Journal of Education

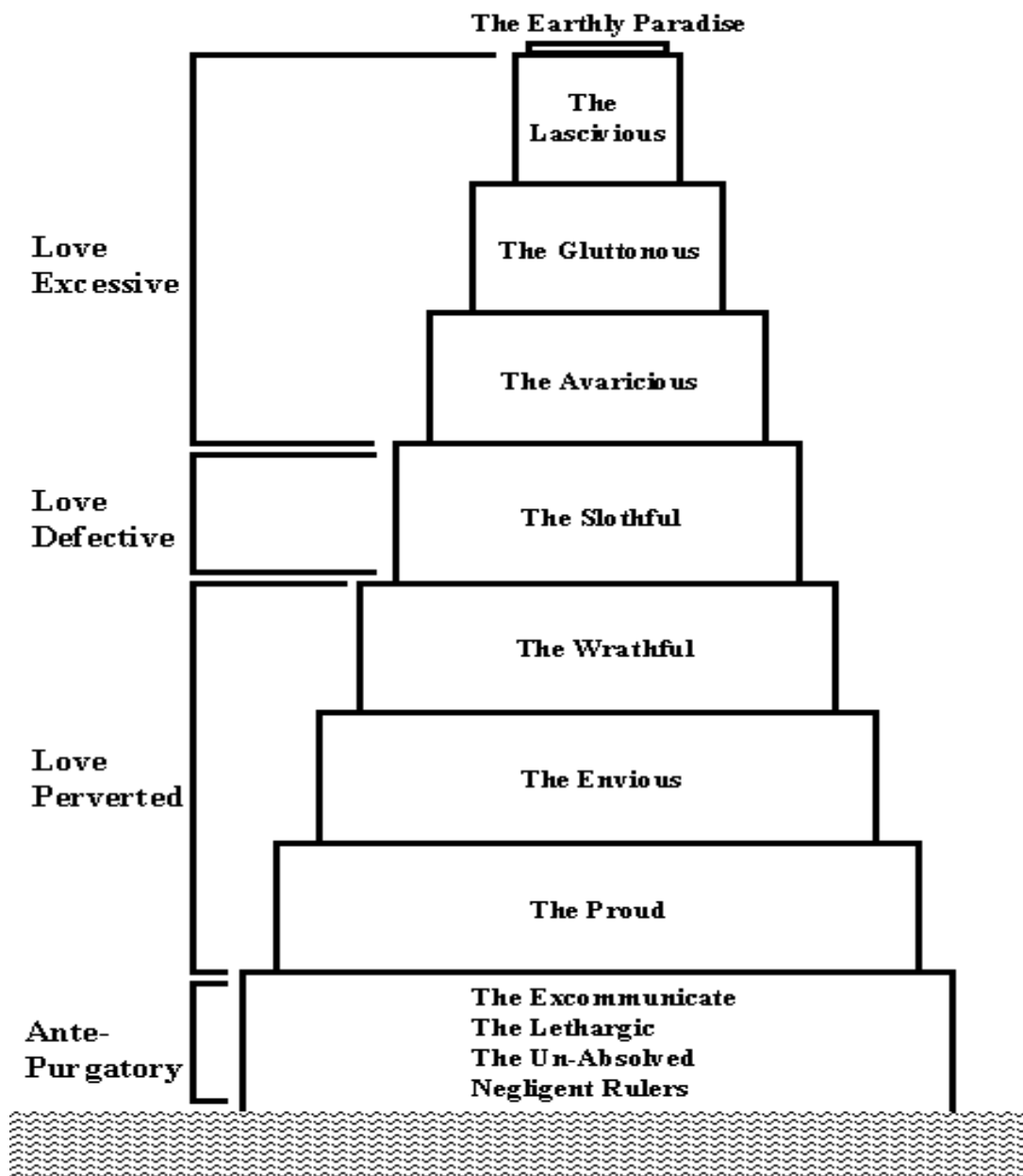## Youth Identity
Special focus edition

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Editorial

Wayne Hugo

One of the more interesting moves in recent theorising on education is the distinction between knowledge and knowers, chased rigorously by Karl Maton in his latest book that is about to come out – *Knowledge and knowers: towards a realist sociology of education* (2012). Lying at the heart of the distinction is a recognition that specialisation works with both knowledge forms and identity. For most of us this seems obvious – you are always working with a real live student in front of you – and your task is not only to induct her into specialised knowledge forms but to ensure that she develops professionally as a person. The two are tied together, specialised knowledge does not only have an effect on your cognitive capabilities and technical skills, it transforms your being. So why is the knower-knowledge distinction causing such a stir then? It's done something perennial in the world of theorising; it has sutured a theoretical distinction that split the world in two unequal halves. Just before Bernstein died he brutally cleaved the world of knowledge specialisation in two with the distinction between hierarchical and horizontal knowledge structures. Bernstein was a scientist stuck in a sociologist's frame who hated how his home discipline of Sociology had a whole menagerie of theoretical languages based on the latest and greatest theorists. Students in sociology of education for example, would learn language after language, moving from Althusser to Bourdieu to Foucault, to (heaven forbid) Deleuze and Badiou. He longed for a systematic building up of knowledge that stood, like the pyramids, against time, rather than blowing in the wind. He felt that hierarchy was the essential driving force in education, that the task of an educational theorist was to show up explicitly where hierarchy was, so students could climb its heights, rather than wander around blindfolded with shouted encouragements like 'I know you can do it, just try hard'. The problem was that his distinction between hierarchical and horizontal knowledge structures left hierarchy out of horizontal knowledge structures. The very term – horizontal – reveals the loss, it's the opposite of hierarchy, and as such is poorly chosen. The theoretical distinction cut out and discarded a massive portion of educational reality, the reality of thousands of years of detailed work on the interior hierarchies of the soul. Karl Maton worked out how to stitch it back in. If hierarchy was found in knowledge structures within the sciences, then it was also found in knower structures within the arts and humanities, where the dispositions of students are worked on, where a specific

kind of identity with a particular kind of gaze is built up. This should immediately result in an inclusive recognition that both science and the humanities work with knowledge **and** knowers in different ways rather than cutting knowledge into hierarchical and horizontal disjunctions, with hierarchy the preferred half.

You can get a sense of this by taking a look at Dante's Purgatory, where a learning soul travels upwards, systematically building on what has been learnt in the past, climbing higher and higher, not only on a ladder of knowledge, but a ladder of being, where it is the soul that learns, as well as the mind.

