

## Essaying purposes and specialisations of institutional types in knowledge production

Isaac Ntshoe

To cite this article: Isaac Ntshoe (2015) Essaying purposes and specialisations of institutional types in knowledge production, *Studies in Higher Education*, 40:4, 676-689, DOI: [10.1080/03075079.2013.842222](https://doi.org/10.1080/03075079.2013.842222)

To link to this article: <https://doi.org/10.1080/03075079.2013.842222>



Published online: 08 Jan 2014.



[Submit your article to this journal](#)



Article views: 181



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)

## Essaying purposes and specialisations of institutional types in knowledge production

Isaac Ntshoe\*

*Faculty of Humanities, Central University of Technology, Free State, CUT, Private Bag X20539, Bloemfontein, 9300, South Africa*

This article deals with differentiation, diversification and dedifferentiation of purposes and specialisations of institutional types in the post-apartheid setting, using as examples universities of technology created 10 years ago. It examines differentiation, diversification and dedifferentiation in the global context, particularly the specialisation of purposes of institutions as a form of division of labour in knowledge production and dissemination in higher education. It then takes issue with rigid and narrow forms of specialisation, thus projecting more flexible specialisation and specialism in the production and distribution of knowledge and skills. Differentiation in the post-apartheid era is then examined. External influences, competency and outcomes, and their limitations as drivers of curriculum designs are also discussed. Lastly, issues emerging from the discussion are explored and concluding remarks made.

**Keywords:** differentiation; diversification and dedifferentiation; distinctiveness; purposes and specialism; institutional types; knowledge production and distribution

### Introduction

Global patterns of differentiation, diversification and dedifferentiation in the higher education sector reflect, on one hand, past policies and practice, and on the other, the supply of graduates with knowledge, skills and competence for the changing nature of employment and the market (Castells 1993; Neave 2000; Van Vaught 2007). These patterns are underpinned by an assumption that institutional types have distinctive purposes, missions and specialisations of knowledge, skills production and distribution. Different purposes and specialisations of institutions are often expressed in mission statements which define the programmes offered; the type of students attracted; the faculty appointed; the expectations of students and the way the institutions are or would be assessed. Thus, missions are inherently inspirational, often specifying what they are trying to be and how their faculties, students and leaders wish them to be thought of (Johnstone 1998, 3).

Differentiation, diversification and dedifferentiation are often proposed to facilitate the move away from homogeneity and elitism in the higher education system towards massification, and as a response to the requirements and demands for diverse knowledge, globalisation and internationalisation (Neave 1996; Piore and Sabel 1984).

---

\*Email: [INtshoe@cut.aca.za](mailto:INtshoe@cut.aca.za)

This article uses South Africa as a case study in an examination of institutional differentiation, diversification and dedifferentiation regarding the specialisation of purposes and identities belonging to institutional types in the production and distribution of knowledge and skills, as well as in the production of graduates with diverse specialism to function effectively. The article has three parts. The first part examines the specialisation of purposes and the identities of institutions in differentiated, diversified and contrasting dedifferentiated systems of higher education. This is done, *inter alia*, by exploring how differentiation of purposes, identities and specialisations in knowledge production and in the dissemination in higher education reflect the division of labour in economic production. The second part analyses the South African experience of differentiation and distinctiveness of purposes and identities, focusing on knowledge production, distribution and skills, together with discussions of curriculum specialisation of institutional types. The third part comprises a discussion and the fourth presents concluding remarks.

### **Differentiation, diversification and dedifferentiation**

Differentiation, diversification, and dedifferentiation in higher education denote the division of the labour of institutions on the knowledge and skills which they produce and in which they specialise. Implicit in these arrangements is the assertion that institutions should specialise in the production of certain types of knowledge and not others. This description resonates with divisions of labour and specialisations that were the hallmark of economic growth and progress in eighteenth and nineteenth century societies (Cristopherson and Storper 1989; Durkheim 1984; Evers 1980; Huisman 1995; Piore and Sabel 1984; Smith 1776; Van Vaught 2007).

Thus, institutional differentiation and diversification, in contrast to the binary system, implicitly recommend the division of labour in institutions of higher education, in which they are assigned unique functions and roles in terms of purposes and specialisations in the production of knowledge and its distribution. Distinctiveness of purpose and specialisation in higher education are proposed to encourage certain institutions to focus on the production of graduates with certain types of knowledge and skills required by industry and employers. Specialisation and institutional identities imply that theoretically, students can choose the subject, city, institution and sector they wish to go to, in a differentiated and diversified system (Teichler 2004, 8).

The World Bank (2000), in support of specialisation of institutions' purposes and identities, asserts that developing economies need not only civil servants but also other professionals, such as engineers, pharmacists and computer scientists. The World Bank further argues that higher education institutions are responding to the changing nature of employment by adapting, whilst new institutional types are emerging to provide training and credentials in new areas.

Diversity (the condition), diversification (the process), and differentiation (the outcome), signal relationship between government, higher education and society deleted. They also represent a particular vision of the relationship that ought to exist between local and national communities (Neave 2000).

Diversity thus addresses the needs and requirements of modern society. This is characterised by an increasing variety of specialisations in the labour market, necessary for economic and social development (Huisman 1995, 51). Politically and economically, therefore, diversity serves the needs of interest groups, their identity and political legitimisation. Diversity also permits, on one hand, the combination of elite and mass

higher education, economies and markets and on the other, the changing nature of employment and the new economy (Van Vaught 2007, 5).

