

Curriculum in Higher Education: Beyond False Choices

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Introduction

This chapter is an invitation to “think about higher education” 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 the general failure of higher education to meet the needs of the knowledge society. Scott (2009) describes this 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 versus ‘educating the mind’, vocational versus academic, knowing versus being, problem versus discipline-based, depth versus breadth, Mode 1 versus Mode 2. I propose that underlying these debates and the false choices they construct are contestations about knowledge. In order to make any headway as policy makers, educational development specialists, teachers and researchers in higher education we need to move beyond these false choices. This will require a better understanding of 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

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are equal and these differentiations have significant implications for curriculum. The crucial implication is that if learners are to have access to powerful knowledge (Young 2008), then all curricula, including vocational, must include theoretical knowledge. More specifically, all curricula must include epistemic access to theoretical knowledge. As Wheelahan (2010) argues, “Social access without epistemic access is merely to reproduce social inequality” (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 exploring the relationship between knowledge and curriculum in higher education (Luckett 2012; Muller 2009; Vorster 2011, Wolff and Luckett 2013). This chapter is contribution to theorizing this relationship and proceeds in four parts: First, I clarify the notion ‘epistemic access’. Second, I argue that higher education curriculum is experiencing a contextual turn. Third, drawing on key theorists in the sociology of education—Basil Bernstein, Pierre Bourdieu and Karl Maton—I offer a conceptual framework. The framework enables us to map contestations in the field of knowledge production and to explain what might be happening in higher education curriculum. Finally, I use the framework to explore specifically what happens to knowledge when curricula ‘face outwards’. One plausible explanation for the crisis currently being experienced in higher education is a widening gap between the needs of a knowledge society and the kinds of curricula which higher education has to offer.

Epistemic Access: What is it and Why?

The notion of ‘epistemic access’ was coined by the late Morrow (2009¹)—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, 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).

¹ Morrow (2009) is compilation of his essays spanning a period from the late 1980s to the early 2000s.

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's point? What were his particular concerns for 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 popular argument in the early days of post-apartheid. 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 students² enrolled in higher education had nearly doubled; they comprised nearly 60 % of the overall enrolments (Scott et al. 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 fashionable slogan had it, *formal access* was one thing, *epistemological access* another" (p. 3).

Indeed 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 only a marginal increase in overall participation rate of 15 % in 2001 to 16 % to date. A disaggregation of this cohort by race exposes a 60 % participation rate for white students and 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 years (Scott et al. 2007). The completion rate 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. This trend of poor and racially differentiated completion rates is not unique to South Africa (Altbach et al. 2009).

It can be taken 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 given the relationship between knowledge production and economic development especially in developing countries (Naidoo 2007; Fisher and Scott 2011). Morrow's (2009) call for epistemic access spotlights the huge challenge to steer a conceptual path between the twin goals of equity (the imperatives of redress)

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

and development (the need for highly skilled knowledge producers). This is the permanent tension of a developing country in a 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. Without redress, there will be no development. These goals have to be held in tension and compromises will need to be made on each side. The process of transformation is likely to be slower and difficult political choices have to be made.

So the argument for epistemic access is now 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 conceptual confusion about what ‘knowledge’ means in a knowledge society. The opportunities for higher education curriculum reform—curricula for epistemic access—have never been greater. Morrow sounded a keynote—the term ‘epistemic access’ has become ubiquitous in educational development in South Africa and beyond (Muller 2012; Young 2008; Wheelahan 2010)—but more conceptual work is needed. The stakes are perhaps greater than even he imagined.