The Earthly Paradise

The Lascivious

Love Excessive

The Gluttonous

The Avaricious

Love Defective

The Slothful

The Wrathful

Love Perverted

The Envious

The Proud

The Excommunicate
The Lethargic
The Un-Absolved
Negligent Rulers

Ante-Purgatory

It's also sweet, by the way, to put the lascivious on top of a hierarchy for a change. Maton managed to open out for the Bernsteinians what was clear to anyone steeped in the humanities without scientific prejudice, that hierarchy is deeply entrenched in its operating mechanisms, you just needed to look into the depths of a learning soul.

This edition of JoE to some extent repeats the distinction between knowers and knowledge in its selection of articles. Three of the papers are on Youth Identity, the other three more strongly focussed on various types of knowledge structures.

Crain Soudien starts us off with his own heartfelt attempt to reconstruct the development of youth identity in South Africa. At the core of his article lies the tension between the formal and collective attempt to educate our young and the fluid forms of modern youth identity that flood through and overwhelm our official systems. South African youth face a particular struggle to negotiate the path from Apartheid to Democracy along with the path from Local to Global in a field that is structured with all sorts of racial, class and gendered tensions. He gives accounts of students across these tensioned lines that show up how they negotiate the terrain in a world that is turbulent, dynamic and always more complex than simple race, class and gender distinctions. Soudien has both strong narrational and theoretical tendencies, he wants to tell a story, and he wants the story to catch the complexity of youth identity formation in subtle conceptual ways. It's a strong opening paper that sketches the importance of Youth Studies for our more stodgy formal preoccupation with educational structures and systems.

If Soudien provides the imaginative and impressionist opening then Carolyn McKinney provides a blow by blow account of how this is playing out in the trenches of the classroom. Across South Africa many Model C schools have experienced a rapid shift from a predominantly white to black student body, whilst still keeping the same teaching staff (read white). It's the most complex of lived and pedagogic spaces and McKinney provides us with a detailed and fascinating case study of one such teacher (white, ex Zimbabwian, middle-aged, middle class, suburbian) working with her black students. The first thing that jumps out for me is just how good a teacher she is. There is continuous feedback in the lessons, with the teacher both allowing turn taking and questioning but continually attempting to keep the lesson focused on the subject English. She attempts to make the lessons contextually relevant by using examples that resonate with the girls' lived reality, but the problem is

she does not really have a detailed grasp of what that exactly is, and this lack skewers the lessons in telling ways. It makes for tough reading, as my sympathies partly lie with the teacher, who, as far as I can tell, is doing a great job, especially when juxtaposed to what is happening in many of our classrooms across South Africa. As you read the article, take a careful look at the four extracts that come from a lesson on CV's/job interviews and ask yourself how you would negotiate issues around dreadlocks, marital status/number of kids, distance from work/use of public transport, and HIV status. I experienced a split through the core of my being. I personally love dreadlocks, but my associations with it are hopelessly tied up with student experiences of drugs and alternative culture, rather than with the lived everyday reality of dreadlocks for many South African women. I know from my own deeply lived reality that having kids directly impacts on your career, and more kids more so I can only imagine. My own experience of public transport is limited but raced and classed with passive aggression towards minibus taxies. And, although I know what the correct public response is to HIV/AIDS I carry within me reluctance and fear that affects how I deal with the issue. I experienced my own racist, classed, gendered and aged self as I read McKinney, but at the same time another voice spoke as well. It was a voice that wanted a clearer recognition of the struggle of a white, middle class, suburban teacher and of how her substantial pedagogic and subject expertise was working at its limit point. Whether that voice is also raced and classed or just my own profession speaking out is not clear.

That said, the positive dynamism and humour of her students were evident, and this is supported and reinforced by Ariane De Lannoy's article that provides a rigorous and focussed analysis on how high school kids from African townships around Cape Town make educational decisions that relate to their own larger project of constructing an identity. It's a tale caught between poverty and plenty, of how these kids construct images of a future self that lives a long and successful life, even though their own familial experience is of life nasty brutish and short. De Lannoy is interested in analysing how these youths make life path decisions that get them onto the high road and the strategies that accompany these decisions. One student says 'I want to be the person I want to be' and this catches the positive choice, in the present, to orient yourself to the future. This is why education is important for them, even when their peers are dropping out of school, because it holds a future promise in the current grind. The same future orientation holds when tempted by parties and drugs.

It's not that I don't go to parties but I would never do drugs and I would never chose to be a party animal all my life and not be on the safer side of life [. . .] At the end of the day, I have to be somewhere, so I don't see any life in that. (Noluthando).

It's a happy find, a paper that is well researched, well written, and carries a powerful positive message cutting across some of the stereotypical images we have of our youth. When we were young, we also constructed future selves we now have the privilege and responsibility of living, if only we can hold onto the fresh promise it always held.

The shift from these living and breathing accounts of our youth into the harder dimensions of knowledge structure is brutal, especially when the first is written by an Engineer who shows all the characteristic acumen of her profession. Jennifer Case provides us with a powerful snapshot analysis of the pedagogic practices currently playing out within Engineering education. Traditional models of Engineering education started off with basic science courses and then gradually stitched in Engineering science until the student was ready, in the final years, to tackle project work that worked in a complex problem solving space demanding an integration of the different courses mastered separately. Medical education, in the meantime, started to show that it was possible to work with a different pedagogic model that started with integration, rather than ended with it. If being a Doctor is all about solving difficult problems in real time, why not make that the grounding principle on which Medical Education is based. Problem-based education became a popular mantra in many medical schools across the world, especially those predisposed to progressivist and constructivist pedagogic practices. Some universities even dedicated themselves to problem-based learning with the same fervour Catholic universities dedicated themselves to Christ, Aalborg University in Denmark, for example, being most notable for its secular fundamentalism. If it worked in Medical Education, well, why not in Engineering? Both work with complex problem spaces that are outward directed, both need highly specialised but strongly integrated professionals able to work intelligently in the real world. The problem is that each specialisation has highly distinctive knowledge structures and signature pedagogies that look similar at first glance, but are actually very different when put under a pedagogic microscope. Engineering is different to Medicine, don't assume that what works in the one will work in the other. The problem is that, in Higher Education, most academics have spent their professional lives specialising in their home discipline, not education. When they stumble upon a new pedagogic approach there is a predictable split between fanatical up takers and equally resistant naysayers. Lost in the fracas are the specific