Globally, most higher education sectors display some vertical and horizontal differentiation and diversification, while other systems have a hybrid of both. In their study of 12 African countries, Ng'ethe, Subotzky, and Afeti (2008) found that the Kenyan system, for example, displayed some, though not much, horizontal differentiation. Some form of vertical differentiation was beginning to emerge, but even then within a context of considerable mimetic and normative isomorphism.

Vertical differentiation separates higher education institutions into a hierarchy by their performance and quality, usually based on achievements in research, as a reaction to labour market needs for a greater diversity of graduate skills and levels of training. (Ng'ethe, Subotzky and Affeti 2008). Horizontal differentiation, however, is generally a response to an increased demand for student access to higher education, assuming multiple functions of higher education institutions in different dimensions (Wissenschaftsrat 2010, 13).

However, as the traditional binary boundary between universities and non-university institutions has become increasingly blurred, some institutional hybrids have emerged (Ng'ethe, Subotzky and Affeti 2008, XV111, 6). One of the challenges has been 'academic drift', which has encouraged uniformity and decreasing levels of diversity (Neave 1979). Two opposing tendencies arising from these phenomena are, firstly, towards the traditional university type, driven by aspirations for a higher status; and secondly, towards institutional differentiation and diversity to accommodate a wider market (Ng'ethe, Subotzky and Affeti 2008, 47). Meanwhile, universities have also experienced 'vocational drift'; that is, offering vocational courses and short-cycle options in competition with polytechnics (Ross 2003). This blurring could be attributed to market forces in the aspirations of non-universities to gain university status, and to universities seizing market opportunities by offering vocational courses (Ng'ethe, Subotzky and Affeti 2008, XV111, 6). According to Meek (1991), strong academic values and norms, as well as the processes of academic drift, tend to inhibit the increase of diversity.

Somewhat discrete from differentiation and diversification is dedifferentiation, which calls for the supply of generic skills that are assumed to apply to very different occupational sectors and jobs, rather than the specialist skills and knowledge associated with particular jobs and occupations (Jones 2009).

Dedifferentiation therefore underscores parallels between different occupations, knowledge and skills, and assumes that the primary source of innovation is a growing supply of 'generically skilled' workers able and willing to move to new jobs, regions, countries, industries and services as and when they arise. In this sense, dedifferentiation plays down the extent to which occupations, skills and fields of knowledge vary in the extent to which transferability between them is possible, without substantial re-training (Young 2011a).

Although the description of dedifferentiation above usually refers to the types of knowledge and skills required in the workplace during a different epoch, this account equally applies to higher education. For example, dedifferentiation in higher education contrasts with differentiation, in that it describes the dissolution of former differences; for example, between types of higher education institutions or the higher education sector and adjacent areas of vocational education and training. It is a process in which distinct types of tertiary education emerge in response to a country's need for educational programmes that provide diverse types of skills and knowledge to

a widening range of students with divergent abilities and interests (Wissenschaftsrat 2010, 20).

Bleiklie (2005, 48) concurs that dedifferentiation leads to a blurring of older vocational/professional divisions, and the emergence of overarching organisational categories such as 'tertiary' and 'higher' education, rather than universities. Van Vaught (2007, 3), Gamage (1993) and Meek (1991, 2003) note that the Australian higher education system was moving towards dedifferentiation rather than differentiation because of an increase of institutional autonomy and the demise of the binary system.

### **The post-apartheid setting experiences on differentiation**

Prior to the first South African elections to be based on universal suffrage in 1994, the higher education sector was characterised by a binary policy which differentiated between universities, the erstwhile technikons and technical colleges, representing the post-school sector. Institutional differentiation had been an integral part of apartheid capitalist practice and predictably created political, ideological and economic gaps between historically advantaged universities and technikons (historically advantaged institutions; HAIs) on one hand, and historically disadvantaged universities and technikons (historically disadvantaged institutions; HDIs) on the other. (Department of Education 1997b). In this system, HAUs provided middle- and high-level human resources for the economic, cultural and civil service sectors of the developed component of South Africa's dual social structure (Ng'ethe, Subotzky and Affeti 2008, 118). The geopolitical location of HDUs in mainly rural areas had consolidated the 'separate but equal' policy intended to serve the interest of apartheid capital.

The binary policy system was supposed to have been abolished by the New higher educational landscape document (Council on Higher Education [CHE] 2000), which was intended to eliminate elitism in higher education. It did not promote access or the wider participation of students previously excluded from the system; did not respond to the changing nature of employment, globalisation and internationalisation; or to the economic conditions in the country. However, the National Plan for Higher Education (NPHE) (Department of Education 2001) introduced a slight modification by rejecting the wholesale implementation of CHE (2000), preferring a reduction in institutional numbers to the dismantling of the binary divide (at least for the next five years). Thus, the NPHE adopted a system based on three institutional types: universities, technikons (to be called 'universities of technology') and 'comprehensive' institutions which would be a hybrid of both. As a result, although the binary divide was formally retained, some institutions were required to offer both university- and technikon-type programmes (Ng'ethe, Subotzky and Affeti 2008, 119).

