, overqualified, or possessing qualifications in disciplines unrelated to their employment, it still indicates a striking misalignment and absence of coordination. This means that our graduates are underemployed, over-employed or working tangentially in their field. If we are talking about a degree, that is three years of focus on a particular skill set that is all too often becoming dated, if not obsolete.

This mismatch is compounded by youth unemployment. Even StatsSA notes with some alarm:

> *This is supported by statistics indicating a 45,5% unemployment rate among young individuals (aged 15-34 years), in contrast to the national average of 32,9% in the first quarter of 2024 Stats South Africa (2024).*

3. A Thought Experiment

How does one mend a system that is so fundamentally flawed? The staggering 45.5% unemployment rate of students unable to access university even if they desired to is a glaring issue. The NSFAS payment system is already stretched to its limits and would be utterly incapable of accommodating such an influx of students.

Our mess originates in secondary education, where life orientation primarily aims to cultivate compliant citizens. However, this curriculum should instead be utilised to impart practical skills such as basic coding, an introduction to entrepreneurship, web design, and communication and soft skills. The list is virtually endless.

As Kana & Letaba (2024) point out in their discussion of 4IR, Technical and Vocational Education and Training (TVET) colleges are encountering substantial challenges in their efforts to respond to the demands of the 4IR effectively. A primary challenge is the inflexible, top-down approach to curriculum development mandated by the DHET. This centralisation restricts the autonomy and creative input of TVET lecturers, who possess valuable firsthand experience and knowledge of industry requirements. Consequently, this rigid structure hinders rapid adaptation to the swiftly evolving technological landscape, making it difficult for TVET institutions to remain pertinent and responsive to industry demands.

Additionally, Kana and Letaba highlight the fragmented nature of stakeholder engagement. TVET lecturers frequently find themselves marginalised, effectively diminishing their capacity to influence curriculum development and integration with industry needs. This marginalisation undermines the potential for meaningful partnerships with industries, which are essential for providing students with relevant in-service training, internships, and practical experience necessary for employability in the 4IR era (interestingly, they never explore the potentiality of micro-credentialing). Perhaps most importantly, the TVET sector remains an unpopular choice among students. It suffers from underfunding and has historically demonstrated a weak pass rate, returning R2.6 billion to DHET in November 2023 due to student dropouts.

The university sector, meanwhile, continues to languish in a degree discourse that is often no longer fit for purpose. An interesting comparison between degrees and micro-credentials is illustrated, provided by Pander and Kaur (2023). An Australian training site predicts that 40% of degrees will be phased out by the end of the next decade. Indeed, this is, to some extent, an attempt at sensationalism, but at its core, the fundamental principles possess a degree of veracity.