demands of the specialisation in its own terms. Engineering education has historically worked with Project-based learning as its own particular way of merging hard Engineering science with real world problems. Don't dismiss this evolution of pedagogy, I want to say to them, take it seriously and work within it, ask how it can be extended and adapted, rather than embracing fads from other specialisations. Project-based learning is very different to Problem-based learning, and the difference extends to more than four letters. But what is it? Both integrate, both take separate disciplines and get them to talk to each other around a complex problem. The difference is that problem-based learning takes real world contexts as its primary organising principle whereas project-based learning works specifically on integrating the abstract particulars of the different sciences. Integrating the world with science is different to integrating science with science. You need both, but which is your central organiser, world or science? This debate is crucial for Higher Education in South Africa, especially as we are working with students who come from 'developing' backgrounds, who do not have twenty years of pampering and all the vast capitals accrued that help negotiate more open and implicit pedagogies. It is unfair to assume that progressivist pedagogies will automatically work in a South African context, where, for many of our students, the basics have not been put firmly in place.

The point is brought home by Alejandra Sorto and Ingrid Sapire's article on the teaching quality of mathematics lessons in Gauteng schools. It is taken from a larger cross country and cross province project that explores the relationship between teacher knowledge, classroom pedagogy and learner performance, directed by Martin Carnoy (the current master of the art of combining qualitative and quantitative comparative educational research). The results are starting to come out, and they are dismal. This is no surprise, popular educational discourse is full of it at the moment, but when you get into the details of why this is happening, the depression mounts. When going through the transcripts it is very hard to find instances of decent feedback, the key indicator of pedagogic effectiveness. Much of the lessons are dedicated to procedural skills, even when the intended lesson was designed for conceptual understanding. Two issues jump out for me at this point. Firstly teachers showed an inability to work in a diagnostic way with their students. They had a basic understanding of the content, and also a basic set of pedagogic skills, but the two did not come together when they needed to – which is most of the time. The crucial space where a teacher actually works with a child's understanding, rather than merely gets them to follow an algorithm, was not in evidence. This brings up the second issue – even when teachers wanted to

work conceptually they landed up working procedurally, because that was the default level very hard to break away from. What Sorto and Sapire begin to hint at, and what we need to research as a serious question, is the possibility of there being a generic or default pedagogy that is distinct to the vast majority of South African schools. And if it does exist, the pedagogic code of this default practice needs to be carefully unpacked, both in terms of its pedagogic practices and underlying identity formations.

The final article in the set takes a long hard look at our student teaching assessment instruments. Lee Rusznayk shows how we need to keep the distinction clear between formative and summative assessment when doing Teaching Practice evaluation and try to get an instrument deserving of the complex practices engaged in when teaching as a student. Feedback needs to be complex, nuanced, flexible but still clear and explicit. A checkbox list is certainly not going to do the trick. It is embarrassing to think that, as educational professionals, our own teaching practice rubrics across the country make up a shop of horrors. At UKZN we had a particularly bad time of it, little shop of horrors actually, where we fed our students to a strange rubric made up of the Norms and Standards Seven roles of being a teacher. Remember them?

1. Learning mediator
2. Interpreter and designer of learning programmes and materials
3. Leader, administrator and manager
4. Scholar, researcher and lifelong learner
5. Community, citizenship and pastoral role
6. Assessor
7. Learning area/subject/discipline/phase specialist

We did not change anything, even though the chances of our young students getting close to being a leader or manager or specialist were remote, never mind showing their community, citizenship and pastoral role in the space of a couple of weeks. Most of my students think pastoral has something to do with sheep or falling asleep. There was no critique of the list, no interpretation of it, no adaption of it for novice teachers, just put there, on the form, in the same order with a nice blank space next to each. Rusznayk's article is thus welcome, and as a journal we would certainly be interested in publishing research on a comparison of student teaching assessment rubrics across our universities.

Standing back from the six articles and recovering from the various side splits my own being has gone through when working with them, one question remains for me, and that is the difference between identity as displayed in the Youth Studies section, and a knower, as discussed by Maton and Case. Both come in on the 'subject' side of the subject/object dichotomy that dominated early modern philosophical consciousness, and both could do with a little more Hegelian dialectical awareness, but subject identity is very different to the subject as knower. Maton is still working with knowledge structures when theorising the knower. The knowledge/knower structure is specifically directed at understanding the full hierarchical dimensionality of how we educate in knowledge, not the far more fluid identity formations that make us up as human beings. Identity is a far wider and deeper phenomenon than knowing, it's the sea knowing swims in and tries to build a raft on whilst still floating. And that final image, taken from Neurath, catches the process this edition of JoE puts us through – engage with the expansive depths of identity but build a specifically educational ship to float above, because, after all, we want to navigate, not drown.

References

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Youth Identity

The periphery's progeny: the South African school and its relationship to youth identity in contemporary South Africa

Crain Soudien

Abstract

How one tells the story of the development of youth identity in South Africa (and indeed elsewhere) in relation to schooling has been dominated, understandably, by the great themes of race, class and gender. This paper, drawing on my own work with young people conducted over a twenty-year period, the writings of colleagues with whom I have worked and on a large archive of newspaper reports, attempts to develop an analytic narrative for describing youth development, and the different trajectories it takes in South Africa, in a wider psycho-social frame. This analytic narrative shows

> (i)   that young people are in a complex engagement with a range of formal and informal structures to produce identities that are at some levels continuous with those of their apartheid antecedents, but

> (ii)   that new forms of identity are emerging that are troubling and unsettling conventional (both conservative and radical) understandings of what appropriate youth forms of address, deportment and engagement with the new South Africa might be.

The challenge that this constitutes for schooling in South Africa is what this paper focuses upon. It attempts to understand how school works as a site in which meaning is made by young people in the midst of dealing, on the one hand, with the intense experiences of globalisation and modernisation, and, on the other, with older and more traditional understandings of self.