The recommendations of NPHE on institutional differentiation became incorporated into the Higher Education Qualifications Framework (HEQF) (Department of Education 2007), which introduced knowledge types produced by the universities as distinct from those by universities of technology (UoTs) as criteria for distinctiveness (Department of Education 2010). In terms of this categorisation, UoTs would offer primarily sectoral knowledge for the various occupational fields and the applied side of knowledge and qualifications; while universities were created to offer disciplines primarily as sources of knowledge and therefore award research-based qualifications (Department of Education 2007). The HEQF (Department of Education 2007) made a distinction between two modal types of curriculum and qualification: one that

aimed to produce disciplinary adepts, and was thus formative or research-based; the other to produce knowledgeable professionals, and thus be oriented more closely to the demands of the workplace (Muller 2006, 2009, 14).

Higher education differentiation under apartheid had the unique purpose of serving the goals of apartheid capitalism, with different universities and technikons created along racial lines. They prepared graduates from different groups for different roles in the economy, also segregated along racial lines. Accordingly, institutional differentiation was overtly intended to endorse a form of capitalism that advanced the political interests and aspirations of one section of society to the virtual exclusion of the other (O'Malley 1959).

Consistent with the political situation of the time therefore, the HAUs and technikons serving the historically advantaged offered specialised courses in Science, Technology, Engineering and Mathematics that were considered central to the economic growth of the apartheid state (Union of South Africa 1959). HDUs and technikons, on the other hand, served the then disfranchised community, and specialised in the production of civil servants for the 'homelands' (geographical areas designated to disfranchised poor communities in terms of ethnic background) and technicians to serve apartheid capital (Lapping 1986, 184).

Thus, institutional differentiation and specialisation of purpose of the different institutions in the apartheid setting had little to do with increasing the pool of graduates with knowledge and skills for economic growth for the entire nation, but everything to do with guaranteeing a permanent division of labour. Consequently, certain groups were locked into an inferior social status and out of the mainstream economy. Institutional differentiation and specialisation of purposes of institutions in the apartheid setting reflect some form of Bourdieu's symbolic violence and capital (Bourdieu and Passeron 1977). Herein different institutional types reflected economic, social and political segregation in South Africa.

While institutional differentiation in higher education during apartheid was motivated primarily by race through the introduction of the Extension of University Act of 1959 that created separate universities for the different communities (Union of South Africa 1959), there was an emerging shift towards differentiation according to class in the post-apartheid setting (O'Malley 1959). This law differentiated higher education for different population groups and therefore 'criminalised registration of "non-white" students at a hitherto open university reserved for other communities without the written consent of the Minister of Internal Affairs' (Lapping 1986, 184).

In contrast to using race during the apartheid era, class has increasingly, albeit implicitly, become one of the factors defining institutional types in the post-apartheid society. For example, the new higher educational landscape document recommends differentiation into research-based institutions comprising HAIs that are now open to students from diverse population groups, and UoTs (Council on Higher Education 2000). The reality however is that research-based institutions (HAIs) are generally attended by students from affluent sections of society, including emerging black, middle-class students, but are unaffordable to students from poor economic backgrounds. The latter group is therefore forced to attend HDIs, generally classified as teaching institutions, and the newly created UoTs that focus on teaching and the provision of programmes for various sectoral and occupational fields. Furthermore, HAIs provide prestigious degrees and professions that reflect the class structure, including medicine, law and professional engineers. UoTs, on the other hand, exclusively offer programmes leading to the production of technicians and technologists who

serve local, and to some extent, regional interests. In South Africa, with its dual economy, HAIs offer programmes and specialisations to supply graduates to serve in the first-tier economy; while the UoTs offer programmes and specialisations to produce technicians and technologists to serve the interests of the second-tier economy with somewhat limited opportunities.

Thus, the differentiation of purposes and specialisations has become part of a broader government agenda of transforming the social, political and economic situation for a democratic post-apartheid society. Critical yet underdeveloped are the ontology and epistemology underpinning knowledge types offered by, or acquired in, different institutions in the South African context. Some uncharted issues are: How do these shape curriculum design? What is the impact of a programmatic approach, competence and outcomes on the types of knowledge produced by the different institutional types? And, how is division of labour expressed in the differentiation, diversification of purpose, institutional type and corresponding knowledge produced and distributed by these institutions? Particularly lacking are discourses not only on the distinctive purposes and identities of traditional universities, compared to those of UoTs and universities of applied sciences (UASs), but also on the inherent overlaps of the two types of knowledge. How might the two types of knowledge either limit or advance economic growth and innovation, and could these knowledge types prepare graduates to function in the changing employment demands of the new economy?

### **Curriculum specialisation of institutional types**

The questions arising from a discussion of knowledge production should be understood against the backdrop of a shift from a qualification and discipline-based curriculum to a programmatic one that embodies the reconfiguration process in a post-apartheid setting (Department of Education 1997a). The latter, by its nature, prioritises programmatic-led planning of the erstwhile technikon sector over disciplinary-led design (Department of Education 2007c). This shift is, firstly, a dilution of disciplinary knowledge in curriculum design of conventional universities and UoTs; and secondly, reflects the undefined role and significance of theoretical and conceptual knowledge in curriculum design in UoTs.

