Contesting Purposes for Higher Education:
A curriculum point of view

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Introduction

I will address the theme of 'What is Higher Education for?' from the rich and contested site of curriculum. Much of the contestation around curriculum occurs against the backdrop of global concerns about a general failure of higher education evidenced in poor articulation between the school and university, poor completion rates, the performance gap between privileged and under-privileged, under-employed graduates, and general failure of higher education to meet the needs of the knowledge society. Scott (2009) describes the crisis in South Africa as a **systemic failure**: higher education in South Africa is failing the majority of its young people.

In response to this crisis, curriculum debates are often framed through a discourse of polarities, or '**false choices**' about the purposes of higher education. These include, for example, choices between curricula for employability vs. 'educating the mind', vocational vs. academic, knowing vs. being, problem vs. discipline-based, depth vs. breadth, mode 1 vs. mode 2. I propose that underlying these debates and the false choices they construct are contestations about knowledge. If we are to make any headway as policy makers, educational development specialists, teachers and researchers in higher education we need to move beyond these false choices. We need to better understand the field of contestation which gives rise to this polarized discourse.

Amid these contestations sociologists of education rooted in social realism have made a compelling case for knowledge itself (Muller 2000, Young 2008, Moore 2007, Maton 2000, Wheelahan 2010). They have argued that **knowledge matters** in education, there are different kinds of knowledge, not all forms of knowledge are equal and that these differentiations have significant implications for curriculum. The crucial implication is that if learners are to have access to powerful knowledge, then

all curricula, including vocational, must include theoretical knowledge. More specifically, all curricula must include epistemic access to theoretical knowledge. Social access without epistemic access is merely to reproduce social inequality. (Wheelahan 2010, p. 1).

Much of the focus of the knowledge and curriculum debate and critique has focused on the schooling sector. There is however a growing body of scholarship focusing on higher education (as a recent symposium at UCT will testify and Paul Ashwin's special edition of Higher Education coming out in 2013).

The purpose of this paper is to zoom out from this significant and in some cases ground breaking empirical work to look at the wider field (in Bourdieu's sense). The paper will proceed in four parts: **First**, I clarify what I mean by 'epistemic access'. Second, I turn to the field of knowledge production and look at some of the contestations about knowledge. Third, drawing on key theorists in the sociology of education -- Bernstein, Bourdieu and Maton -- I offer a conceptual framework. The framework situates these contestations in the field of knowledge production and offers a generative framework for exploring what is happening in curriculum. Finally, I use the framework to explore specifically what happens to knowledge when curricula 'face outwards'. I propose one plausible explanation for the crisis currently being experienced in higher education – is a widening gap between the needs of our knowledge society and the kinds of curricula which higher education has to offer.

1) Epistemic Access: what is it and why?

The notion of 'epistemic access' was coined by the late Wally Morrow (2009[1]) – a South African scholar and activist – who argued that if one of the key purposes of higher education is to produce knowledgeable citizens then it follows that one of its core functions has to be to give students access to knowledge, access to what Morrow (2009) calls 'epistemic values' – that is the forms of inquiry of the disciplines. This is more than disciplinary content, it is the "grammar of inquiry" (p. 37). Morrow elaborates on this, "In this way of talking, any *established* and *disciplined* practice,

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[1] Morrow (2009) is compilation of essays written by him which span a period from the late 1980's to the early 2000's.

such as civil engineering, teaching, mathematics, legal practice, biochemistry, history or primary healthcare, can be said to be constituted by a particular (but not necessarily exclusive) grammar…Higher knowledge of the practice in question would consist in understanding the constitutive grammar of the practice, the grammar that makes the practice what it is" (p. 120). He is clear that this is not knowledge for knowledge's sake, "What I have claimed is that a modern society does not so much value knowledge per se, but rather that kind of knowledge that is a potential, and potent, catalyst for innovation and growth" (p. 121).

While higher education is no longer the only knowledge producer, it still has a unique mission of producing the knowledge producers, ensuring a new generation of knowledgeable citizens and professionals who can contribute to all spheres of society. Higher education's role in this endeavor is not simply an extension of schooling; it is not the same as post-secondary. It is called *higher* education for a reason. Morrow (2009) quoting Muller, "It (higher education) involves a capacity to manipulate information and knowledge to produce new configurations (this is really what 'new knowledge' means in the 'steady state' knowledge society)… It involves, in other words, the ability to distinguish between representations and objects ... and to be able to manipulate the representations to generate new connections" (p. 119).

What was Morrow on about? What were the particular concerns that he had about higher education at the dawn of South Africa's new democracy? To foreground epistemic access – that is, access to specialized discourses -- as one of the key functions of higher education would not have been a popular line in the early days of post-apartheid discourses. It smacked of elitism. Morrow is writing at a time when higher education in South Africa was experiencing rapid expansion of enrolments, and a promising increase in the number of students who historically had been denied access. By 2000 the number of black students[2] enrolled in higher education had nearly doubled; they comprised nearly 60% of the overall enrolments (Scott, Hendry, Yeld, 2007). However, as Muller (2012) argues, "Morrow was one of the first to sound a warning that, if we were serious about 'opening the doors to learning' as the then

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[2] The term 'black' is used here inclusively and constitutes those students who under apartheid would have been classified African, Coloured and Indian.

fashionable slogan had it, *formal access* was one thing, *epistemological access* another" (p. xx).