Introduction

Youth studies is a field which is familiar to sociologists of education. Its most important contribution, Willis' (1977) *Learning to Labour*, literally forced us out of our slumber showing us how little we understood about the processes surrounding learning, and how much, on the other hand, we had gutted it of its most significant features and, *en route*, turned it into a technical exercise. What people like Willis pointed out was how much, in the first instance,

learning is a social activity, and secondly, and building on this, how complex the relationship is between school and processes of identity formation in students, or 'learners' as we call them in the South African setting. The purpose of this essay is to bring into perspective some of the significance of this discussion for teaching and learning in South Africa. I am attempting to make the argument that the idealised notion of the learner that we have in our South African policy documents, and most clearly so in the South African Schools' Act, and in our educational practices, misrecognises the learning subject and as a consequence sets up inappropriate conditions for teaching and learning. This misrecognition begins in the South African Schools' Act where the learner is projected as "any person receiving or obliged to receive education" (RSA, 1996, p.4). Intended or not, the discursive development in the Act is to position South Africa's youth as passive *receiving* subjects. The way in which the Act frames them is as young people without agency. The National Curriculum Statements (NCS) is somewhat better in that it accords agency to the learner. Muller (2004, p.223) locates this agency in what he describes as 'pedagogical progressivism' embedded in the new curriculum – a "decentralised and individualised libertarianism". Others, such as Harley and Wedekind (2004), have gone further. The problem, they argue, is the 'disappearance' of the teacher from the role of authority in the class room to that of facilitator in a learner-centred classroom, a role that may be at pedagogical odds with the majority of teachers (Harley and Wedekind, 2004). At issue here is the constructivist philosophy of the curriculum with its pervasive middle-class conceptions of the teacher-learner relationship. In this conception, somewhat different from the SASA, pupils were projected as resourceful young learners who would make it an article of learning to take responsibility for their own learning. Reviewing these ideals Harley and Parker (1999, p.212) suggest that the visionary aspects of the curriculum have allowed its protagonists to "overlook the profound inequalities in South African schools and to despatch teachers on a . . . voyage of faith" (where failure was the only possible outcome. They argue, further, that "the single mindedness of the very pursuit of the social vision has undermined itself. . . [because] commitment to a vision of *what ought to be* has undermined the ability of policy to consider seriously *what is*" (Parker and Harley, 1999, p.213). *What ought to be* in the policy is modeled around middle-class agency.

These conceptions of the identity of young people, as that of a lack of agency or of middle-class agency misrecognise who the young of the contemporary South African school are. To substantiate my argument I seek to show that very different forms of identity to those imagined in the policy prescripts of

the country are emerging. These forms are rooted in the deepening of what one might call cultural syncretism and the evolution of a kind of individualism that is not in alignment with the experience of schooling. These two forms pose fundamental challenges to our current understandings of pedagogy, and education more broadly. Pedagogy, embodying and in some ways expressing the deliberate discourses of the particular view of education one holds, in many of the forms it currently takes, is almost wholly inadequate relative to the challenge that modern identity possibilities constitute. If pedagogy and education are our most important collective sites for the attainment of that which we value most dearly – the development of individual and social identity, the degree of their irrelevance is frightening. In none of the major approaches to teaching and learning, at least in South Africa but I suspect also in most parts of the world, whether it be the patronising back-to-basics regimens of the new right or the supposedly liberal guidelines of the constructivists, is there a real appreciation of the complexity of modern youth formation. What I am arguing here is that the condition of 'multiplicity' – as defined by Dimitriadis and McCarthy (2001) but which I hope to resituate here – has come to demand of us in education, and indeed in other arenas of public life, pedagogies that are simultaneously more considered and more daring than everything we have done up to now. Dimitriadis and McCarthy make the comment about the United States that "mainstream educational thinkers have drawn a bright line of distinction between the established school curriculum and the teeming world of multiplicity that flourishes in the everyday lives of youth beyond the school. These educators still insist on a project of homogeneity, normalisation and the production of the socially functional citizen" (p.2).

The approach I take is influenced by the 'post-colonial' argument developed by Dimitriadis and McCarthy. I want to reposition the argument, however. The approach taken by them is fundamentally accessed through an engagement with the aesthetic. They say, for example, that "Post-colonial aesthetic formulations. . . have powerful implications for curriculum and educational practices in contemporary schools, challenged as they are by the rising tide of diversity and cultural change" (p.3). But the issue is more than about culture or style. While it expresses itself as a cultural or stylistic phenomenon, and in those terms is situated inside of the weak vocabulary of fashion – of that which might be almost intensified or weakened at will – I want to make the argument that there are deeper sociologies that we have to unpack in coming to understand how we might engage young people pedagogically. These sociologies, of course, contain complex age, race, class, gender, religious and

place, *inter alia,* factors, but are always articulated inside of particular kinds of political dynamics.

Central in these political and social dynamics, for a country such as South Africa, are the country's transition from apartheid and its complex entry into the globalised arena. What these politics do is to situate South Africa and its youth in particular in distinctive kinds of ways. While there are a number of parallels and continuities between the South African youth experience and that of young people elsewhere, the history of democratisation, and the particular ways in which race, class, gender, religion and place come together, is to frame growing up as a process of new possibilities and new dangers. These new possibilities and new dangers constitute the central challenge that the school as a site of pedagogy and inter-generational dialogue has to engage with.

Youth and their context

With South Africa well into its second decade of democracy, the world confronting the youth of South Africa, both black and white, is considerably different to what it had been under apartheid. Black youth, from having fought apartheid, are now having to fight for what Phillipa Garson (*The Teacher*, June 2001), a commentator on youth and school issues, calls 'a normal life.' How they are defining this 'normal' life is significantly shaped by their class and gender locations. While the boundaries between the urban and the rural have eroded both physically and conceptually, it remains true, as I have suggested above, that rural youth are distinctly different to urban youth, or youth with strong traditional links with those who have committed themselves to modernity. White youth, also referred to above, particularly males, while still considerably more privileged than anybody else, are learning to live in a political environment where the colour of their skins no longer provides them with the privileges and entitlements they were used to. Looming large for everybody, as for young people elsewhere, are the intense challenges of globalisation and modernisation. This globalisation is pervasive and is deeply embedded in the structures of their every-day worlds. It is present in the choices they are having to make about dress, leisure time, friendships, and, most significantly, careers (see Dolby, 2001) and is pushing black and white, at some levels, towards an increasing homogenisation of their adolescent identities.