Furthermore, distinctiveness of purposes and identities in terms of knowledge should be understood in the light of the sway towards a competence- and outcomes-led approach to curriculum design. Despite intrinsic epistemological peculiarities between knowledge, competence and outcomes, these aspects are often mistakenly conflated in discussions on institutional purposes and identities, leading to the substitution of knowledge for competence and outcomes in curriculum design. This conflation is particularly consolidated by the theoretical bases of HEQF and corresponding discourses based on competence, standards and outcomes, which were initially intended for schools but found their way into higher education, continuing to shape curriculum design, pedagogy and practice in the post-apartheid setting (Department of Education 2007; Griesel and Parker 2009).

### **Discussion**

The thread running through this article is that, the categorisation of institutions in terms of purposes and specializations is necessary for the production of different types of knowledge and skills needed in markets.

Young's (2011b) formulation of distinctiveness overlaps of purposes of institutions and knowledge types produced by UASs and UoTs offers new insights when analysing the effects of differentiation, dedifferentiation and the specialisation of purposes of higher education. According to this formulation the distinctiveness of UAS and UoT curricula lies fundamentally in the type of knowledge that is transmitted and produced. This knowledge has three characteristics that set it apart from that of traditional universities: it is applied; it relates differently to different occupational sectors; and it is dual facing (outward and inward) (Young 2011b).

However, the distinctiveness of UASs and UoTs, mentioned above, seem to be distorted by the pervasive but erroneous belief that purposes and foci of fields, programmes and curricula of UASs, especially of UoTs in South Africa, produce specialised knowledge and skills for specific occupations demanded by employers in particular contexts. This approach is intrinsically limiting as it suggests the production of graduates with knowledge and skills applicable only to context-specific and context-dependent occupations, and is therefore employed to serve the immediate short-term demands of the market and employers. The consequences of this have been over-polarisation of curriculum design, producing context-specific graduates with applied knowledge on one hand, and advanced theoretical context-independent general knowledge on the other.

An issue seemingly underplayed is that the curricula of the UAS and UoT sector are more diverse and less homogeneous than those of a traditional university, with those of each field and programme being derived from the knowledge drawn on by different occupations (or sectors) (Young 2011b). Knowledge of specialist disciplines in UASs and UoTs is heterogenous in the following ways: (i) it varies according to the sector or occupation and its history; (ii) occupations for which UASs and UoTs prepare graduates will vary in terms of degrees of specialisations; (iii) the extent to which their practices are codified as procedures vary; and (iv) the extent to which they draw primarily on procedural knowledge formed by codifying practices, or on discipline-based knowledge, is different (Young 2011b).

The context-specific approach to knowledge and skills production, referred to above, is often defended on the grounds that UASs and UoTs should not mimic traditional universities by aiming to produce theoretical knowledge, once considered the exclusive domain of the latter. This perspective in South Africa is borrowed from practices of the predecessors of UoTs (technikons), whose purpose was to provide narrow career-oriented programmes and offerings (CHE 2010; Department of Education 2004, 2010; Du Pre 2006, 2009; Reddy 2006; Scott 2006; South African Technology Network 2008).

The historical legacies described imply that the curriculum design practices of UoTs should aim to produce graduates with specific skills for specific occupations in specific contexts. The one aspect evidently omitted in the curricula is the role and place of theoretical knowledge in the curricula of UoTs and in South Africa.

I argue in this article that the distinction between the theoretical and contextual (context-specific) knowledge that graduates might acquire from different institutional types provides new insights into understanding how curricula might either expand or limit the opportunities of graduates (see Wheelahan 2010). Juxtaposing the two types of knowledge and their impact, Bernstein (2000) contends that fair access to theoretical knowledge is an essential element for democracy. Using vocational education to illustrate the point, he maintains that the way in which knowledge is classified 'carries the message of power' (Bernstein 2000, 6) because it represents and maintains (or transforms) the social division of labour.



Building on Bernstein's (2000) assertion, but modifying it somewhat, Young (2006, 115) warns that context-specific knowledge curriculum design might be short-sighted because, while all jobs require context-specific knowledge, 'many jobs also require knowledge involving theoretical ideas shared by a community of specialists that are not tied to specific contexts'. Accordingly, it is argued in this paper that disciplinary and theoretical knowledge of the respective fields of UoTs has a special place in curricula, compared to curriculum design that exclusively serves immediate, workplace-specific outcomes that are constantly changing.

The above view is supported by Wheelahan (2005, 2007a, 2007b, 1) who argues that knowledge of specific workplace tasks and roles means that students are provided only with access to contextually specific applications of theoretical knowledge, and not the disciplinary framework in which it is embedded and which gives it meaning. Similarly, the work of Allais (2006), Barnett (2006) and Gamble (2006) demonstrates the inherent limits of context-specific knowledge in vocational and training curricula, and those of a context-specific knowledge approach implicit to curricular design in UoTs in South Africa. Highlighting the distinction between theoretical and context-specific knowledge are Bernstein's (2000) ideas of knowledge of the powerful and of powerful knowledge. Young elaborated upon these, arguing that the knowledge of the powerful is the type defined by those who receive the knowledge in a society; this has its roots in Marx's (1964) well-known dictum that dominant ideas at any time are the ideas of the ruling class (Young 2008a, 2008b). This type of knowledge has features of the social constructivist strand of Foucault (1991), Gramsci (1971) and Bourdieu and Passeron (1977), who assert that power is distributed, controlled and integrated with knowledge. This view therefore accounts for hegemony, cultural capital and symbolic violence in knowledge produced and distributed by higher education. The assumption underlying this perspective is that curriculum design that exposes students to this type of knowledge liberates graduates from the confines of their immediate and dependent context and creates opportunities for the transference of principles and concepts that have been acquired in one particular context, to others.