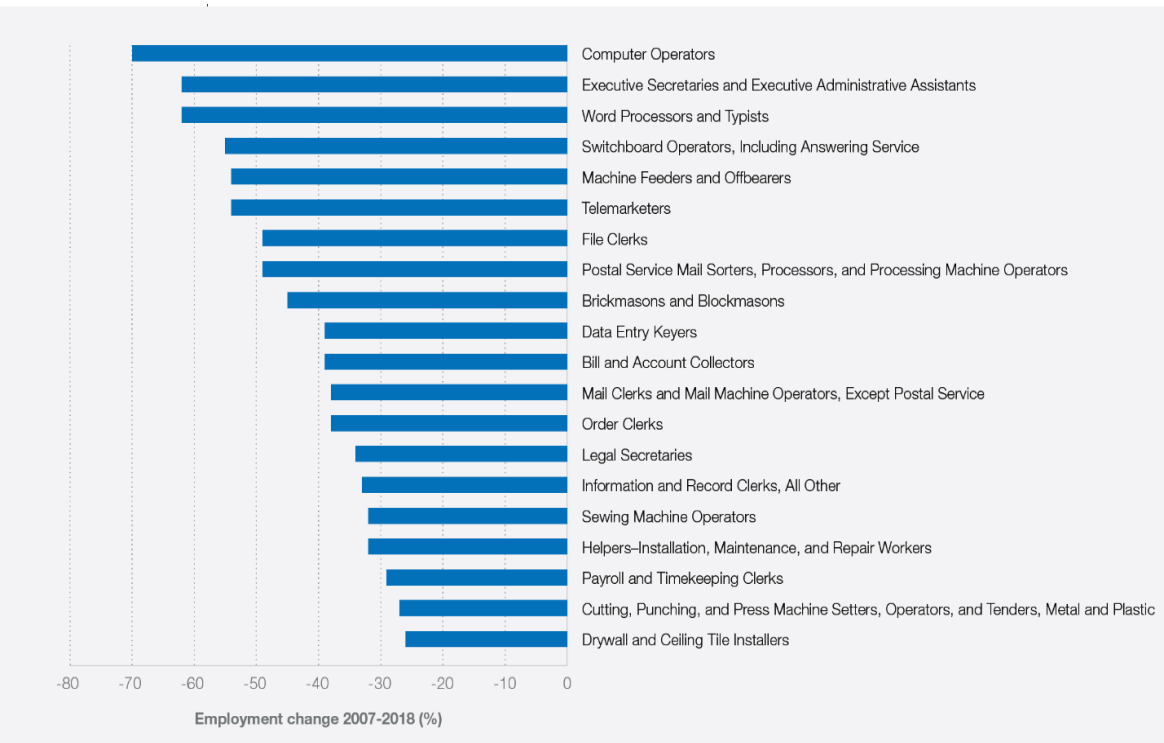

Figure 1: Employment Change 2007-2018. Pander and Kaur (2023)

Degrees in medicine, engineering, and law will retain their relevance, but many IT and Humanities degrees will become redundant.

As the World Economic Forum shows, these jobs are rapidly declining (WEF, 10). Examining these declining positions reveals that each necessitates training and some degree of experience. This indicates that these adults will need to re-skill and potentially transition to different industries to avoid contributing to the already significant unemployment figures in South Africa.

So, what is the solution? What is needed is a new model of higher education in this country. This paper contends that a micro-credentialing approach to higher education and lifelong learning may address many pressing issues.

The topic of micro-credentialing is fraught with semantic challenges. It is challenging to define precisely, as it can be used interchangeably with terms such as digital badging, stackable and unstackable credentialing, and non-formal learning Duklas (2020). This array of terminology often leads to confusion before one even has the opportunity to examine the concept in depth.

Universities often harbour suspicions regarding the concept of micro-credentialing, viewing it as antithetical to the fundamental principles of a degree. Their argument posits that a degree encompasses acquiring content and skills and inculcating a specific manner of thinking and analysis, which cannot be achieved through short, basic credentialing. Additionally, the terminology associated with badging evokes connotations of scouting, thereby complicating its acceptance among academics and the general public. Another reason for the reluctance to more broadly accept micro-credentialing stems from institutions' territorialism and the lack of institutional cooperation discussed earlier. A micro-credential from University X may be viewed unfavourably by University Y, simply because University Y did not draft the programme themselves and therefore find it difficult to accept its validity from an external source. Finally, it is contended that micro-credentialing is inadequate for imparting essential soft skills necessary for future business endeavours. Nonetheless, soft skills are not impeded from being incorporated into micro-credentialing through peer learning groups, real-life industry case studies, and mentorship programmes.

Moving past these reservations and considering credentialing as integral to a simplified National Qualifications Framework (NQF) could facilitate the transfer and recognition of credits between institutions. This approach is particularly relevant if we adopt a clustered mode of micro-credentials that collectively equate to a degree, as recently outlined by the minister in his policy on Recognising South African higher education institutional types. The fundamental idea is that access and transferability should be enhanced through a simplified NQF. As the document puts it

> *5.2.1. To promote diversification of access, curriculum and qualification structure, with programmes developed and articulated within the National Qualifications Framework (NQF), encouraging an open and flexible system based on credit accumulation and multiple entry and exit points for learners.*

The New Zealand Qualifications Authority has incorporated micro-credentialing into their New Zealand Qualifications and Credentials Framework (NZQCF). It allows providers to register their courses on the database for access and transfer and ensures they are entered into a database for record keeping. British Columbia and many other countries also embed micro-credentialing in their access and transferability laws.

Selvaratnam and Sankey (2021) underscore a substantial rise in the adoption and interest in micro-credentialing within higher education institutions in Australasia, a trend notably accelerated by the COVID-19 pandemic. Comparative survey results from 2019 and 2020 reveal a significant shift towards implementing micro-credentialing policies and practices. Institutions increasingly recognise micro-credentials as a viable mechanism to offer flexible, targeted learning opportunities that can be swiftly deployed to meet the evolving needs of both the workforce and learners.