What we know now is that Morrow's concerns were well founded – the 'open doors of learning' have become for the vast majority a revolving door. The great achievement of post-apartheid's increased enrolment upon great scrutiny reveals a marginal increase in overall participation rate of 15% in 2001 to 16% today with 60% participation rate for white students, only 12% for black students. In terms of completion rates, national cohort studies show that only 30% of the students have completed their 3-year degree in 5 year (Scott, Yeld, Hendry 2007). The completion rates for black students is about half that of white students for many programmes. This is the quantitative picture of the 'systemic failure' Scott refers to noted above.

We take as given that not only is this a blow for social justice but it is a profound blow to the future sustainability of South Africa's economic development. As a knowledge society we note the relationship between knowledge production and economic development especially in developing countries (Naidoo 2007, Fisher and Scott 2011). Morrow's call for epistemic access spotlights the huge challenge to steer a conceptual path between the twin goals of equity (the imperatives of redress) and development (the need for highly skilled knowledge producers). This is the permanent tension of a developing country in a fiercely competitive globalized world. It is another one of those false choices especially in the context of developing countries such as South Africa – where the majority have been disenfranchised. If we do not deal with redress, there will be no development. Thus these goals have to be held in tension which means that compromises on each side will be required. It means the process of transformation is likely to be slower -- difficult political choices have to be made.

So the argument for epistemic access now is being made at a time when the need for knowledgeable citizens has never been greater, when higher education is currently systemically failing to deliver against this purpose, and when there is a great deal of conceptual confusion at higher levels about what we mean by knowledge in a knowledge society. The opportunities for higher education curriculum reform – curricula for epistemic access -- have never been greater. Morrow hits a keynote for

us – the term 'epistemic access' has become ubiquitous in educational development in South Africa and beyond (Muller 2012, Young, Wheelahan) – but more conceptual work is needed. The stakes are perhaps greater than we imagine.

2) Revisiting Mode 2

If we want to understand what is at stake in higher education curricula then Bernstein (2000) argues that we will find clues in the field of knowledge production. It has been nearly twenty years since the controversial Mode 1/Mode 2 thesis (Gibbons 1994). The general thesis – that the production of knowledge and the process of research are being "radically transformed" (p. 179) – is one which today is hard to argue against. Gibbons and colleagues argue that the changing research environment can be characterized by three trends -- trends are generally accepted to be significant – (a) the 'steering' of research priorities, (b) the commercialization of research, and (c) the accountability of science. They argue that these and other trends, or changes in practice, have given rise to new discourses of science and research" (Nowotny 2003, p. 181). These trends have resulted, they argue, in a 'new' discourse of science.

In subsequent work (2001, 2003) they further clarify the characteristics of Mode 2. For the purposes I want to highlight two of these. The first is that Mode 2 knowledge is generated within a <u>context of application</u>. In further development of their argument they elaborate that this is not the facile distinction between pure and applied science. … The context of application, in contrast, describes the total environment in which scientific problems arise, methodologies are developed, outcomes are disseminated, and uses are defined (p. 186).

"The second 'Mode 2' characteristic is 'trans-disciplinarity', by which is meant the <u>mobilization of a range of theoretical perspectives and practical methodologies to solve problems.</u> But, unlike inter- or multi-disciplinarity, it is not necessarily derived from pre-existing disciplines, nor does it always contribute to the formation of new disciplines. The creative act lies just as much in the capacity to mobilize and manage these perspectives and methodologies, their 'external' orchestration, as in the development of new theories or conceptualisations, …

It is not my intention to review the many arguments for and against this thesis. The argument attracted a great deal of attention by policy makers in South Africa who found it a convenient and compelling driver for the transformation of higher education. It also came under some sharp attack from some in the academic community particularly the interpretation that Gibbons was arguing for a replacement thesis – that Mode 2 was replacing Mode 1 (Kraak 2000, Muller 2000, Jansen xxxx). Muller (2000) critiqued the way in which advocacy for Mode 2 was problematically taken up by curriculum policy in South Africa – providing a platform for curricula to replace foundational knowledge with problem-based curriculum as happened in many medical schools, Or the way in which generic, transferable skills were foregrounded over disciplinary knowledge. Muller asks, 'What knowledge is of most worth for the millennial citizen?' For him the answer was unequivocally Mode 1. From the point of view of the developing world, he argued, we cannot afford to replace Mode 1 with Mode 2.

More than a decade has passed since these heated debates. Some institutions in South Africa in response to the Mode 2 call attempted hugely ambitious curriculum reform to transform curricula to be more responsive, relevant, geared towards problem-solving. The implementation of this policy in my own institution was so disastrous that it has been impossible to this day to even speak of 'curriculum change' however badly it might be needed.

What I propose is that we can now return to Mode 2 as an articulation of, if not a 'new' science discourse, at least a manifestation of contestation in the field of knowledge production. (If Mode 2 knowledge is not simply 'applied science' but is its own kind of knowledge, as Nowotny and colleagues are proposing, what are the implications for curricula which enable epistemic access?