The discussion so far has revealed that powerful knowledge refers not to the backgrounds of those who have most access to knowledge or who give it legitimacy, although both are important issues; rather, it relates to that type of intellectual power to which graduates may or may not be given access to in institutions that specialise in the production of different types of knowledge (Young 2008a, 2008b). Powerful knowledge depends on the existence of certain types of knowledge to which all graduates should be exposed, if they are to benefit from higher education, generate knowledge and skills, become innovative and participate meaningfully in society. This knowledge is theoretical, universal, context-independent and comprises principles and concepts, rather than content per se. It is powerful, and institutions should ideally provide it, regardless of whether their primary purpose is the production of disciplinary knowledge and research or applied knowledge for occupational fields.

Conversely, applied knowledge and skills are, by definition, context-bound and dependent, emphasising the ability to apply, and confined to a specific context (see Young 2008a, 2008b). This type of knowledge and skills resonates with the tenets of social constructivism and supports the differentiation of purposes and identities of institutions in producing knowledge and skills relevant to particular contexts.

Drawing on Young's (2008b) work, Wheelahan (2010) adds that arguments that reduce knowledge to power partly contribute to the exclusion of the less powerful

from accessing the powerful. This is because this perspective does not distinguish between access to powerful knowledge required by students to function in diverse contexts, from knowledge exclusively limited to particular contexts (Wheelahen 2010).

The overemphasis of applied fields in the curriculum design process results in curricula that lacks the essential theoretical and disciplinary knowledge that graduates need to function in diverse contexts far removed from the university. What has been sufficiently nuanced, therefore, is that, while UoTs prepare graduates primarily for specific occupations in industry they also need theoretical knowledge that is context-independent and provides them with the opportunity to function in different situations.

Figure 1 is a summary of the discussion and comprises four blocks. The first block on the left-hand side of the figure shows various aspects of curricula and pedagogy, while the far-right block represents a typical curriculum design in traditional universities. The second block from the left is a representation of a typical curriculum design of UoTs. This block also demonstrates the influences of past policies and practices, as well as the influences of external forces. The third block presents proposed shifts in the discourses of curriculum design of UoTs from designs driven almost exclusively by the short-term demands of industry, external forces and competence-based

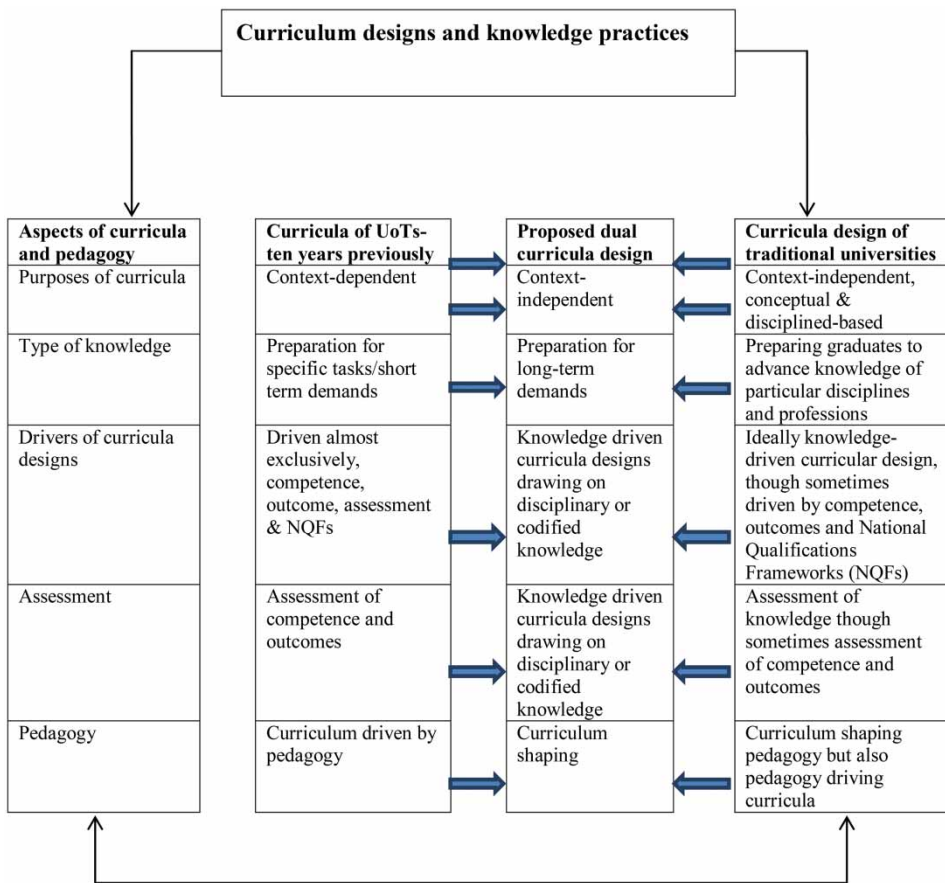


Figure 1. Curriculum designs of universities of technology.

designs that draw on strong theoretical and conceptual knowledge. Arrows suggest that the proposed curriculum design should not draw on knowledge of the different sectoral and occupational fields as is currently the case, but also on specialist disciplines that draw on strong, theoretical knowledge or on knowledge codified from practice.

