Perceptions of the ‘university of technology’ notion at higher education institutions

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Abstract

This article investigates the perceptions of ‘university of technology’ amongst managers and directors at nine higher education (HE) institutions. The analysis in this article is based on transcripts and summaries of eleven interviews. Only one of the interviewees, from a historically white technikon, feels that universities of technology (UoTs) are completely unique institutions. The rest of the technikon interviewees seem to view UoTs as extensions of technikons, but with increased research and post graduate programmes (though some even voiced reservations in this regard). The university interviewees seemed to stress the ‘U’ in UoT and assumed that the notion of UoT in South Africa is the same or very similar to UoTs internationally. Generally, the university interviewees felt that it was not possible to create UoTs out of the technikons without significant restructuring and development.

These results indicate that HE institutions do not share perceptions regarding a ‘UoT’ and accordingly there is some disparity in perceptions on the possible consequences of the change from technikons to UoTs for the profiles of these institutions, as well as to the HE landscape of South Africa. This poses a potential problem for the institutions, as well as for South African higher education in general.

We complete the article with a discussion of some possible directions for the new universities of technologies.

INTRODUCTION

Winberg (2005) has characterised the development of technikons by means of three phases, or ‘chronotopes’. In the first phase, the then Colleges of Advanced Technical Education ‘positioned themselves to serve the needs of industry’ (op. cit., 1). In the second phase, ‘the technikons find themselves in a state of “academic drift”’ (ibid.). Winberg identifies a third phase in which the newly named ‘univer-
sities of technology engage in processes of reinvention, realignment and enhancement, as the original mission of technical higher education is reconsidered in the light of changing contexts and changing needs’ (ibid.).

At the beginning of 2005, all technikons changed their names to universities of technology (except the then Durban Institute of Technology, which only became Durban University of Technology a year later). The questions that arise are:

- to what extent this has in fact implied the process of reinvention etcetera, as proposed by Winberg, thus leading to a change in identity; and
- whether or not the institutions share the same or similar notions of ‘university of technology’.

**METHOD**

Semi-structured interviews were conducted with research directors, academic staff members, vice-rectors with research and/or post-graduate portfolios, deans, and other prominent individuals as well as with CTP (Council of Technikon Principals) and SAUVCA (South African Vice Chancellors’ Association) representatives. The interviews were mainly conducted on an individual basis, but in a few cases group interviews were conducted. For more on the choice of institutions and interviewees, see Baijnath, Ogude and Christiansen (forthcoming).

All interviewees were asked about their views on technikons becoming universities of technology.

We acknowledge that the results of these interviews cannot be generalised due to the small number of interviewees. However, the interviewees all hold key positions in their respective institutions and we therefore feel that the patterns that manifest themselves through these interviews are likely to reflect trends within and across HE institutions.

**PERCEPTIONS OF ‘UNIVERSITY OF TECHNOLOGY’**

Four university employees from two historically white universities (HWUs), five persons at three HWTs, and two persons from one historically black technikon (HBT) responded to the question, or, during the interviews, made points about the possible change of technikons to universities/universities of technology.

The four university interviewees expressed reservations about the idea of turning technikons into UoTs. Three of them referred to the European and Australian notions of UoTs and asserted that if these notions were applied as a standard for the South African UoTs, then technikons did not meet them. They further asserted that some South Africans were not informed about them. In other words, they assumed that the South African UoTs should follow the internationally dominant model and concomitantly, that there is one such dominant model or notion of UoT.
to call technikons in South Africa UoT’s would be misleading. Most of the technikons in South Africa are not technology in that sense. In Europe, UoTs is a very specific place and it’s very technological with science based technological sense of the word. Our technikons are not.

So when people use those terms so glibly in South Africa I always say it’s so sad that people are so uninformed about the reality of what the name UoT means in the other countries. Trying to reinvent the meaning of technology would be very wrong.

The lesson is that Technikons can become universities of technology either by literally building in and duplicating what universities have; Physics, Maths departments, or they can work in an agreed alliance. But I do not think they can become UoT’s built on the current technikon model. Technikon graduates have very limited, not even first year, Maths and Physics. And I also knew that there was a lot of interest in the idea that Technikons may become more like universities similar to the Australian and British models. I always had worries that the proposal was politically led but not educationally led.