To attempt an answer to these questions, I offer a framework which enables us to conceptualize these curriculum contestations. This framework attempts to move us beyond 'either/or's' with a way of thinking which asks, what are the underlying principles which constitute this contestation. It looks to the field of power in which mode 1 and mode 2 are different kinds of capital vying for resources, and even deeper it looks to the underlying principles which position these forms of capital. I will show

how Legitimation Code Theory draws together both the field theory of Bourdieu and the code theory of Bernstein to get us underneath these polarizing discourses. In the same way that Gibbons and colleagues argue that a new language of research has been invented, what I aspire to offer here is a new language or a new way of thinking about curriculum – rooted in notions of epistemic access

The conceptual framework has a number of key requirements – I need to say more about the ontological status of knowledge, the nature of the field or fields which constitute the knowledge practices, and the underlying principles which constitute the bases of legitimation. Against this conceptual map or framework of contestation I will discuss some of the key trends in curriculum change – and finally come back to the issue of epistemic access.

3) Conceptualization of contestation in the fields of knowledge production and recontextualization

Any conceptualization of epistemic access necessitates a brief detour to establish some ontological assumptions. To view knowledge as a social field exposes both its 'structured and structuring' properties (Maton , forthcoming). Various educational traditions have tended to emphasize one property over another. Sociologist of education rooted in a critical or social realist paradigm have re-asserted the ontological reality of knowledge or to put it more simply, that knowledge matters. As Maton (forthcoming) captures it, knowledge claims are always about *something* and by *someone*. The first assertion is that knowledge is real, a knowledge claim is always about something other than itself and cannot simply be reduced to who is making the claim. This is the epistemic relation – the relation between the object and the knowledge claim. The second assertion is that we can only ever know through our socially constituted ways of knowing. This is the social relation – the relation between the subject and the knowledge claim. Social realism thus asserts both the objectivity and sociality of knowledge. All knowledge claims have both an epistemic and a social relation – the issue of interest is which is more important as the basis of legitimation.

All this has important implications for how we understand disciplines – what Trowler (2012) defines as the "reservoirs of knowledge resources" which disciplinary practitioners draw on for their "localized repertoire" (p. 9). Against overly relativized notions of disciplines, the 'reservoir' speaks to the "regularized sets of discourses, ways of thinking, procedures", "the common background knowledge" – the epistemic anchoring. Against overly reified and objectified notions of disciplines, the localized 'repertoires' speak to the social construction or the social relations – the localized selection, interpretation and reinterpretation for specific interests. This understanding of disciplines is consistent with a social realist take on knowledge. Curricula provide epistemic entry to disciplinary communities which legitimate certain methods of inquiry, which hold entrants and members of the community accountable to a certain set of epistemic values. These values set the boundaries of what constitutes the community in the first place (the rules of the game) but at the same time set out the stakes, the struggle, the contestation.

Having established both the objectivity and sociality of knowledge, I turn to elaborate the field or fields which structure these knowledge practices. For this I turn to Bernstein's pedagogic device (2000). The pedagogic device models the relationship between the field of production (where knowledge is produced), the field of recontextualization (where knowledge is translated into curriculum) and the field of reproduction (where knowledge is transmitted through pedagogy). Each of these fields has different rules which constitute what is acceptable. Thus we can hear strong resonances of Bourdieu in Bernstein's notion of field. In Bourdieu's terms it is always a 'field of power' (1996, p. 264). It is the relationship between the field, its forms of capital (in this case knowledge) and the positioning of agents which explains the logic of social practices or its basis of legitimation.

Bernstein's interest is in the relay or the transformation of knowledge as it circulates across the different fields from, for example, from research into curriculum into pedagogy (2000, p. 25). For Bernstein the fields and thus the rules are hierarchically related – the rules of the field of recontextualization are derived from the field of production, the rules of the field of reproduction are derived from the field of recontextualization. In this model curricula inherit their bases of legitimation from the field of knowledge production. However Bernstein notes that in the process of "de-

locating" from one discourse to another – from disciplinary knowledge to pedagogical knowledge – a gap is created. 'As a discourse moves from its original site to its new positioning … a transformation takes place. … the transformation takes place because every time a discourse moves from one place to another, there is a space in which ideology can play." (2000, 32). Thus while these knowledges are related they are not the same. Their bases of legitimacy – what makes them special – is not the same. The research produced in the scientific laboratory is not the same as the educational knowledge of the science textbook. There are all manner of selections and translations which occur.

This 'gap' becomes a key focus of interest in conceptualizing epistemic access. What is the nature of the gap between the field where knowledge is being produced in increasingly rapid, demand-driven, problem-oriented, competitive, market-driven ways on the one hand and the field of higher education where the knowledge producers are produced? What transformations are taking place? Does the hierarchical relationship of Bernstein's fields hold for higher education? If so, this would suggest that higher education curriculum inherit their basis of legitimation – their epistemic code – from the field of knowledge production. Is this the case? Or are there other competing forces of recontextualization that may be profoundly disrupting the relationship between knowledge in the field of production and the field of recontextualization?