An inference drawn from the discussion is that the likelihood of graduates studying in UoTs being denied access to theoretical knowledge (powerful knowledge) is increased in systems where competence and outcomes are used as drivers of curriculum design, as is the case in South Africa. When writing on vocational education, Wheelahan found that competency-based vocational education and training qualifications in Australia have had the potential to deny students access to the theoretical knowledge underpinning vocational practice. This practice led to the questionable use of competence and outcomes to substitute knowledge in the curricula of vocational education as a distinctive sector with competence and outcomes (Wheelahan 2005, 2007a, 2007b, 2008).

At the centre of the critique of a competence-led curriculum and knowledge is the argument that competence and outcomes are essentially about the nature of assessment and outcomes, and have very little to do with knowledge and the *how* of learning (Barnett 2006; Wheelahan 2007a, 2007b). Young, in another study (2008b), found that statements of standards or competence could, at best, be the basis for assessment but certainly not pedagogy in a competence and outcomes curriculum of vocational education. Similarly, Gamble's and Allais' critiques of competence and outcomes as drivers of the curriculum design of vocational education primarily referred to the production of knowledge versus competence and outcomes, rather than to discussions of curriculum design (Gamble 2006, 87–103; Allais 2006, 25). Discussion in this article about ontology and the epistemology of knowledge in curriculum designs of UoTs affirm some reservations expressed on knowledge in the curricula of vocational education in different contexts.

The negative impacts of the collapse of the epistemological boundary between knowledge and competence and outcomes have been further highlighted in studies demonstrating how curriculum design has shaped, and in some instances, replaced theoretical knowledge. Writing on the Australian contexts, Wheelahan (2007a) argues, firstly, that qualifications and curriculum design in the outcomes-based programmes and offerings are derived from industry-specified units of competency and that these are shared between qualifications. Each unit consists of a number of elements of competency, employability skills, performance criteria, a range of statements that describe the probable contexts in which competency will be deployed, and evidence guides for assessment. According to this approach, therefore, teachers and similarly lecturers should teach competently to certain standards and assessment should be conducted against these standards (Wheelahan 2007a, 2007b).

In practice, therefore, collapsing the epistemological boundary between knowledge and the competence and outcomes in curriculum design of higher education institutions has had the effect of denying graduates opportunities to acquire the powerful knowledge they need to benefit maximally, and thus contributing to the deepening of democracy (Department of Education 2008).

### Concluding remarks

The thrust of my article has been on the purposes and specialisations of knowledge and skills produced and distributed through curriculum design using UoTs in the differentiated system in South Africa.

This article took issue with the following. First, the belief that the offerings of UASs and UoTs need to be context-specific, since these institutions have been created to serve the requirements of industry, compared to conventional universities. Second, the prevalent practice of over-polarising applied, sectoral knowledge, and theoretical knowledge in the curriculum design of UASs, especially of UoTs in South Africa. I argued that this practice is often mistakenly justified on the grounds that UASs and UoTs should not mimic conventional universities, but rather concentrate exclusively on applied knowledge. Third, the seemingly underdeveloped account of how graduates might be prejudiced by being limited to acquiring knowledge and skills for specific tasks, as has been the tradition over the last 10 years of the existence of UoTs, and have been denied theoretical, context-independent knowledge.

Conversely, I made a case that distinctiveness of purposes, identities and specialisations of institutions should be understood not only in terms of their distinctiveness of knowledge produced, but also in terms of inherent overlaps in the knowledge produced by UoTs and those produced by traditional universities. Further, a case has been made for the curriculum of UoTs and UASs that reflect the dual-facing purposes of this institutional type, comprising specialist disciplines that are the basis of the different occupations chosen by students upon graduating, and the practical problems experienced within the different occupations. This could be achieved by recognising the unique role and place of theoretical, conceptual and context-independent knowledge on the one hand, and the applied, contextual knowledge in curriculum design as distinctiveness of purposes and identities of institutions that prepare graduates for professional and occupational fields (UoTs and UASs), on the other. It is argued that while curriculum designs of UoTs are all sectoral, these are less homogenous, depending on whether knowledge curricula of different fields draw on disciplines or from condified practice.

Premised on the assumptions above, I argue that the curricula of UoTs should ideally no longer be driven exclusively by short-lived demands of market and employers, as has been the practice since the creation of the sector 10 years ago. Instead they should consider using theoretical, conceptual knowledge as a base for applied knowledge. I therefore argue that graduates, regardless of the institutions at which they registered as students, should be exposed to powerful, theoretical, context-independent knowledge if they are to function in the changing nature of employment. Powerful knowledge proposed in my article is conceptual knowledge that transcends immediate contexts, where curriculum design is not limited to knowledge for specific occupations for specific industries. This type of knowledge is contrasted with context-specific curriculum design, which prepares graduates for narrow specific occupations.

I argue further that while specialisation in differentiation is necessary to service diversified economies, there is the potential danger of locking out some UoT graduates from certain types of market in countries such as South Africa with a two-tier economy that mirrors past policies and practices. It is also argued that the over-polarising theoretical and applied knowledge in the curriculum design of UASs and UoTs is exacerbated by the collapse of knowledge, competence and outcomes.