4. Authority and Micro-Credentialing

Even The Council on Higher Education has observed the increasing influence of micro-credentialing worldwide. It is currently evaluating its external landscape and the quality of these programmes and deliberating on their potential for credit-bearing status. The Council has requested that institutions already engaged in micro-credentialing submit any existing frameworks or guidelines that could serve as models for establishing a future stance on this matter. The CHE strives to retain control and oversight over micro-credentialing for apparent reasons. However, it may be too late, as we are witnessing a shift from the traditional, structured conception of the university as a provider of degrees, masters, and PhDs. Instead, there is an increasing fragmentation. Courses are being divided into smaller segments to meet industry demands, produced both within and outside the university.

For example, the Independent Institute of Education, Rosebank College provides CompTIA and Microsoft certifications over and above their current ICT offerings. Variations of Microsoft Certification have existed for at least the last 20 years in this country. It also signifies a shift in power from government-accredited programmes to those immediately required and endorsed by the private sector. Consequently, it is narrowing the gap between education and industry requirements. In this context, government approval becomes unnecessary, rendering it both attractive and enabling for the university of the future.

5. Solutions for our Future

In 2006, the American Council on Education (ACE) initiated a campaign titled "Solutions for Our Future" in an attempt to secure increased financial support from federal governments. The campaign endeavoured to articulate the essential role of higher education in enhancing the individual's well-being and that of the nation. Drawing upon some research, it highlighted various benefits, such as graduates' readiness to engage as active and critical citizens, their reduced likelihood of smoking, and their willingness to volunteer. Despite its promising premise, the campaign was short-lived. This paper aims to propose a contemporary version of some kinds of solutions for South Africa.

1. Micro-credentials are intended to address specific skills and competencies required by the labour market, thereby bridging the gap between education and employment. Establishing strategic partnerships between higher education institutions and industry to co-create curricula that meet current and future workforce means the university or TVET College can potentially generate new income streams. This collaboration can help ensure that micro-credentials remain relevant and valued by employers. For example, IBM collaborated with Northeastern University to develop a series of courses and credentials, including micro-credentials, tailored to the skills necessary for various technology roles within IBM. This partnership entailed IBM funding the development of these courses to ensure they fulfilled the company's demand for skilled employees.
2. The concept of micro-credentialing, while potentially counterintuitive or even perceived as absurd, offers the significant advantage of being deliverable in any location. It can be facilitated through online lectures and accessible via data from TVET colleges, community colleges, and similar institutions. It can even be rendered via the student's mobile device and be zero-rated. This approach permits learners to progress at their own pace and in accordance with environmental demands.
3. By focusing on job-relevant skills, micro-credentials can enhance employability, particularly among unemployed youth. Imagine universities, TVET colleges, Quality Council for Trades and Occupations and community colleges collaborating with industry to deconstruct the 376 high-demand occupations into manageable micro-credentials. These micro-credentials could be accumulated progressively over time. Consider advertising an unemployment initiative for a 'town hall' meeting, where some of the 376 high-demand jobs are available. These micro-credentials could be utilised by unemployed youth to direct their efforts towards building some form of education. Such meetings could be convened at secondary schools and vocational training colleges. While the outcomes may not be immediate, this approach would establish a practical method for entering the skill development pipeline leading to youth employment in South Africa. Paulson et al. (2023) even offer a high-level template for the curriculum development for a Government Leadership Training Programme, which offers insight into the construction of these kinds of short courses (see also Galán-Muros & Davey, 2017) for a detailed framework for implementing micro-credentialing).
4. Micro-credentials offer flexible, modular learning opportunities that can be stacked over time to build towards a more extensive qualification. This particularly benefits working professionals and those seeking to upskill or reskill without committing to lengthy degree programmes. South Africa has a dismal track record of life-long learning. According to the OECD report, 1,1% received training through the SETAs in 2017 and " the World Bank Enterprise Survey suggests that in 2007 37% of South African employers were providing training." Micro-credentialing would promote lifelong learning by providing opportunities for continuous professional development. This is essential in a rapidly changing global economy where skills must be constantly updated.
5. Embedding micro-credentials within a simplified National Qualifications Framework (NQF) can facilitate the transfer and recognition of credits between institutions. This can help ensure that learning is portable and recognised across different educational and professional contexts DHET (2024). This can be modelled after successful frameworks like those in New Zealand and British Columbia. Developing quality assurance processes to validate the competencies and skills

represented by micro-credentials is essential. This would entail establishing standards and frameworks to uphold the credibility and trustworthiness of these credentials.