Curriculum in Higher Education: A Contextual Turn

The global pressures currently being exerted on higher education are well-documented—multiple accountabilities giving rise to the stakeholder university, contestations about the purposes of higher education, internationalization, the imperatives of a knowledge economy, new trends in knowledge production, the ICT revolution, and a shrinking financial resource base to name a few (Altbach et al. 2009). It is risky to generalize the effects of these pressures on curriculum reform given the complex interplay between global, national and institutional imperatives (Adam 2009). However there is no doubt that higher education curricula must now serve a wide range of diverse interests. I propose that the collective effect of these pressures on higher education curriculum has resulted in what Bernstein (2000) would describe as a weakening in classification, that is, a weakening of the traditional disciplinary boundaries which have constituted curriculum formations. This weakening of boundaries opens up new spaces and results in a contextual ‘turn’ or ‘pull’ on curriculum, a pressure on curriculum to ‘face outwards’.

While this turn is often characterized as ‘utilitarian’, ‘instrumental’ or ‘market-driven’, in fact the picture is more complicated and more interesting as some current curriculum reform initiatives at leading universities reveals. For example, the central question of Stanford University’s recent review of its undergraduate curriculum (SUES 2012) is “how do we best prepare Stanford students for local, national and global citizenship?”. There is also the well-known ‘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.

Evidence of this contextual turn on South African higher education curriculum reform can be found in the range of competing discourses vying for attention in early days of post-apartheid higher education policy debates. There are the discourses of ‘skills’ for economic development, of ‘transparency’ and ‘transformation’ for equity, of ‘relevance’ and ‘responsiveness’ for new modes of knowledge production to name a few (Adam 2009; Kraak 2000; Ensor 2004). As these policies have gained traction there have been persistent critical voices raising questions about the implications of these contextual pulls for knowledge.

One of the most heated debates was generated in response to the Mode1/Mode 2 thesis (Gibbons et al. 1994)—that is, that the production of knowledge and the process of research are being “radically transformed” (Nowotny et al. 2003, p. 179). These trends have resulted, they argue, in a “new discourse” of science (Nowotny et al. 2003, p. 181). 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 quarters of the academic community, in particular the interpretation that Gibbons was arguing for a replacement thesis—that Mode 2 was replacing Mode 1 (Kraak 2000; Muller 2000). 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 (2000) asks, “What knowledge is of most worth for the millennial citizen?” (p. 41). 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.

It is interesting to note that for Bernstein neither the strengthening or weakening of classification is inherently a good or bad thing. The crucial question he argues is, in whose interests is this strengthening or weakening? (Bernstein 2000, p. 11). He notes that in particular we need to pay attention to what happens to knowledge. Following on Bernstein then I ask, what are the implications of this contextual turn for curricula? More specifically, what are the implications for epistemic access?

To attempt an answer to these questions, I offer a framework which enables the conceptualization of these curriculum contestations. This framework attempts to move beyond ‘either/or’s’ to 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 underneath these polarizing discourses. What the framework aspires to offer 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—it needs to say something 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.

The Conceptual Framework

A 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 2014). Various educational traditions have tended to emphasize one property over the other. Sociologists of education located in a critical or social realist paradigm have re-asserted ontological realism—that is, that our (albeit fallible) knowledge is of/about an ontologically real world. As Maton (2014) captures it, knowledge claims are always both about *something* and by *someone*. The first assertion is that the world is real and thus a knowledge claim is always about something other than itself. It cannot simply be reduced to who is making the claim. This is the epistemic relation—the relation between the (real) 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 in a particular field.

All this has important implications for how disciplines are understood—what Trowler (2012), drawing on Bernstein (2000) 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 that 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 that 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 that constitute what is acceptable. There are 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 that 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 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 ideology³ can play" (2000, p. 32). Thus while these knowledges are related they are not the same. Their basis 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 that occur.

In conceptualizing curricula that enable epistemic access, this 'gap' becomes a key focus of interest. 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 recontextualization where higher education curricula 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? The trends discussed above would suggest that there is a range of competing forces shaping curriculum production which may or may not be serving the interests of curricula for epistemic access. As noted earlier Bernstein's caution, when classification is weakened whose interests are being served?