The discussion also highlighted three issues pertaining to the South African context: (i) programmatic approach-led curriculum design in higher education unintentionally mystifies the significance of theoretical and conceptual knowledge in developing the qualifications of UoTs; (ii) the substitution of qualifications-led curriculum design with programme-based planning of the erstwhile technikons has, in turn, resulted in undermining the significance of knowledge of various disciplines in curriculum design; and (iii) the negative impacts of collapsing theoretical, disciplinary knowledge

with competence and outcomes in designing the curricula of higher education tends to mystify the distinctiveness of knowledge of institutions.

## References

- Allais, M. 2006. Problem with qualification reform. Senior schools education in South Africa. In *Knowledge, curriculum and qualifications for further education in South Africa*, ed. M. Young and J. Gamble, 18–43. Cape Town: Human Sciences Research Council (HSRC).
- Barnett, M. 2006. Vocational knowledge and academic and professional pedagogy. In *Knowledge, curriculum and qualifications for further education in South Africa*, ed. M. Young and J. Gamble, 143–58. Cape Town: Human Sciences Research Council (HSRC).
- Bernstein, B. 2000. *Pedagogy, symbolic control and identity. 2. Theory, research, critique*. Oxford: Rowman & Littlefield.
- Bleiklie, I. 2005. Organizing higher education in a knowledge society. *Higher Education* 49, nos. 1–2: 31–59.
- Bourdieu, P., and J.-C. Passeron. 1977. *Reproduction in education, society and culture*. London: Sage.
- Castells, M. 1993. The informational economy and the new international division of labour. In *The New Global Economy in the information Age; Reflections on our Changing World*, ed. M. Carno, M. Castells, S. Cohen and F.M. Cardoso, 15–44. University Park PA: Pennsylvania State University Press.
- Council on Higher Education. 2000. *Towards a new higher educational landscape. Meeting the equity, quality and social development imperatives of South Africa in the 21st century*. Council on Higher Education 2010. University of Technology-Deepening the debate. Pretoria: Council on Higher Education.
- Cristopherson, S., and M. Storper. 1989. The effects of flexible specialisation in industrial politics and the labor market. *Industrial and Labor Relations Review* 42: 331–47.
- Department of Education. 1997a. *Education White paper 3: a programme for higher education transformation*. Pretoria: Government Printers.
- Department of Education. 1997b. *General policy for technikon instructional programmes. Report 150 (97/01)*. Pretoria: Department of Education.
- Department of Education. 1997c. *General policy for technikon instructional programmes. Report 150 (97/01)*. Pretoria: Department of Education.
- Department of Education. 2001. *The National Plan on Higher Education*. Pretoria: Department of Education.
- Department of Education. 2004. *Creating comprehensive universities in South Africa. A concept document*. Pretoria: Department of Education.
- Department of Education. 2007. *Higher Education Qualifications Framework*. Pretoria: Department of Education.
- Department of Education. 2008. *Classification of Educational Subject Matter (CESM)*. Pretoria: Department of Education.
- Department of Education. 2010. *Creating comprehensive universities in South Africa. A concept document*. Pretoria: Government Press.
- Du Pre, R. 2006. *The philosophy of a university of technology in South Africa*. Kagisano. Pretoria: Council on Higher Education.
- Du Pre, R. 2009. *The place and role of universities of technology in South Africa*. Bloemfontein: South African Technology Network.
- Durkheim, É. 1984. *The Division of Labour*. New York: Free Press.
- Evers W. 1980. Specialization and the division of labor in the social thought of Plato and Rousseau. *The Journal of Libertarian Studies* IV, no 1: 397–444.
- Foucault, M. 1991. *Discipline and punish: The birth of a prison*. London: Penguin.
- Gamage, D.T. 1993. The reorganization of the Australian higher educational institutions towards a unified national system. *Studies in Higher Education* 18, no. 1: 81–94.
- Gamble, J. 2006. Theory and practice in the vocational curriculum. In *Knowledge, curriculum and qualifications for further education in South Africa*, ed. M. Young and J. Gamble, 87–103. Cape Town: Human Sciences Research Council (HSRC).