(Is it possible in South Africa of all places, to imagine something being educationally led without also being politically led?)

One HWU interviewee asserted the lack of a clear description of a UoT, which potentially implies that it is possible to imagine a concept of a UoT different from the internationally held one. ‘I’ve yet to see a clear description of what they think a UoT (should be).’

One interviewee from the HBT did not refer explicitly to the UoT concept, but spoke of the possibility of technikons ‘moving to universities’ with research-based funding. In this interviewee’s view, this would imply dropping co-operative education which s/he considered a key issue for technikons. In other words, there seemed to be the implication that if technikons were to ‘move to’ universities, they would lose what is perceived by some of the interviewees, to be one of their current key characteristics.

The other HBT interviewee expressed a relatively clear, though implicit, notion of the move to a UoT. The ‘demand of application in research’ and linking ‘changes in postgraduate programmes to improvements in community, the country and the economy generally’ are the changes that ‘afford the opportunity for technikons to become universities of technology’. According to this interviewee, this also implies

Institutional development; academic staff development; increased research and publication; increased size of postgraduate student mass.

This seems to imply that a successful ‘marriage’ between a research-based institutional profile and the traditional perception of technikons could take place.
through the notion of ‘application in research’. Interestingly, though, the interviewee talks about what is needed for the change to happen, but beyond what is implied by that, s/he discursively assumes the notion of a UoT to be given.

One HWT interviewee seemed to see the change from ‘technikons’ to ‘universities of technologies’ as an issue of changing the name, while at the same time s/he viewed the existence of technikons as a politically unacceptable legacy.

It is your name and as long as the quality of what you produce is in fact measurable or equal to any of your peers around you, it doesn’t bother me.

An interviewee from another HWT stressed that the goal of becoming a UoT made them emphasise the relevance of their research activities, but it is not indicated how this differed from what the institution saw as its main endeavour while still a technikon.

. . . our mission and vision to become a Technological Institution really impacts on the type of topics that we have seen our Executive Committee of Senate approve . . . the whole idea is that, . . . we need to do things that make South African industry more competitive . . . so we will not approve something that is merely a study of . . . so the chances of something slipping through that is just basic research, fundamental research, is about zero at this stage, because the question was asked “how is it benefiting industry”? In the humanities, “how would this benefit the community?”

The statements from the third HWT are to some extent contradictory. One interviewee simply stressed that it was an issue of doing research. And that ‘Faculty resists the demands of a technical university’.

Another interviewee claimed that there would be no need to change the curriculum if the technikon were to becomes a university (and the term ‘university’ was used – not ‘UoT’); ‘University” implied offering courses at a higher level and having staff qualified to do so.

The third interviewee made a clear distinction between universities and UoTs, because institutions of technology were ‘driving a knowledge economy’ in a ‘knowledge society’. This interviewee stated that a UoT ‘should be all academic programmes and research programmes that are technology-based’. The interviewee also asserted that ‘technology is the study and application in the light of and together with its applications’, ‘study of scientific knowledge’, and ‘the study and application of technique’ where ‘technique’ means ‘the knowledge going to the practical experience’. On this basis, the interviewee found that ‘all programmes would have to be recurruculated’, because ‘in the knowledge society the kinds of needs that they will address would be quite different’. The interviewee further maintained that there was a ‘huge distinction’ between university and technikon postgraduate degrees arising out of ‘what institutions are qualified to do' and ‘what is there to do within society’.
Without addressing the notion of UoT in particular, we also find warnings from one technikon staff member about focusing too much on research:

Research “can run away” is a concern I have had all along when we even started with degrees. I said “we must be careful that we don't have an academic creep”.

This technikon exists because of our three year diplomas. If we fail in that and we concentrate on our research and our doctorates, we won't last very long.

But to produce the best 3-year diploma we need staff who are on the cutting edge.

Overall, it seems that only one of the interviewees felt that universities of technology are completely unique institutions, requiring a rethinking of the notion of technology in the light of the ‘knowledge economy’. Even in this case, the notions of ‘technology’ and ‘UoT’ are only addressed in fairly rhetorical terms, and it is not clear to what extent this notion varies from the notion of a UoT as an institution with a focus on applied research and post-graduate studies.