Having establish the fields and problematized the relationship between them, the conceptual task is to expose the underlying principles which constitute the basis of legitimation in this field – what Bourdieu would refer to as forms of capital, what Bernstein would refer to as underlying principles or 'codes' which constitute different 'orders of meaning'. Even if as educationalist we were to agree that epistemic access is crucial, there are fundamental disagreements about what kind of knowledge is needed, what kind of knowledge do our students need access to. As the social realist put it, there are more or less 'powerful forms of knowledge'. These are contestations about legitimacy and one hears resonances of these contestations in the discourses of polarity cited above. I propose that in order to avoid a slide into these either/or ways of thinking, it is necessary to map out the broader field of contestation and to attempt

to expose some of the underlying principles which are at stake. This then yields a picture of differentiation – different forms of knowledge.

It is important to note the long history and tradition of knowledge typologies. Aristotle distinguishes between episteme, techne and phronesis (Flyvbjerg 2001). Muller (2012) drawing on Ryle (1945) and Winch (2010) contrasts knowing-that, knowing-how, knowing-why. Bernstein, drawing on Durkheim's distinctions between sacred and profane knowledge, uses the spacial metaphors of 'horizontal' and 'vertical' to distinguish between 'systematic' and 'everyday' knowledge. There is Becher 's (1989) classic characterization, drawing on Biglan and Kolb, of hard/applied, hard/pure, soft/applied, soft/pure. In my own work (Shay 2011) I extend Muller (2008) and Gamble 's (2004, 2006) work to distinguish between practical and theoretical knowledge and their principled and proceduralized variants. These typologies come from different traditions and each offer helpful distinctions for characterizing differentiation.   The approach is slightly different here. It follows from Legitimation Code Theory that underlying every typology is a topology of principles. These principles or codes offer a toolkit for analysis. I will draw on only one set of tools – the semantic codes. Other tools would expose other distinctions and thus this analysis in no way claims to be exhaustive of the possibilities.

As with all the codes the purpose of the semantic codes – semantic gravity and semantic density -- is to enable us to say something about the 'orders of meaning' – what is legitimated. These particular codes say something about the internal and external relations of knowledge practices – I start with the external relations:

Semantic gravity (SG) is defined as "the degree to which meaning relates to its context, whether that is social or symbolic. Semantic gravity may be relatively stronger (+) or weaker (-) along a continuum of strengths". (Maton forthcoming)

Since all meaning is context-dependent, it is important to specify what I mean by 'context'. For the purpose of this conceptual framework semantic gravity refers to the external relations of knowledge practices and the extent to which meaning is strongly or loosely embedded in the context of application or performance. Thus knowledge practices with strong semantic gravity would mean those both constituted for and by a

site of practice, a situation or a problem. Ones with weak semantic gravity would mean those knowledge practices which are context-independent.

Semantic density (SD) is defined as "the degree of condensation of meaning within symbols (terms, concepts, phrases, expressions, gestures, clothing, etc). Semantic density may be relatively stronger (+) or weaker (-) along a continuum of strengths. (Maton forthcoming).

For the purposes of the conceptual framework semantic density refers to the internal relations of knowledge – its internal structuring. I operationalize semantic density to refer to the extent to which the knowledge practice is conceptually dense or conceptually light. Concepts with strong semantic density 'package up' meaning through, for example, abstraction as one sees in science or by 'compounding or layering' meaning as one sees in design [Steyn in Shay & Steyn under review]. Concepts with weak semantic density are less abstract, less layered, have a closer relationship to their empirical phenomenon.

These two underlying principles – or bases of legitimation – enable us to distinguish knowledge practices by signaling something about the nature of the **context** and something about the nature of the **concept**. These continua as axes create a topology for mapping both knowledge differentiation in field of knowledge production and curriculum differentiation in field of recontextualization. (A more detailed discussion of this conceptual framework can be found in Shay in press).

[Figure 1]

Different epistemic codes in the field of knowledge production

We can now use these codes to analyze the differentiated forms of knowledge in the field of knowledge production.

Horizontal discourse or everyday knowledge (SG+/SD-)
In the bottom left quadrant we have strong semantic gravity and weak semantic density, what Bernstein refers to as horizontal discourse or everyday knowledge. This

is "oral, local, context dependent and specific" (Bernstein 2000, p. 157) or what Freidson (2001) calls practical knowledge: "knowledge largely free of formal concepts and theories, learned by experience, and instrumental for performing concrete tasks in concrete settings" (p. 31). Its organizing logic is the function, the purpose, the problem at hand. Its basis of legitimation is experience.

Vertical discourse or systematic knowledge (SG-/SD+)

In the top right quadrant we have weak semantic gravity and strong semantic density, what Bernstein refers to as 'vertical discourse' or systematic knowledge. The basis of legitimation is thus not experience but the capacity to integrate experiences "to create very general propositions and theories, which integrate knowledge at lower levels," (p. 161). Freidson calls this "formal knowledge… abstract and general in character… and cannot be applied directly to the problems of work" (p. 29). Vertical discourse is the stock of what we know as disciplines which Bernstein refers to as 'singulars' which are "on the whole oriented towards their own development, protected by strong boundaries and hierarchies" (p. 52).