Having established 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 there is agreement that epistemic access is crucial, there are fundamental disagreements about what kind of knowledge is needed, what kind of knowledge students need access to. As the social realist put it, there

³ By 'ideology' Bernstein means power or powerful ideas.

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 Winch (2013), contrasts knowing-that, knowing-how, knowing-why. Bernstein (2000), 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 and Trowler (2001) classic characterization, drawing on Biglan and Kolb, of hard/applied, hard/pure, soft/applied, soft/pure. In previous work (Shay et al. 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 are helpful for characterizing differentiation. The approach taken here is however is different. It follows from Legitimation Code Theory that underlying every typology is a topology of principles. The full framework offers a number of principles or codes as a toolkit for analysis. (see www.legitimationcodetheory.com). I draw on the semantic codes. Other codes would expose other distinctions and thus this analysis in no way claims to be exhaustive in its description of knowledge practices.

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:

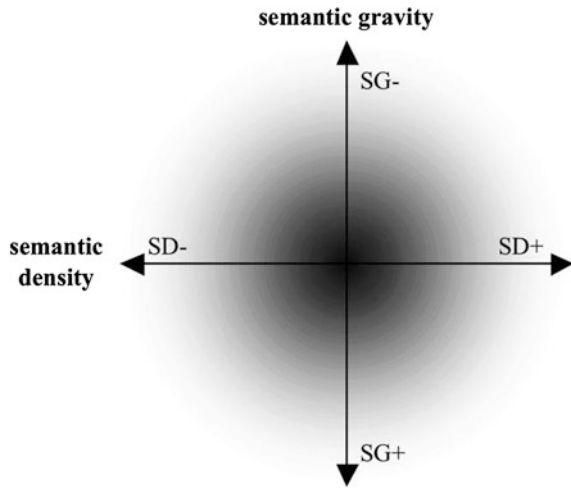
Semantic gravity (SG) is defined as "the degree to which meaning relates to its context, whether that is social or symbolic. Semantic gravity may be relatively stronger (+) or weaker (−) along a continuum of strengths" (Maton 2014, p. 129).

Since all meaning is context-dependent, it is important to specify what is meant by 'context'. For the purpose of this conceptual framework semantic gravity refers to 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. The contextual turn of curriculum noted above could thus be characterized as a trend in the strengthening of semantic gravity—where the logic or coherence of the curriculum is shaped by its context of application, what it is for, its external purposes, its relevance to society (Fig. 1).

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 2014, p. 129).

For the purposes of the conceptual framework 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

Fig. 1 The semantic plane
(Maton 2014 , p. 131, Fig. 7.1)



layering’ meaning as one sees in design (Shay and Steyn in press). 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 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 the field of recontextualization. (A more detailed discussion of this conceptual framework can be found in Shay 2013).

Field of Knowledge Production: Differentiated Knowledge

We can now use these codes to analyze the differentiated forms of knowledge in the field of knowledge production. This is graphically illustrated in Fig. 2 by the outer ring.

In the bottom left quadrant (see Fig. 2) knowledge practices can be characterized as having strong semantic gravity and weak semantic density (SG+/SD-), 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.

In the top right quadrant (see Fig. 2) knowledge practices can be characterized as having weak semantic gravity and strong semantic density (SG-/SD+), what