The rest of the technikon interviewees appeared to view UoTs as an extension of the existing technikons through increased research and post-graduate programmes. (Certain reservations were expressed even in this regard.) This gives some indication that the so-called ‘third phase’ of Winberg is not well underway.

The university interviewees seemed to stress the ‘U’ in ‘UoT’ and assumed that the notion of UoT in South Africa must be the same or very similar to UoTs internationally. Generally, they found that it was not possible to make UoTs out of the technikons without significant restructuring and development, as they perceived the basis to be absent.

**DISCUSSION**

While the number of statements on UoTs is very small, they nevertheless provide an indication that the HE sector has not successfully managed to clarify how UoTs are meant to be different from universities, and thus, what is meant by ‘UoT’.

This extends to differences in the meaning of ‘technology’, though much remains implicit. One university interviewee warned that ‘trying to reinvent the meaning of technology would be very wrong’. Yet another referred to overseas institutions where ‘it’s very technological with science based technological sense of the word’, implying that ‘technology’ can be more-or-less science-based. The attempt from one of the HWT interviewees to define technology is – as it was presented in the interview – too vague to provide much direction.

All-in-all, representatives from HE institutions do not share common views on the nature of this new sort of institution, what consequences the transition from technikons to UoTs would have on curriculum and research activities, and, most importantly, whether or not there is a need to give deep consideration to the notion
at all. The result is a lack of institutional profiling around the new formal ‘identity’. This is concerning, given that the transition has already been indicated through the change of names for these institutions.

It must be noted that all of these statements reflect personal opinions and not the institutions’ ‘official’ discourse on their identities; although we would assume some degree of connection, as the interviewees are rather influential members of their institutional communities.

As we stated in our paper on institutional self-representation (Baijnath, Ogude, and Christiansen forthcoming), we do feel that if the universities of technology want to maintain an identity of difference in relation to universities, they should move towards a formulation of that profile on its own terms and not as the ‘other’ of universities. The latter self-perception implies a split of the technikon sector between those who want to distinguish themselves from universities and those that want to be more like universities. It is a challenge for the new universities of technology to profile themselves in a way (or ways) which does not take their ‘otherness’ as a starting point; be it as something to maintain or to overcome. This does not however imply that institutional diversity cannot and should not be considered.

**NEED FOR INSTITUTIONAL DIVERSITY?**

One may well ask why the UoTs should not imitate the universities. In his keynote address at *The Twelfth General Conference of the Institutional Management in Higher Education Member Institutions*, Shattock from the University of Warwick in the United Kingdom discussed the universities of the future (Shattock 1995).

When universities go from being elite, to being mass higher education institutions, the state will generally exercise a higher demand for accountability. In doing so, there is a tendency for the universities to develop towards the same concept, leading to greater institutional conformity. This is strengthened by the tendency of institutions to adapt to proposed performance indicators. As a result, we see an academic drift in what historically were the more vocationally oriented institutions, and a vocational drift in many universities (Trowler undated).

Shattock proposes to counter this by reinforcing institutional identity and thus diversity among institutions. We suggest that there are many advantages to institutional diversity with complementary institutional profiles. Having different research profiles would mean that the two kinds of institutions could attract funds from different sources, develop strengths in particular niche areas or perspectives, etc. Having different teaching styles would mean that the two kinds of institutions would attract different types of students (where ‘different’ refers to learning style, epistemic interest and personal goals, and not to ethnic background or constructed ‘levels’ of academic preparedness). This would create a cross-institutional environment which would celebrate the differences in approaches to academia (cf. Christiansen and Slammert 1999; Mourad 1997). It is important to note that we
do not accept that the call for difference should be a basis on which to exclude people on the grounds of, for example, language policies or cultural practices. It is a question of building choices.

This is not to imply that all UoTs should share institutional characteristics, or that all universities should. It is a call for diversity driven by careful reflections on knowledge production and ‘distribution’, and their politics, history and sociology. This could well involve an ‘Africanisation’ of our higher education, beyond the elementary concern over issues of black access to and membership within the white academic establishment, in favour of critiquing intellectual hierarchies within and across racial formations (Jansen 1991, 5).

Thus, the traditional disciplinary distinctiveness seems to narrow. It is as if disciplines have a monopoly on the production of knowledge. Institutional diversity based on disciplinary distinctions does not consider the necessity of redefining knowledge (Christiansen and Slammert 1999; Mourad 1997). The question of course is: what then, are possible directions for the new UoTs?