Regions – SG+/SD+

In his work on knowledge structures Bernstein only offers horizontal and vertical discourses since his interest was to differentiate how knowledge grows in the social sciences in contrast to the natural sciences. But the topology set up by the semantic codes enables us to go further. In the bottom right quadrant we have knowledge discourses which are both strong in semantic gravity and strong in semantic density. Though Bernstein's knowledge discourses do not account for this quadrant he coins the term 'regions' to describe the recontextualization of singulars. Regions – for example Medicine, Engineering, Architecture -- operate at the interface of the field of knowledge production and any field of practice (p. 9). Regions recruit vertical discourse for the solving of problems. Thus they have dual accountability: they face both ways, inwards towards disciplines as well as outwards towards fields of practice (p. 55). I call this professional or regionalized knowledge.

Generic (SG-/SD-)

In his discussion of singulars and regions, Bernstein adds an additional 'performance mode' which he calls 'generic' which he notes is a more recent construction

historically. He argues that generic modes are produced "by a functional analysis of what is taken to be the underlying features necessary to the performance of a skill, task, practice or even area of work (p. 53). This is the top left quadrant. The logic of 'generic' is that it can transcend specific contexts, be transferable. Thus it is weak in semantic gravity. It also tends to repudiate content or concepts in favour of processes or outcomes (Whitty , 2010). It is thus weak in semantic density.

Thus by mapping Bernstein's different knowledge discourses onto the semantic field we expose different epistemic codes – different bases of legitimation**.** We can therefore understand the Mode 1/Mode 2 debate as a contestation over whether knowledge is principally legitimated by its function, its usefulness or whether it is legitimated by its adherence to the logic of the discipline – this is an epistemic code battle.

4) Knowledge in the field of recontextualization

What happens when these different kinds of knowledge in the field of production are recontextualized into curriculum? Before turning to this question, I want to quickly re-cap the argument so far:

Firstly, the conceptual framework exposes different forms of knowledge in the field of knowledge production. All have their place in the field but some are considered more 'powerful' knowledge than others, 'unthinkable' knowledge as Bernstein calls it (2000, p. 29) or what we might call innovation.

Secondly, these different forms of knowledge are selected (or not) and transformed into curriculum. So there is a relationship between disciplinary or professional knowledge and curriculum knowledge but they are not the same. There is a gap where, as Bernstein reminds us, ideology can play. There are in fact many recontextualizing forces at play on curriculum. A historical view on any curriculum will reveal different forces of change over time (see Shay 2011). Sheppard et al (2009) trace the development of the Engineering curriculum from the mid-1800's -- the efforts to 'professionalize', to raise its status by introducing more and more basic sciences at the cost of more practical subjects. We note with alarm the forces of the market on curriculum: the drive for curricula which are means to some economic end, which construct students as consumers, academics as service providers, where

relevance to the workplace trumps all. We are increasingly aware of the way in which technology is shaping educational practice but what is it doing to educational knowledge? Czerniewiecz (2012) proposes that we are seeing in some uses of educational technology, for example, MOOC's – mass open on-line courses – the disaggregation of 'content' from pedagogy (traditional forms anyway) from assessment. We need to be asking critical questions about the implications of this for epistemic access. In each of these delocations and relocations of knowledge, Bernstein (2000) would argue there is a change in the classification of knowledge, there is a shift in the epistemic code.

The third point of my argument, is that Mode 2 knowledge poses crucial challenges for curricula.

I want to turn now in this final section to look at this a little more closely: what happens when the boundaries of disciplines are weakened in the interest of some external purpose. In other words when curricula 'face outwards'? In the late 1990's there was an attempt in South Africa from the state to shift higher education curriculum towards greater responsiveness to Mode 2. If we scan internationally we see high profile institutions grappling with what this means. The central question of Stanford University's recent review (2012) of its undergraduate curriculum is "how do we best prepare Stanford students for local, national and global citizenship?". There is the famous 'Melbourne Model' – a radical curriculum shift towards inter-disciplinarity. These processes all reveal that reform is much more complex than it would appear and that it is crucial to pay attention to what is happening to knowledge.

Bernstein (1975, 2000) gives us the beginnings of a model for thinking about this recontextualization of different kinds of knowledge into different kinds of curriculum. He distinguishes between 'collection code' and 'integrated code' curricula. A collection code curriculum is one where the contents "stand in a closed relation to each other", they are bounded, strongly classified (1975, p. 80). We can think of Bachelor of Social Science degree where students might major in Psychology, Sociology and Politics. The boundaries of the disciplines are by and large maintained. The logic of the curriculum is the conceptual spine of its respective disciplines.

The integrated curriculum code is where the contents "stand in open relation to each other" (1975, p. 80). The boundaries of the disciplines are weakened as we might see in inter- or multi-disciplinarity. This is different logic. The disciplines become subordinate to some external problem in the 'real world' of practice (e.g. climate change, HIV/Aids, poverty, development). Interestingly Bernstein does not suggest that the knowledge base of the integrated code is weakened. He simply notes that in any recontextualization process the classification of knowledge will change – there will be a shift in epistemic coding. The crucial question, he argues, is 'in whose interest is the apartness of things, and in whose interest is the new togetherness, the new integration?' (2000, p. 55).