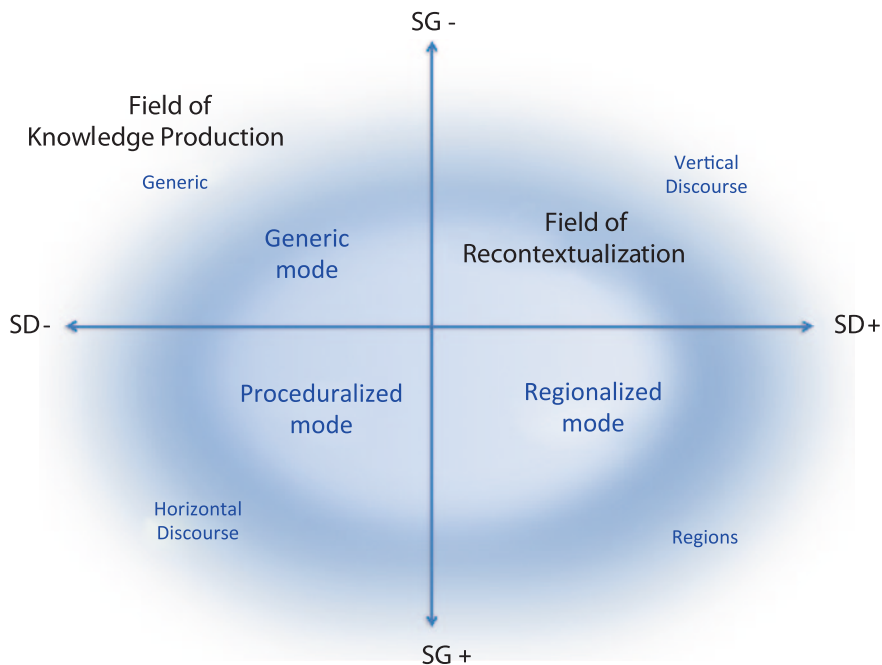


Fig. 2 Semantic field of recontextualized knowledge

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 (2001) 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 that Bernstein (2000) refers to as ‘singulars’ which are “on the whole oriented towards their own development, protected by strong boundaries and hierarchies” (p. 52).

In his work on knowledge structures Bernstein only offers horizontal and vertical discourses since his interest was to differentiate everyday knowledge from systematic knowledge and within the latter to distinguish how knowledge develops 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 (see Fig. 2) we have knowledge discourses which are both strong in semantic gravity and strong in semantic density (SG+/SD+). 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 (2000, p. 9). Regions recruit vertical discourses 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

regionalized knowledge or regions. There are strong resonances with the descriptions of Mode 2 where knowledge is generated within the context of application (Nowotny 2003).

In his discussion of singulars and regions, Bernstein (2000) 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 (see Fig. 2). 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 now reinterpret the Mode 1/Mode 2 debate as a contestation over the basis of legitimation—an epistemic code battle.

Field of Recontextualization: Differentiated Knowledge

What happens when these different kinds of knowledge in the field of production are recontextualized into curriculum? This is illustrated in Fig. 2 by the inside ring. In this final section I turn to look more closely at what happens when the boundaries of disciplines are weakened in the interest of some external purpose. In other words, what happens to knowledge when curricula ‘face outwards’?

Bernstein (1975, 2000) offers 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), for example, a 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 in inter- or multi-disciplinary curriculum. 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 offered 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.

The first possibility is a shift towards generic mode of curricula. (see Fig. 2). Here the alleged strengthening of semantic gravity is in fact 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 2014). 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 proceduralized mode of curricula (see Fig. 2). 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 2009–2010 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). The analysis revealed 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 that would have been considered as 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’ scenario 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 disciplinary knowledge (in this case Sociology) is de-contextualized and re-contextualized for problem-solving so that sociology students are confronted with how to solve a social problem instead of being given the theoretical and methodologically tools necessary to transform the problem into a sociological problem.

This resonates with critiques of problem-based learning (PBL). Larsen’s (2012) work-in-progress 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 gives rise to the need for pedagogical interventions