Deep differences in the experiences and identities of adolescents from different groups in South Africa, however persist. Opportunities have improved dramatically for some, but for most life remains grim. Race, class, gender, language and place of birth continue to shape their life-chances. While there has been a dramatic increase in the black middle class, most black people live in extremely poor conditions with unemployment estimates as high as 40 per cent (see *Cape Argus,* Monday, 10 July, 2006, p.9).[1] As the gap between rich and poor black people increases, almost inevitably, black adolescents continue to bear the brunt of the problems of living in South Africa (Bhorat, 2004, pp.36–37). White young people especially males, despite reports in newspapers which graphically describe the difficulty they have in getting jobs, continue to dominate the top jobs in the economy. The levels of unemployment amongst them are in the order of less than 10 per cent. Even the new black middle class is aware of these developments (*Business Report,* Sunday March 5, 2006:1). The overwhelming majority of people polled for the Black Diamond Survey (see Footnote 1 below) felt that the new economic arrangements in the country had not trickled down to ordinary South Africans and only favoured the privileged few.

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[1] There are indications that the black middle class (according to this definition those who earn above R5,900 a month) now stands at approximately 10% of the African adult population, 2 million people out of 22 million (*Cape Argus,* Monday, July 10, 2006, p.9). New research is also suggesting that more than 2 million 'working-class people' have made a "dramatic leap upwards into the country's hottest economic group; LSM (living standards measure ranking the poorest at 1 and the richest 10) 5 and 6" (*Sunday Times,* Sunday, May 15, 2005, p.5). Silindile Motha is profiled in this report: "A clerk living in a backyard room in Instant grass, a trend-spotting agency in Cape Town Soweto all she hoped to qualify for was a government rent subsidy. Now, still a clerk, Motha, 32, says: "My bank will actually lend me a little money to go and blow on a holiday in Victoria Falls. Can you imagine?" (*ibid.*). The Black Diamond survey conducted by the Unilever Institute at the University of Cape Town between November and December 2005 amongst more than 750 urban African participants estimated that the black middle class was growing at a rate of 1,2% per year and that between 2001 and 2004 there was an annual increase of 4,5% amongst people classified in LSM 9 and 10. "This group could mostly be black because of a 30% growth in the taxation system" (*The Cape Argus,* Wednesday 15 March, 2006, p.14). The survey differentiates the black middle class into the following segments: The established who are older, most of whom have been married for seven years or more with 81% having school-going children. This category includes 780,000 (39%) people of which about 91% are in full-time employment and are between the ages of 35 and 49. The Young family has children under six and is likely to be led by a single mother between the ages of 25 and 34. This segment makes up 22% of the group and numbers approximately 440,000 people. The Start-Me-Ups are next consisting of single male professionals between the ages of 18 and 29 and making up 21% of the group and numbering 430,000. Then finally there are the Mzansi youth, male and female, who are still likely to be living with their parents. Eighteen per cent of the group they are approximately 350,000 in number (*ibid.*).

Structural realities in South Africa continue to define the pathways of adolescents to adulthood. These realities – the orders of race, class and gender – shape the identities of youth as rich and poor, African, white, coloured and Indian, and male and female. In the discussion below I attempt to show how youth have responded to these circumstances. The argument, drawing on the identity discussion above, is that, within the structural constraints surrounding them, youth continue to exercise choice and agency. The crises which confront them, however, keep changing their character and dynamics. In these choice-making decisions, individual responsibility looms large but is always mediated through the specific social support mechanisms and structures that young people have access to. Given these specificities, not unexpectedly, crises take on different forms for different groups of people and bring into play distinctive strategies of resistance and accommodation in different communities and amongst different groups of people. In terms of the universal demand they all go through of having to make themselves up all over again and to reinvent themselves anew, they tend, however, to feel alone and isolated. They have role models in the generation that had just gone before them, but this is not enough. Their world is sufficiently different to feel that they are on their own.

Life on the move

Syncretism, understood here as cultural borrowing and adaptation, is a process that has accelerated in the last ten years. Youth, Dolby (2001) argues, have been captivated by the global flow of popular culture. Important though, is the fact that they are not, as she says, simply the recipients of this global culture. They are also active participants in its creation. This is evident in the innovative ways in which young coloured and white students at Fernwood School in Durban, a multicultural school and a site of Dolby's (2001) work, appropriate 'rave' music. They embrace it and together turn it into a space in which new social relationships are forged and new social identities are developed. From being a 'white' preserve, it is quickly adapted into a practice that marks the students as members of a wider and more global community. A young student in Cape Town I interviewed in 2000 explained in response to the question of what 'her culture' was:

> I think it's a mixture, it's like I'm going through things, I'm just borrowing. I feel that I should try and be as unique as I want to be. You know I don't want. . . to be the stereotype of a coloured person who goes to clubs with coloured people. . . I'm into the alternative types of music.

Following these examples, the work of Kapp (2000) makes clear how the desires of young African young people, particularly their preference for English over their home languages, is shaped by an awareness that they live in an internationalised world. The youth, and their parents, want to learn English because they want to be members of a wider community. They recognise and retain a consciousness of themselves as Africans, but Africans with a difference. Mgxashe, (2000, p.11) writing about youth in the new millennium, says that there is a conscious debate taking place amongst many African youth about their exposure to 'foreign' cultures. He quotes a young woman called Lindi Jordan who says

> . . .when we start talking about the African Renaissance we are not necessarily talking about living strictly in accordance with our traditional values. . . we are more bent towards African values which are a kind of hybrid of all our exposures and experiences.
>
> (Mgxashe, 2000, p.11)

These trends have caused consternation in many circles. Kwesi Prah, a Ghanaian intellectual living in South Africa has bemoaned the direction that youth cultures have taken in the country. He remarks that, "(s)ince the dismantling of classical colonialism, the vision (of struggle) has by and large been lost. . . (The youth is made up of) types who in substance represents the interests of the metropolitan powers of the world" (Mgxashe, 2000:13). However, as several South African documentaries and the highly controversial television program *Yizo, Yizo,* based on everyday youth life in South Africa, have shown, the youth appear to have lost interest in the preoccupations of their parents and the older generation. There is, especially amongst African youth, a flowering of hip-hop music, fashion and artistic expression (see www.hiphop.co.za) in which they are consciously attempting to build their own cultural styles and traditions. As interviews on youth web-sites show, they are in passionate debate about issues of representation, their cultural roots, the cultural influences they have at their disposal and the differences amongst them. Within these debates are a variety of accents and directions. Critical, however, is an acknowledgement of their links to American music and art (particularly black music and art) but their commitment to making their own way in South Africa.