Drawing on the conceptual model which I developed earlier I would like to now propose that there are three possibilities for curriculum when there is a contextual shift. Each of these shifts represent changes in the classification of knowledge or changes in the epistemic code.

[diagram 2]

The first possibility is a shift towards genericism. Here semantic gravity is strengthened at the cost of both semantic gravity and semantic density – in other words, in an attempt to make a contextual shift, both contextual and conceptual logic are weakened. These would be curricula where specialist knowledge is backgrounded and what is foregrounded is high level, context and content independent dispositions, qualities, or attributes. This could be a curriculum where the primary logic is, for example, graduate attributes (e.g. global citizens, critical thinkers, etc…). This is a curriculum which privileges what Maton refers to as the 'knower code' over the 'knowledge code' – where who you are is more important than what or how you know (Maton 2013). This has been one of the critiques of learning-outcomes based education in South Africa, what Young and Muller (2010) refer to as a "swing from content-based to skills-based" (p. 18). And we have seen this worldwide.

The second possibility is a shift towards what I call practical curricula. Here semantic gravity is strengthened at the cost of semantic density. What becomes privileged is

context-specific skills which can be wielded in practice. In 2009-10 I was part of a research and development team tasked to conceptualize curriculum differentiation in a comprehensive university in South Africa – comprehensives are a new category of university which are the result of a merger of traditional universities and universities of technology (Shay et al 2011). We noted in our analysis that some of the formative Bachelors degrees of the collection type had experienced a contextual shift, a pull to become more 'relevant', to produce graduates who are 'work-ready'. For example, in some of these degrees, courses which would have been considered foundational knowledge were replaced with a growing suite of more "practical" subjects. Thus in these cases the contextual shift resulted in more theoretical knowledge being replaced by more procedural knowledge.

Sociologists of education have been critical of this contextual shift. Young and Muller (2010) in their 'future scenarios' for curriculum critique the 'end of boundaries' scenarios arguing that the need for specialist disciplinary knowledge will not go away, it will only be available to those privileged enough to access elite and private sector institutions. Stavrou (2009) in her study of the regionalization of social scientific knowledge in French universities is critical of how knowledge is de-contextualized and re-contextualized (p. 25). Her critique is that as a result of this contextual shift sociology students are immediately confronted with how to solve a social problem instead of being given the theoretical and methodologically tools to transform it into a sociological problem.

This resonates with critiques of problem-based learning. Larsen 's (2012) study examines a 'contextual shift' in higher education curricula in Denmark in response to Bologna. He shows in his analysis how when disciplinary boundaries are 'blurred' this then gives rise to pedagogical interventions such as PBL – PBL is brought in to 'redeem the lost disciplines'. He argues that in this process the knower (attributes, dispositions) is foregrounded and knowledge is fragmented and weakened.

Does the weakening of disciplinary boundaries inevitably lead to the fragmentation of knowledge – a slide towards genericism, a slide towards skills (or what Grubb refers to as vocationalization)? Can we produce curricula which are the transformation of regionalized knowledge and what would these look like? These

questions lie at the heart of a growing body of scholarship in South Africa noted earlier, much of it motivated by a desire to understand epistemic barriers which talented but underprepared students face as they enter into higher education. This takes us to a third possibility.

The third possibility is that as semantic gravity strengthens so too does the semantic density. Time will only allow a brief illustration from a design foundation course at our local university of technology which has as its purpose to give students who have been identified as talented in art but have had no prior training. The course is designed to give epistemic access to the general field of design as well as to a range of specific design disciplines. What the analysis of the curriculum briefs reveals is that designer 'ways of knowing' develop through the engagement with increasingly more context-dependent design problems which require increasingly abstract design concepts. The analysis also reveals how different disciplinary design problems will require and develop different kinds of designer identities. The relationship between these epistemic codes and the identities which they constitute is a fascinating area of research which Steyn's work gives us a glimpse of and more work needs to be done to look at this relationship.

Diagram 3 here

In this epistemic code the engagement with the particularity of the problem enables, indeed *advances*, the capacity for abstraction. Clarke and Winch (2004, p. 511) refer to this as "the confident embedding of theoretically informed action in practice". This is not simply the *application* of theory to practice – this is a specific form of knowledge with its own epistemic code. I would argue that it is the translation of Mode 2 into powerful educational knowledge.

Conclusion: A curriculum for epistemic access

In closing let me be clear about what I am saying and what I am not saying.

Amid all the profound changes being experienced in higher education – which lead us to reflect on the purposes of higher education – we are witnessing a contextual shift on curriculum. A weakening of boundaries around the disciplines – a breaking down of their isolation, a strengthening of the interface between disciplinary knowledge and the great challenges of our time. Harvard Provost Hyman, commenting on the tension between the autonomy of disciplines and the needs of a rapidly changing world remarks, "there's no reason why the problems of the 21st century should happily conform to the academic divisions… concretized…by the end of the 19th century…" (Gazette , 20 May 2011). The conceptual framework which I have offered shows how this contextual shift is a battle over the epistemic code – what kinds of knowledge will be legitimated. It posits that there are a number of possible resolutions to this contextual shift. Let me be clear what I am not saying – I am not saying that generic qualities and dispositions have no places in our curricula for the 21st century. Ron Barnett's foregrounding of 'being' in the curriculum is a crucial corrective in conceptualizations of curriculum. Neither am I saying there is no place for deep context-embedded practical skills. What I am saying is that these ways of being and ways of doing must have an epistemic anchoring in disciplinary forms of knowledge. This is what makes higher education, *higher* education.