REFLECTIONS: POSSIBLE DIRECTIONS?

‘Pure’ versus ‘Applied’

In another part of the study, we looked at the institutional self-representation of the institutions (see Baijnath, Ogude, and Christiansen forthcoming). It was evident that the distinction between ‘pure’ and ‘applied’ had been used in distinguishing technikons and universities from each other. However, many of the interviewees recognised that this is no longer an appropriate distinction. Many of the technikons also engage in ‘pure’ research projects, and universities increasingly link their research activities to immediate ‘applications’.

The once clear lines of demarcation between government, industry and the universities, between science of the universities and the technology of industry, between basic research, applied research and product development, between careers in academe and those in industry seem no longer to apply . . . In a word, the university community is broadening the base of the kinds of problems that it considers worthwhile working on and over time this is bound to change its research practices and methodologies, its modes of organisation, and its reward structures (Gibbons 2005, 3–4).

Of course, one may even question the extent to which it is possible to divide research into ‘pure’ and ‘applied’. It has not been possible to use this as a clear guideline for determining funding, for instance. Clearly, it appears to have limited value in formulating institutional profiles.
Disciplinary discourses versus Credit exchange discourses

Traditionally, faculties at universities have been oriented around disciplinary discourses, while the stronger work orientation of many technikons to some extent would challenge this. However, the credit exchange discourse of many South African policy documents, in particular the National Qualifications Framework (Trowler undated), may challenge the disciplinary orientation at all institutions. Thus, this is unlikely to serve as a basis for institutional diversity.

Working from an expanded notion of ‘technology’

One suggestion has been to let the notion of ‘technology’ inform the profiling of UoTs. This surfaced in a number of interviews, but would need further exploration.

A prevalent interpretation of technology is to see a technology as a tool or instrument which humans insert between themselves and nature (for a discussion, see Skovsmose 1994, 45). However, the recognition that technologies change the social practices in which they are used implies that our social realities are reconstructed through the use of technologies. Thus, technologies are inserted between human beings as well, and have to be recognised as socio-physical systems organised with the purpose of producing certain effect.

Social technology does not have nature as its object but is directed towards relationships between human beings. I see “scientific management”, as developed by F. W. Taylor, as a paradigmatic example of this type of technology . . . I find the watch to be the exemplar of this technology (Skovsmose 1994, 47).

At the same time, technologies are invented, reinvented and altered through their use in practice.

This widening of the notion of technology to include social technology indicates that working scientifically with technology is more than applying (natural) science in the construction of tools and instruments to use in our relationships with our physical surroundings. From the above perspective, the branch of education which deals with improving teaching and learning becomes an issue of applying educational theory in the construction of social technology. Psycho-therapy can be considered a social technology. In a sense, we could say that the saturation of society with social technologies is a main characteristic of a knowledge economy.

Furthermore, our discussion points to the necessity of interrogating the ways in which technologies are put to use in social practices and altered through their use. Thus, technology becomes more than a move from theory to practice; it takes away, so to speak, the presumed primacy of science. It ‘shifts the metaphor from translation across boundaries to dialogue at boundaries’ (Gibbons 2005, 11).
This view on technology necessitates its own branch of theorising about what works in practice and with what consequences. Part of this is to strive to understand the alterations of our social practices through the use of technologies. This, however, is not a path which only UoTs are likely to choose. As claimed by Gibbons, the structural changes of society implies that there will be a shift of . . . research from the production of merely reliable knowledge (knowledge valid within certain carefully controlled laboratory conditions) to the production of socially robust knowledge (knowledge valid beyond the laboratory, because tested in a range of other contexts) (Gibbons 2005, 5).

In our view, an example of this shift is the broadening of the concept of learning to be inclusive enough to describe what happens in a range of contexts, perhaps most strongly manifested in the social learning theory of Wenger with its focus on communities of practice and its view of learning as legitimate peripheral participation (1998). In that light, ‘experiential learning’ makes much sense, and thus there are compelling reasons not only to continue ‘experiential learning’ but to reconsider all programmes in the light of this theory of learning. So rather than giving up experiential learning as feared by some interviewees, it could be developed on a theoretical foundation, engaging with the differences between practice based knowledge and academic knowledge.