- Gramsci, A. 1971. *Selections from the prison notebooks*. London: Lawrence and Wishart.
- Griesel, H., and B. Parker. 2009. *Graduate attributes: A baseline study on South African graduates from the perspective of employers*. Pretoria: Higher Education South Africa & the South African Qualifications Authority.
- Huisman, J. 1995. *Differentiation, diversity and dependency in higher education*. Utrecht: Lemma.
- Johnstone, D. 1998. Institutional differentiation and the accommodation of enrolment expansion in Brazil. Washington: The World Bank. Latin America and the Caribbean Regional Office.
- Jones, A. 2009. Generic attributes as espoused theory: The importance of context. *Higher Education* 58, no. 2: 175–91.
- Lapping, B. 1986. *Apartheid: A history*. London: Paladin Grafton Books.
- Marx, K. 1964. Early writings. Translated and ed. T.B. Bottmore. New York: McGraw-Hill.
- Meek, V.L. 1991. The transformation of Australian higher education: from binary to unitary system. *Higher Education* 21: 461–94.
- Meek, V.L. 2003. Governance and management of Australian higher education: Enemies within and without. In *The higher education management revolution*, ed. A. Amaral, V.L. Meek and I.M. Larsen, 149–71. Dordrecht: Kluwer.
- Muller, J. 2006. Differentiation and progression in the curriculum. In *Knowledge, curriculum and qualifications for further education in South Africa*, ed. M. Young and J. Gamble, 66–85. Cape Town: Human Sciences Research Council (HSRC).
- Muller, J. 2009. Forms of knowledge and curriculum coherence. *Journal of Education and Work* 22, no. 3: 205–26.
- Neave, G. 1979. Academic drift: some views from Europe. *Studies in Higher Education* 4, no. 2: 143–59.
- Neave, G. 1996. Homogenisation integration and convergence: The Cheshire cats of higher education. In *The mockers and mocked: Comparative perspectives in differentiation, convergence and diversity in higher education*, eds. V.L. Meek, L. Goedegebuure, O. Kivinen and R. Rinne, 26–41. Oxford: Pergamon Press.
- Neave, G. 2000. Diversity, differentiation and the market: the debate we never had but which we ought to have done. *Higher Education Policy* 13: 7–21.
- Ng'ethe, N., Subotzky, G., and Affeti, G. 2008. *Differentiation and articulation in tertiary education systems. A study of twelve African countries*. Washington, DC: World Bank.
- O'Malley, P. 1959. *Extension of University Education Act No 45*. Nelson Mandela Centre of Memory and Dialogue. <http://www.nelsonmandela.org/omalley/index.php/site/q/03lv01538/04lv01828/05lv01829/06lv01898.htm> (accessed September 21, 2013).
- Piore, M., and Sabel, C. 1984. *The second industrial divide*. New York: Basic Books.
- Reddy, J. 2006. *The reclassification of technikon universities of technology*. Kagisano. Pretoria: Council on Higher Education.
- Ross, A. 2003. Access to higher education: Inclusion for the masses. In *Higher education and social class: Issues of exclusion and inclusion*, eds. L. Archer, M. Hutchings, and A. Ross, 45–74. London: Routledge Falmer.
- Scott, G. 2006. *Universities of technology: What is their distinctive role*. Kagisano. Pretoria: Council on Higher Education.
- Smith, A. 1776. *The wealth of nations*. Baltimore: Penguin.
- South African Technology Network (SATN). 2008. *Final report – The development of performance indicators for universities of technology (UoTs) and UoT related parts of comprehensive universities (CUs)*. [http://www.satn.co.za/wp-content/uploads/2012/10/FINAL-EDITED-VERSION-REPORT-ON-PI-PROJECT-Revised\\_251108.pdf](http://www.satn.co.za/wp-content/uploads/2012/10/FINAL-EDITED-VERSION-REPORT-ON-PI-PROJECT-Revised_251108.pdf) (accessed September 22, 2013).
- Teichler, U. 2004. Changing structures of the higher education systems: The increasing complexity of underlying forces in diversification of higher education and the changing role of knowledge and research. Paper presented at the Second Scientific Committee Meeting for Europe and North America, 1–16. Paris: Unesco.
- Union of South Africa. 1959. *Extension of University Act of 1959*. Pretoria: Government Printers.
- Van Vaught, F. 2007. Diversity and differentiation in higher education systems. CHET anniversary conference, November 16, in Cape Town.
- Wheelahan, L. 2005. *How markets distort decisions to undertake education, vocational knowledge, provision and qualification*. [http://dtl.unimelb.edu.au/dtl\\_publish/research/48/264269.html](http://dtl.unimelb.edu.au/dtl_publish/research/48/264269.html) (accessed 15 December 2012).

- Wheelahan, L. 2007a. How competency-based training locks the working class out of powerful knowledge: a modified Bernsteinian analysis. *British Journal of Sociology of Education* 5: 637–51.
- Wheelahan, L. 2007b. Beyond the contextual the improving of the theoretical knowledge in vocational qualifications and implications for work. <http://repository.unimelb.edu.au/10187/8809> (accessed September 20, 2013).
- Wheelahan, L. 2008. *Can learning outcomes be divorced from processes of learning? Or why training packages make very bad curriculum.* <http://www.voced.edu.au/content/ngv41254> (accessed September 22, 2013).
- Wheelahan, L. 2010. *Why knowledge matters in curriculum. Social realist argument.* London: Routledge.
- Wissenschaftsrat. 2010. Recommendations on the differentiation of higher education institutions. [www.wissenschaftsrat.de/download/archiv/10387-10\\_engl.pdf](http://www.wissenschaftsrat.de/download/archiv/10387-10_engl.pdf) (accessed September 20, 2013).
- World Bank. 2000. *Higher education in developing countries. Peril and promise.* Washington, DC: World Bank.
- Young, M. 2006. Conceptualising vocational knowledge: Some theoretical considerations. In *Knowledge, curriculum and qualifications for further education in South Africa*, ed. M. Young and J. Gamble, 66–85. Cape Town: Human Sciences Research Council (HSRC).
- Young, M. 2008a. From social constructivism to social realism in the sociology of education. University of London and University of Bath. UK. <http://rre.sagepub.com/content/32/1/1.extract> (accessed September 24, 2013).
- Young, M. 2008b. From constructivism to realism in the sociology of the curriculum. *Review of Research in Education* 32, no. 1: 1–28.
- Young M. 2011a. Collaboration between vocational and university education: Building partnerships for regional development. Paper presented at the Reviews of Higher Education in Regional and City Development – International Seminar, October 17–18, 2011, in Donostia, San Sebastián, Spain.
- Young, M. 2011b. A knowledge-based approach to the curriculum for a university of technology. Paper presented to senior staff at the Central University of Technology, Free State, Bloemfontein, May 30, 2011.