In terms of these developments, as Dolby (2001) has shown, popular culture is a key terrain of identity-making in South Africa. She argues that it is on this ground that 'race is negotiated', contested and struggled over). It is here through what she calls the dynamics of taste that race is remade. I wish to take this engagement in a different direction and suggest that it offers a terrain for

considerable tension, and as a result of this tension, innovation in working out
new ways of being African and even South African. Race does not go away,
but it is rearticulated into new forms of difference within and always in
conversation with gender, language, class and a whole host of other often less
visible factors. Some vignettes from white students who had recently entered
university in Cape Town illustrate the articulation of these factors. How this
articulation works is complex. One male student talking of his relationship
with the social world of black people explains:

> I've been to Velvet which is a black club. I loved it, it was hilarious. I danced the "sika
> lelikhekhe" (cut the cake). I kinda know black culture because I've got black friends and I
> did some upliftment charity work in school so I've been exposed to the black culture a lot
> more than most white people. I don't know everything but I know some stuff.

Another gives a sense of how young white students 'try out' new experiences:

> I've been to Cybar. I think it's a black club as well or at least it was the night I went. It was a
> lot of fun. I went with Zama my black friend and she was showing us around.

But this experimentation is grounded in complex socio-economic realities. Not
all white young people are privileged to the point of being able to live exactly
as they like. Economic issues are present in the choices they are making as is
illustrated in the testimony of a Johannesburg student recently come to Cape
Town:

> I think my friends from back home are in a similar social class to me but my friends at
> university are a lot above me and sometimes they don't realise that some of us don't have
> money to go out all the time. Some of us don't have transport all the time. I mean, when
> you say, you don't have money; they'll say they don't have money but they don't actually
> mean it. When I say I don't have money, I mean I don't have money. That's sometimes
> frustrating but also at the same time, it seems to me that they are quite generous and
> sometimes they'll actually pay for you. It's not a big issue for them. I don't let it get in the
> way of things.

For young people who are African it is clear that many are experiencing
immense social changes in their lives. These changes emanate directly out of
the rapidly changing socio-political environment of South Africa. I present a
comment from a young black student also recently arrived in Cape Town to
study to illustrate the kind of experiences they are going through.

> Ok. I grew up in a village back in Limpopo. I am Venda speaking. I grew up in a royal
> family. My father is the chief in the village. I went to boarding school. At the age of 5 going
> on 6, I went to boarding school which I think was so wrong. In my first grade I actually
> failed twice because of catching up with the age and I was also getting homesick. Yah, it was
> a Roman boarding school called St. X. It was far, far away from home because I had to stay

in boarding school. As a kid, they would go there, drop you at boarding school, you know, dump you there. And they go home, you board school, you get homesick. You know, the first day you cry when mummy and daddy leaves. . . (sighs). There was no one from my village that also went to that boarding school, so I had to get to know new people. I was far from my home, and it was boarding school. So, it was Std.2 that year. I went back home. And I went to another private school. It was called School of Tomorrow. Started there, stayed there, and studied there. In 1997 I came to Cape Town. My father was MP in Parliament. So I studied there, in Goodwood, Acacia Park and I went to JG Meiring High School in Goodwood. Then I went back home again. So I travel, travel. . . travel quite a lot. Back home, I did my Grade 12 at home. . . So you know, up and down travel. Yah. . . well I liked it in Goodwood but I had to go back home. It was a bit hectic but I was adapting. I adapted to the situation. After all I had been to boarding school but just the life, the scene was different.

Out of this emerge identities that are criss-crossed by social difference. Amongst African young people they are distinctly *of* their traditional pasts but always *more* than those. Young white people are different to their parents. While they remain distinctly *white* in their broad cultural orientations, they have had to learn how to live with children of colour around them who are, roughly speaking, their peers and equals. A young white woman from the Northern Cape illustrates this difficulty: "I think my dad was raised in an era where, even though he let me study mechanical engineering, he still struggles to understand that I can do anything that a man can do. But he's learning. And being white Afrikaans I think he still has. . . look I don't claim not to have any prejudices against anyone, that's almost impossible but I try to concentrate on not having any." They have to learn new ways of being. Importantly, the degree of risk young white people are exposed to in their experimentation is considerably lower than that to which young black people, and men in particular, are having to confront.

The stories young white students tell indicate that they are going through and always within range of what one might describe as 'spilling-over' identity-processes. They are having to think hard about their upbringing. But for many young black people the personal and collective stakes are much higher. Let us consider briefly, below, what these situations consist of. Flowing in apparently opposite directions, but holding to the same general principle of excess in identity-construction, let us look at two new developments taking shape amongst young African men in particular. Both, significantly, revolve around the processes of accommodation and generativity, coming to terms with their circumstances and then taking initiative to change them. These developments pivot around the experience of initiation and show how fraught and fragile the period of adolescence is for young African people.

The first development hinges around what appears to be an awakened interest amongst young urban men in parts of the country, but especially in places such as the Eastern Cape (see Duku, 2006), for initiation. Duku's work interestingly shows how interest in initiation has increased amongst young men and how even the supposed *amagents* – the cool young men of the townships – are asserting the importance of having been 'to the mountains' for initiation. What these urban youth are showing, however, is a suspicion of 'ignorant' initiation 'doctors' who are not practising the custom of initiation properly and who often decide to take on the responsibility themselves. Important in making sense of this general process is the generational-conflict contained within it. Youth prefer their own counsel to that of their elders, traditional or not. Interesting social dynamics around these developments are now emerging with evidence that youth are entering a zone of great risk-taking with many dying in the process because of the almost arbitrariness into which the practice sometimes settles. Anna Radebe, an East Rand mother told a reporter for the *Cape Argus* (Monday, July 10, 2006, p.3), the story of how she "had tried in vain to persuade her son [Syabonga] not to go to an initiation school. He didn't want to be teased, she said." The initiation was led by six young 'teachers', including one was 19, who placed a burning tyre on Syabonga and beat him with a wooden pick-handle.