There is nothing that hinders universities from also undertaking a transformation of their programmes in the light of learning theories.

Let us, however, for a moment assume that it would be possible to build a UoT profile around this understanding of technology, including exclusively seeking ‘socially robust knowledge’. This approach could also allow for a more strongly ‘African’ profile. What are the values infusing social technologies, and how can various African values inform the social technologies we construct? How do the social practices in African contexts impact on the use and (re)inventions of technology? How do the uses of technologies alter our social practices and to what extent does this imply clashes of cultures, values, etcetera?

As useful and informative as this perspective is, we are uncertain about the extent to which it can inform institutional profiling. Needless to say, some of the profession or career oriented programmes and areas of research at both universities and UoTs contain elements of theorising about technology and not the least constructing social technologies; we have already given two examples. However, it certainly does allow an academic drift away from the technikon profiles without simply imitating the traditional notion of university.

Higher education ‘in’ versus ‘for’ society

In 1998, Ronald Barnett published a short but powerful paper, titled ‘In’ or ‘for’ the learning society. The paper took its starting point in a critique of the UK Dearing Report on Higher Education. In his abstract, Barnett wrote:
The Dearing Report on higher education in the UK places itself in the context of “the learning society”. It notes a world of change and unpredictability and looks to higher education to assist in the development of the “nation's people” so as “to sustain a competitive economy”. To this end, the Report places significance upon ‘learning’ and the need for learners to be “enthused”. However, the Report also places a heavy emphasis on the need to develop a range of “kills”, thereby falling back onto assumptions of stability – of situations and human responses – which an unpredictable world denies. The Report offers a view of higher education “in” a learning society, responding to given and understood parameters of change. It could, instead, have offered a vision of higher education developing human dispositions capable of creatively helping to generate an uncertain but reflexive world. That would have been a higher education “for” a learning society (Barnett 1998, 7).

It is worth noting that the Barnett’s use of the term ‘learning society’ in this paragraph is not constant. He moves from a conception of a learning society as one with ‘continuing replenishment of human capital so as to maintain and, if possible, to strengthen society’s economic capital’ (ibid., 14) and with learning individuals’ continued improvement of their quality of life, to a notion of a societal learning (op. cit.). With this latter emancipatory concept of ‘learning society’, society itself is self-reflexive and self-learning (op. cit.) The focus then becomes the development of ‘modes of human being capable not just of responding adequately to an unknowable world but of contributing to it’ (ibid., 20, our emphasis).

Barnett suggests that the Report could have started with an analysis of the value and character of critical thought in a learning society, of what it means to be a self-critical, self-reflexive practitioner (who can embrace change and uncertainty and contribute to it), and what it is to be a student. This could successively be used to prompt a consideration of the kinds of human development higher education should sponsor in order to produce ‘critical beings’ (ibid., 17).

This of course does not apply solely to the educational activities of higher education institutions; it works for their research endeavours as well. Instead of focusing on research on what exists, or on development in response to society, with the danger of reducing institutions to entrepreneurial universities in the worst imaginable sense (Christiansen and Slammert 2005, 2006), institutions could direct their research activities towards the creation of an emancipatory learning society.

We do not in any way suggest that this should become the monopoly of UoTs alone. As a matter of fact, we think it is pivotal for all higher education institutions to grapple with these issues as part of the considerations of their role in society. However, Barnett’s discussion allows us to take a more critical view on any approach pursued. For instance, it offers a critical perspective on the discussion of technology in which we engaged in the previous section: What types of social technologies are desirable from this perspective? How do the uses of technologies affect the possibilities of social practices playing a role in the creation of a self-
reflective society? How do the uses of technologies in social practices (re)invent technologies, and how can these processes themselves be ‘engineered’ so as to support societal learning? And so forth.

What we have offered here are not institutional profiles for the new UoTs as much as starting points for discussion of what it entails to be a UoT in a society in transformation, anchored in a particular history and residing in a global economy which dictates many aspects of our realities and discourses. Most importantly, in the light of our analysis of the interviews with academics and managers at technikons and universities, the perspectives we offer here do not assume a position of UoTs as the ‘other’ of universities. Rather, we see the current situation as an immense opportunity for UoTs to rethink their institutional characteristics in a way which both maintains and develops institutional diversity, and which both builds and moves on from the established practices at these institutions.

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