If Higher Education's primary purpose is to produce the next generation of knowledge producers, I challenge us to re-commit ourselves as policy makers, educators, researchers to ensure curricula for epistemic access. Not only is this a matter of social justice – to give those students who have traditionally been marginalized from their knowledge production role – but where these marginalized students constitute a majority of the population, it is a matter of the future economic sustainability of our countries.

It is possible in a talk like this so focused on structures to loose sight of the agents – the students. In UCT's most recent Alumni magazine there is a story which caught my eye of Thabisa Xhalisa. Thabisa's story is familiar to us – she says, 'I did well in school but no hope of studying further. I grew up in poverty and thought I was meant to live in poverty." She raises her two children, plus a niece and a cousin after the death of her mother. She was destined to join the thousands of young people in the townships trapped by poverty and circumstance. In 2002 with only R50 in her pocket

she leaves her rural town and heads for Cape Town to study. Her application to study medicine at UCT is turned down because her grades are not good enough. She is turned down at another local university because she cannot afford the registration fees. She returns to UCT where she is advised to study Humanities and someone assists her to get a small loan. In 2005 she completed a BA in media studies, an Honours in 2007 and a Masters' degree in 2011. She is now registered for her Doctorate and she is planning to make a documentary about her mother. Thabisa has become a knowledge producer. Surely there is nothing more important for us in the audience to be doing that ensuring the Thabisa's of our world are contributing to and pushing the boundaries of knowledge production.

References

BECHER, T. & TROWLER, P. 2001. *Academic Tribes and Territories Second Edition* The Society for Research into Higher Education & Open University Press.

BERNSTEIN, B. 1975. *Class, Codes and Control: Towards a Theory of Educational Transmission*, Routledge.

BERNSTEIN, B. 2000. *Pedagogy, symbolic control and idenity: Theory, research, critique,* Lanham, Rowman & Littlefield Publishers, Inc.

BOURDIEU, P. 1996. *The State Nobility* Stanford, CA, Stanford University Press.

CLARKE, L. & WINCH, C. 2004. Apprenticeship and applied theoretical knowledge. *Educational Philosophy and Theory* 36**,** 509-521.

FISHER, G. & SCOTT, I. 2011. Background paper 3: The role of higher education in closing the skills gap in South Africa *Closing the skills and technology gap in South Africa* The World Bank

FREIDSON, E. 2001. *Professionalism: The third logic,* Chicago, The University of Chicago Press.

GAMBLE, J. 2004. Retrieving the general from the particular: The structure of craft knowledge. *In:* MULLER, J., DAVIES, B. & MORAIS, A. (eds.) *Reading Bernstein: Researching Bernstein.* London: Routledge/Falmer.

GAMBLE, J. 2006. Theory and practice in the vocational curriculum *In:* YOUNG, M. & GAMBLE, J. (eds.) *Knowledge, curriculum and qualifications for South African further education* Pretoria: Human Resources Research Council Press.

GAZETTE. 2011. A provost's view across a decade. *Harvard Gazette*, 20 May 2011.

GIBBONS, M., LIMOGES, C., NOWOTNY, H., SCHWARTZMAN, S., SCOTT, P. & TROW, M. 1994. *The new production of knowledge: The dynamics of science and research in contemporary societies,* London Sage

GRUBB, N. 2006. Vocationalism and the differentiation of tertiary education: lessons from US community colleges. *Journal of Further and Higher Education* 30**,** 27-42.

LARSEN, V. 2012. Transversal knowledge formations in professional bachelor education applying PBL. *Knowledge and Curriculum Symposium.* University of Cape Town, Cape Town, South Africa.

MATON, K. 2000. Languages of Legitimation: The structuring significance for intellectual fields of strategic knowledge claims. *British Journal of Sociology of Education,* 21**,** 147-167.

MATON, K. forthcoming. *Knowledge and knowers: Towards a realist sociology of education* London Routledge.

MOORE, R. 2007. Going critical: the problem of problematizing knowledge in education studies. *Critical Studies in Education,* 48**,** 25-41.

MORROW, W. 2009. *Bounds of Democracy: Epistemological Access in Higher Education,* Cape Town, South Africa, Human Sciences Research Council

MULLER, J. 2000. *Reclaiming knowledge: Social theory, curriculum and education policy,* London Routledge.

MULLER, J. 2008. In search of coherence: A conceptual guide to curriculum planning for comprehensive universities. Parktown, Gauteng: Report prepared for the SANTED Project, Centre for Education Policy Development

MULLER, J. 2012. Every picture tells a story: Epistemological access and knowledge *Knowledge and Curriculum Symposium* University of Cape Town

NAIDOO, R. 2004. Fields and institutional strategy: Bourdieu on the relationship between higher education, inequality and society. *British Journal of Sociology of Education,* 25**,** 457-471.