The second example runs in a more positive direction. Here, as told by Ngwane (2002), the arbitrariness of the inexperienced initiation 'doctor' and 'teacher' is replaced with the relative clarity of the educated peer and his deployment of deliberative thinking. In a deeply interesting study Ngwane (2002) shows how young men leaving the city to go to the rural areas for initiation ceremonies are using, as opposed to simply pushing it aside as in the case above, their education to displace older more oral-based traditions and practices during initiation. In these situations young men are rejecting the tradition of their elders as the traditions of what they call 'the ignorant' and are investing them with new forms of masculinity based on the ability to argue and reason. It is one's *individual* prowess as an '*amagent*' or a street-smart young man that has come to count and not the rites of passage defined by older people. Problematic as this masculinity remains, this is an important development in the modernisation equation and shows young people moving towards a greater sense of themselves and their ability to control their own destinies. The shape of their world is filled with themselves as individuals making their own way on the backs of their own efforts. Their way forward is not so much as Xhosas, Zulus, or Shangaans, but as individuals. The shift towards individualised identities within what remain heavily encoded group racialised spaces is important and calls for much more intensive study. But

what is critical is that many of the spaces inhabited by young people, particularly those thought to be heavily invested with the identity of an 'authentic Africa', have been fractured. Nolita, a young woman from Langa, an African township in Cape Town, interviewed late in 2000, commented that living in the city placed a heavy strain on young people's sense of being African "because they don't care. They just throw away their traditions." The point, however, is not that young people are throwing away their traditions, but that they are remaking them.

A series of intense interviews I have conducted with a young parolee in Cape Town released because of his exemplary behaviour adds substance to how much young people are actively reconstituting their worlds. This young man, Q, provides an indication of how some young people are thinking intensely about the world they have inherited:

> It is sad as we're not learning from our mistakes, we're not learning from the things that other people are doing. We are not learning from past experiences. One guy who is related to my grandmother, the wife to my late grandfather A, she was telling me that they went to a funeral about two weeks ago and, because of this fighting some of these youngsters went into the bush to look for a youngster. . . I don't know if he was an enemy or what. . . this guy was in an initiation school and this is quite sad because it seems as if our custom isn't even respected. To go and look for a person knowing that he is in the initiation school. . . not paying that respect and waiting until he finishes that and then after that look for him. I am not saying that I am promoting violence, but respect that custom.

There is a sense among many young people that they have to learn *how* to be in the new environment in which they find themselves. These experimental trends, which, of course, also take interesting forms in the white community, are striking as they take shape amongst African youth and reveal the complexity in both positive and negative terms of our South African hybridities. What this African hybridity or syncretism reveals is the increasing presence amongst youth of a strong sense of individualism and a weakened sense of their attachment to the values of the groups with which they have been traditionally associated. While, interestingly, there is a retention amongst young African men and women of the importance of tradition (South African National Youth Survey, 2001), there is, simultaneously, an ambiguity with respect to and a distrust of the value of the old – a cynicism of the wisdom of the 'ancients'. This cynicism implies, as should be expected, an ambiguity about their identities and the extent to which clan and group affiliations impinge on their freedom as individuals. The outcomes, as we saw above in the case of Siyabonga are tragic. They, of course, are not always so. But we are, nonetheless, witnessing a stark moment of intergenerational distrust, with politics and politicians – give 'us good reasons to vote say young people' as

70 per cent of young people polled before the 2004 election claimed that they wouldn't vote – but also, and we need a great deal more ethnographic work here, with the entrusting of culture – even what is perceived to be tradition – to the older generation (see *Cape Argus,* Tuesday, February 21, 2006, p.10). A new sociological and even psychological reality of immense Giddensian terms has dawned upon the country. New as South Africa is in its headline form, it is its sociological substance which we need to give far greater attention to. We are seeing, as a consequence, a flight from the identity of politics so emblematic of youth life in the long period from the middle of the seventies to the beginning of the nineties. New forms of individualism are beginning to emerge which are shaped by new social forces. In this individualism new trusts and loyalties are being forged. A break and even a breakdown of relationships is immanent in the dialogical arena inhabited by the different generations. Turning their backs on the older generation, young people appear to trust their own, even when these 'own' are patently not equal to the task of providing them with the appropriate direction and leadership. The number of young people who used their right to the franchise in the recent 1999 elections, for example, fell to 48 per cent (*The Teacher*, June 2001). Figures for the 2004 elections were no different (*Cape Argus,* Tuesday, February 21, 2006, p.10). It is as individuals, speaking in their own voices, that they feel they can achieve in the modern world.

Moving into the global order and coming under the influence of globalisation has, however, not been not without its risks. An explosion of experimentation amongst youth has occurred as they have sought to assert their links with the wider world and their individual identities. The Unilever Institute study claims, to illustrate the point, that despite being frightened of AIDS, "the youth are still reckless in their behaviour, particularly under the influence of alcohol or drugs" (Unilever Institute, 2002). It is, however, not just drugs that are propelling this experimentation, it is the very complexity of South African life itself. In it is the unstable fuel of the country's multiple and contradictory histories.

Conclusion

In summarising this discussion, there are a number of key factors that are important to hold aloft. Amongst these, as Dolby (2001) describes clearly in *Constructing Race,* is the ubiquitous reality of popular culture. Popular culture is everywhere and through music and fashion clearly has given current youth life in South Africa a definitive character.

As important, and perhaps more so, largely because they have not had paradigmatic articulation, are the tensions swirling underneath the self-declared optimism of the country's youth that key surveys have pointed to. This optimism is crucial. It gives an edge to youth identities that is important to credit. But it must not be taken entirely at face-value. We would make a grave mistake to see South African youth simply as *southern* versions of their globalised cousins in the UK and the USA. Equally mistaken would be to see them, as I have suggested above, as cardboard cut-outs on the landscape of South Africa's racial history. Their identities are being forged in the tension of their locations here on the southern tip of the African continent which is simultaneously anchored in several different and often discordant waves of history and modes of being.