6. Once embedded in the NQF, support could be gained from government bodies like DHET and CHE to promote and regulate the adoption of micro-credentials. Institutions should be encouraged to offer micro-credentials and integrate them into their existing programmes.
7. Strategic partnerships between higher education institutions and industry to co-create curricula that meet current and future workforce needs. This collaboration can help ensure that micro-credentials remain relevant and valued by employers.
8. Utilising digital platforms and blockchain technology to issue, verify, and share micro-credentials has become increasingly popular with concepts like the creation of a variety of versification mechanisms Pander & Kaur (2023). This can enhance their portability and accessibility, ensuring learners can easily present their credentials to potential employers or educational institutions.
9. The CHE and Councils/Professional bodies could undertake awareness campaigns to educate students, employers, and educational institutions regarding the benefits and opportunities of micro-credentials. Such efforts can mitigate scepticism and foster broader acceptance.
10. Moreover, pilot programmes should be implemented to evaluate the effectiveness and acceptance of micro-credentials across various sectors. Documenting and disseminating case studies illustrating successes and lessons learned can inform and guide broader implementation efforts.

6. Overcoming the Isolation

This paper initially outlined several aspects of the isolation and alienation experienced by South African universities both post-apartheid and especially following the merger process. This analysis did not address the broader issue of silofication within the PSET sector. The confusion prevalent at the university level renders discussions about collaborations with TVET institutions and community colleges redundant, but it remains crucial to creating a coordinated, coherent system.

Our argument posits that micro-credentialing, due to its implementation at numerous points within the PSET sector, can serve as a significant mechanism for bridging gaps between these elements and allow for vertical and horizontal transferability within the NQF. Micro-credentialing can serve as a pivotal tool in unifying the PSET system in South Africa. Micro-credentials can fill gaps and create a more cohesive and responsive educational framework by fostering collaboration among various educational institutions and aligning their curricula with industry needs. It has the potential to gradually erode the borders between various sectors, which has, in the past, facilitated the consolidation of power within government and across different educational domains.

Integrating micro-credentials within the NQF can standardise the recognition and transfer of credits across institutions and different types of institutions. This approach ensures consistency in the quality and value of credentials, enhancing their acceptance and respectability. Establishing hardy quality assurance processes for micro-credentials, as evidenced in New Zealand, can further bolster their credibility within the PSET system.

Involving industry partners in developing micro-credential curricula ensures that the skills taught are directly relevant to current job market needs. This collaboration can lead to more targeted and effective educational programmes that enhance employability. Additionally, business partnerships can facilitate internships and apprenticeships, creating direct pathways from education to employment. These partnerships help integrate theoretical knowledge with practical skills, making graduates more job-ready. Public-Private Partnerships raise the critical question of how to fund the creation of a micro-credential. Part of the answer may lie with industry partners who urgently need specific skills and are willing to pay higher education institutions to develop or co-create credentials for those skills. However, the issue extends further, once a micro-credential is available on the market, it has the potential to be sold on to other users, potentially even on a subscription basis. Furthermore, the funding question is intrinsically linked to the role of our SETAs and the inadequate training levels among the general populace. SETAs are ideally positioned to finance the development of micro-credentials.

Micro-credentials offer a flexible, modular approach to education that allows learners to acquire and stack credentials over time. This flexibility benefits working adults and those needing to upskill or reskill, promoting lifelong learning as a viable option in this country. Online and blended learning options make micro-credentials accessible to a broader audience, including those in remote or underserved areas, thereby democratising education and training opportunities.

Housing micro-credentials in the NQF can facilitate the transfer of credits between TVET colleges, universities, and other educational providers. This mobility ensures that learners can build on their education without redundancy or loss of credit. Encouraging collaboration between TVET institutions, universities, and private training providers can help create a more integrated PSET system. Such collaboration aligns educational offerings with the country's broader economic and social goals.

Micro-credentials can help address the skills mismatches highlighted by the DHET by aligning educational outcomes with labour market demands. This alignment can reduce unemployment and underemployment among graduates. Furthermore, by providing targeted training programmes, micro-credentials can empower historically disadvantaged communities with the skills needed to participate fully in the economy, thereby promoting social equity and inclusion.

Micro-credentialing can play a critical role in unifying the South African PSET system by standardising credentials, fostering industry partnerships, promoting flexible learning, bridging institutional gaps, and addressing economic and social challenges. This cohesive approach can create a more responsive education and training system that meets the workforce's and society's evolving needs.

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