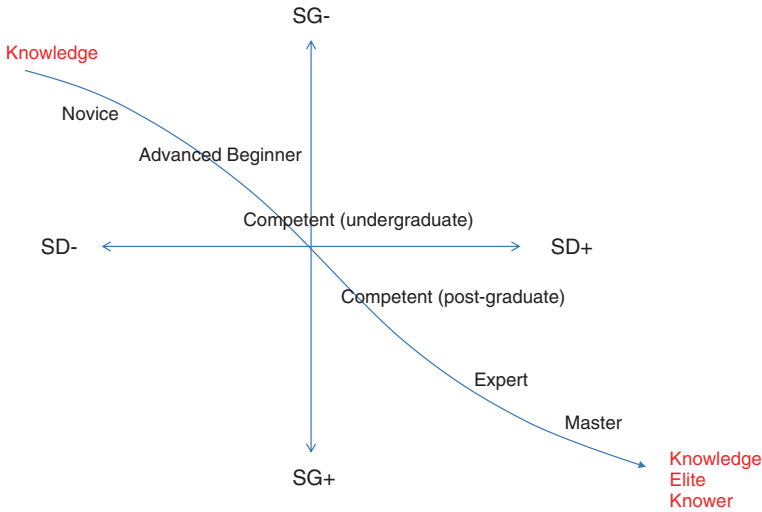


Fig. 3 Progression of levels of design cognition

such as PBL–PBL, he argues, is brought into ‘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 procedural knowledge? Can we produce curricula which maintain both their semantic density and gravity? 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 the epistemic barriers which talented but underprepared students face as they enter into higher education. These studies point to a third possibility.

The third possibility is that as semantic gravity strengthens so too does the semantic density what I refer to as a regionalized mode of curriculum (see Fig. 2). Time will only allow a brief illustration from a design foundation course at local South African university of technology. This Design course has as its purpose to give students who have been identified as artistically talented but have had no prior formal 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 (see Fig. 3). In this epistemic code the engagement with the particularity of the problem enables, indeed *advances*, the capacity for abstraction (Shay and Steyn in press). 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.

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 for future research. Bernstein (2000) notes that knowledge always specializes consciousness and Maton (2014) develops this by arguing that every knowledge structure has a knower structure. But more empirical work is needed to understand different identities within the different epistemic codes. The Stanford University review (2012) gives us a glimpse of what this might mean: “students begin to understand the stakes not merely of studying physics or philosophy but of understanding and engaging the world as physicists or philosophers do. They become fully vested in the knowledge they have gathered, which ceases to be something external and becomes a part of who they are”.

The point of the design example is not to argue that all curriculum which enable epistemic access must manifest a regionalized curriculum mode (SG+/SD+). Rather it illustrates how strong semantic gravity need not be at the cost of semantic density, that engagement with the particularity of specific design problems can enable, indeed *advance*, the capacity for abstraction. The illustration also gives insight into curriculum design principles for not only epistemic access but epistemic progression. In this case progression to expertise requires the selection and integration across different forms of conceptual knowledge according to the demands of context-specific problems. This progression requires intentional sequencing—as the design case illustrates, sequence matters.

Conclusion: A Curriculum for Epistemic Access

In closing I need to be clear about what I am saying and what I am not saying.

I have argued that one of the effects of the many global pressures on higher education has led to a contextual shift on curriculum. The conceptual framework that 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 outcomes of this contextual shift. While it is the case that much curriculum reform has been dominated by utilitarian and instrumental discourses leading to generic and procedural modes of curricula, my argument has been that this need not be the case. The weakening of the boundaries around the disciplines—a breaking down of their isolation—can result in 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 twenty-first century should happily conform to the academic divisions... concretized... by the end of the nineteenth century...” (Gazette, 20 May 2011).

What I am not arguing is that there is no place for generic capacities, qualities and dispositions in the twenty-first century. Barnett and Coate’s (2005) foregrounding of

'being' in the curriculum is a crucial corrective in conceptualizations of curriculum. Neither am I arguing there is no place for deep context-embedded procedural skills. The point is simply that these 'ways of being' and 'ways of doing' must have an epistemic anchoring in disciplinary and inter-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, the challenge is 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 young people who have traditionally been marginalized from their role as knowledge producers—but as these youth increasingly constitute a majority of the global population, it is a matter of the future economic sustainability of our world.

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