NOWOTNY, H., SCOTT, P. & GIBBONS, M. 2001. *Re-thinking Science: Knowledge and the public in an age of uncertainty,* Cambridge, Polity Press.

NOWOTNY, H., SCOTT, P. & GIBBONS, M. 2003. 'Mode 2' revisited: The new production of knowledge *Minerva,* 41**,** 179-194.

SCOTT, I. 2009. First year experience as terrain of failure or platform for development?: Critical choices for higher education *In:* LEIBOWITZ, B., VAN DER MERWE, A. & VAN SCHALKWYK, S. (eds.) *Focus on first year success: Perspectives emerging from South Africa and beyond.* Stellenbosch: Sun Press.

SCOTT, I., YELD, N. & HENDRY, J. 2007. A case for improving teaching and learning in South African higher education. *Higher Education Monitor.* Pretoria Council on Higher Education

SHAY, S. in press. Conceptualizing curriculum differentiation in higher education: a sociology of knowledge point of view. *British Journal of Sociology of Education*.

SHEPPARD, S., MACATANGAY, K., COLBY, A. & SULLIVAN, W. 2009. *Educating Engineers: Designing for the Future of the Field* San Francisco, Jossey-Bass.

STAVROU, S. 2009. Negotiating curriculum change in the French university: the case of 'regionalizing' social scientific knowledge *International Studies in Sociology of Education* 19**,** 19-36.

TROWLER, P., SAUNDERS, M. & BAMBER, V. 2012. *Tribes and territories in the 21st century: Rethinking the significance of disciplines in higher education,* London & New York, Routledge Taylor & Francis Group.

WHEELAHAN, L. 2010. *Why Knowledge Matters in Curriculum,* London & New York, Rouledge Taylor and Francis Group.

WHITTY, G. 2010. Revisiting school knowledge: some sociological perspectives on new school curricula. *European Journal of Education,* 45**,** 28-45.

YOUNG, M. 2008. From constructivism to realism in the sociology of the curriculum. *What Counts as Knowledge in Educational Settings: Disciplinary Knowledge, Assessment, and Curriculum.*

Figure 1
Semantic Codes of Legitimation (Maton 2011: 66 Figure 4.1)
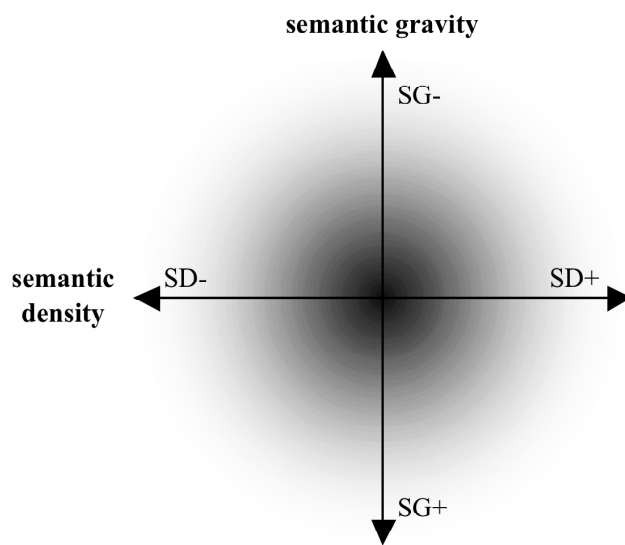
Figure 2 Semantic Field of Recontextualized Knowledge
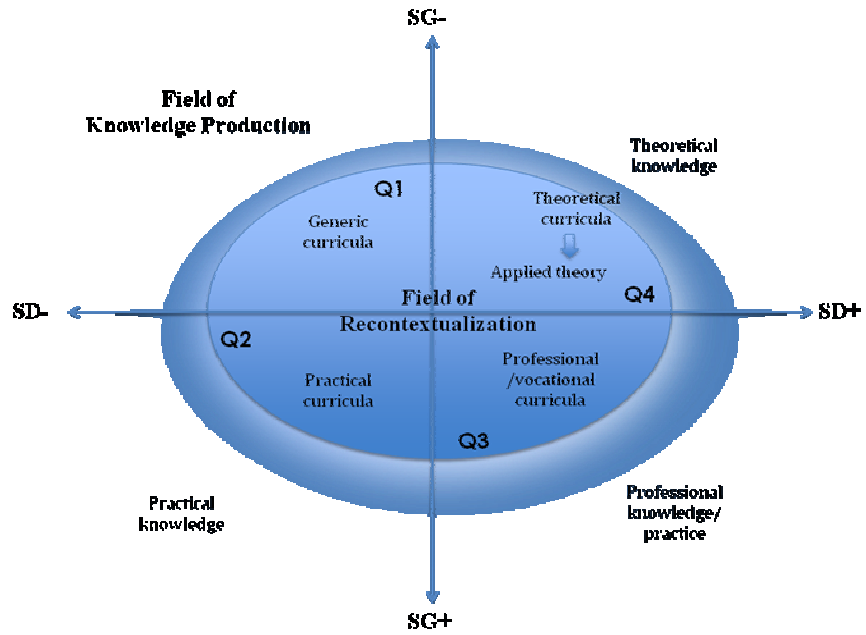
Figure 3 Progression of levels of design cognition