Central in this tension, I want to argue, using what we have learnt in the section above dealing with the texture of youth's lives, is the constant turbulence defining many young people's passage through their moratoria. These moratoria, that time in their adolescence when they are given some leeway to experiment with their identities, take their character from the socioeconomic and cultural conditions of the country. Young South Africans are exactly like their peers elsewhere in the world. They have cognitive, affective and spiritual needs that are no different to those of young people everywhere else. In this, they are Eriksen's (1968) universal children. They are distinctly different to many of their universal peers, however, in the way the psycho-social extremes of South African life have intensified their aloneness. This is the central tension confronting them. They live surrounded by social structures presided over by their parents and their teachers. The abiding characteristic of these social structures is the custom and the culture of orders of life that remain rooted in the certainties of the apartheid world. These orders are marked by the hierarchies of gender, race and class. As 'orders', however, they do not work for the youth of the new century. Confronting the youth are new questions of social relationships and life decisions which the older 'order' is not equipped to address. This challenge leaves young people having to fend for themselves. The testimony of many young people I have interviewed reflects how much thinking they are having to do about these new contexts by themselves. The tragedy is that the school, as suggested in the introduction to this essay, is structurally not set up to engage with youth as they are. They are, as a consequence, 'alone'. The number of significant others with whom a deep dialogue is possible is limited and restricted. And so without the guidance of significant older mediators, young black poor South Africans are making up their world anew all the time. As a consequence of this, the youth environment in the country is extremely dynamic. Where apartheid effectively disrupted

family life by forcing fathers into migrancy and left young people, particularly young men, to construct their identities in poorly signposted environments, and leading them to find intimacy in age-regulated cohorts, post-apartheid has done little to mitigate those challenges. Instead it has compounded those challenges by affecting their familial spaces only marginally but, critically, relocating these spaces from the enclosed comfort, paradoxically, that apartheid provided, into the giddy vortex that is globalisation. Many young people in the rural areas and in the poorer parts of most towns continue to lead lives that are marked by the absence of significant adults but are having, nonetheless, to take major decisions about their futures. In these developments they have been forced to take their most significant growing-up input from their peers. And while young people are extremely innovative, as the Cancele story of youth initiation above reveals, the consequence of this is that their ability to explore a wide variety of identity options beyond the limited boundaries of their physical environments is severely proscribed.

With these foreshortened moratoria, young people, particularly those in poorer and marginalised communities, have become increasingly more dependent on their older brothers and sisters and friends. These older peers, however, offer them role models of circumscribed potential. This potential, unlike that available to middle-class young people, is celebrated, on the one hand, in the limited achievement of attenuated individualism – of youth leaders amongst whom are, on the one hand, exceptional musicians, sports persons, but, on the other, in the doings of leaders with significantly asocial and anti-social habits and orientations. If anything, therefore, characterises the passage of these young people into adulthood, it is their relationship with their older peers. It is in this space that the limits and possibilities of who they are have most deeply impacted on their identities. The chief hallmark of this space is its acute dissonance. The noise of their multiple worlds ringing in their ears, including the haranguing by their parents of their neglect of what is proper and appropriate, young people growing up struggle to filter out what makes sense and what does not. Their lives, as a result, are classically marked by identity struggle and even identity confusion.

What we have, therefore, for the majority of young people in the country is a crisis of representation and self-representation. The majority, those in marginal urban and rural communities, and perhaps even those on the fringes of the emerging black middle class, are marked by fragile identities. What is emerging are indeed the Coca-Cola identities described social-psychologists Stevens and Lockhat (1997), and even the hip identities portrayed by Dolby. As widespread, however, are young people with diffuse identities. This

diffuseness is 'raced' and 'classed' but it is always, as I have argued above, beyond race and class. In that 'beyond' space, young people are on their own having to work out their own ways forward. Being white, African, coloured and Indian is very much part of this exploration, but it is only a small part. How to be themselves, working with their distinctive familial and community environments, in the context of what their bodies are telling them, is enormously difficult.

As a consequence of the issues I talk about here, there is amongst many youth a struggle to articulate the self within them. This struggle is sometimes a burden, but is as often 'played' with and reveled in by many. *Instant Grass*, a trend-spotting agency in Cape Town described one of their 'grasses' (informants) in the following terms: "We have a guy in KwaZulu-Natal who was slaughtering goats and making *umqombothi* (traditional beer) on the weekend, and was having pizza and wine in a flat with his mates during the week. This may seem strange, but it is a natural part of their lives" (*Weekend Argus,* Saturday, January 21, 2006, p.20). They also described another 'grass' who "has all the 'bling' with bangles and jewellery, but her most prized possession is a goatskin bracelet and she hopes one day she will marry a Zulu man and give it to her daughter on her 18th birthday" (*ibid.*).

It is against this that we need to explore much more fully the significance and value of the South African school and recognise that we now have to develop a much more robust sociology to account for the process of growing up in South Africa. Such a sociology has to account for the incredible refusal of the young to succumb to the pressure of the conflicting social forces that surround them, and that seek to squeeze them into the narrowing and unforgiving cage of this or that tradition or to project them into an abstracted modernity that does not recognise their groundedness in the urgency of everyday South Africa.

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Asymmetrical relations of knowing: pedagogy, discourse and identity in a de(re)segregated girls' school

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Abstract

Drawing on post-structuralist theorising of discourse, identity and power, this paper examines the relations of knowing in one Grade 10 English class in a de(re)segregated suburban girls' school in Johannesburg where the teacher and the learners come from divergent social backgrounds. I present an analysis of the teacher's dominant discourses, constructed in dialogue with the learners, and focus on the ways in which these position the girls. I argue that while on the one hand positioning learners as valuable contributors to and agents in classroom discourse, the teacher simultaneously constructs an ideal learner/subject that excludes most of the learners in her class. The latter is informed by the teacher's constitution of her own partial everyday knowledge as 'knowledge of the world' which shapes the dominant classroom script. Selected learners construct and insert counter-discourses, resisting the teacher's positioning and her knowledge construction. However, such discourses are not fully taken up by the teacher whom I argue reproduces racialised asymmetrical relations of knowing in the classroom.

Introduction

In continuity with the apartheid past, ex model-C, or previously white schools, at present continue to be perceived as representing the aspirational standard in South African schooling. This perception is enabled by the current context of crisis in quality provision of schooling to the majority of South Africans (Chisholm, 2008; Fleisch, 2008). To the extent that previously white schools produce successful matriculants with highly valued university exemptions, such schools remain largely uninterrogated spaces – the 'shining lights' in an otherwise failing system. Thus, despite the history of apartheid racism, and the profound continuing impact of this history on constructions of identity and lived experiences, engaging with issues of difference and democratic values is not seen as a priority in redressing inequality in the South African schooling system. While addressing the politics of difference may seem justifiably backgrounded in the context of widespread educational failure, I would argue that the consequences of neglecting difference for the experiences of black

learners who continue to be 'othered' in the post-apartheid schooling system (Makoe, 2009; McKinney, 2010; Soudien, 2007), cannot be ignored.

In 2005, I conducted fieldwork at a desegregated suburban girls' school in Johannesburg where black working class learners have replaced the previously white middle class learner body, i.e. a resegregated school (Orfield, 2004). While dismayed at the powerful assimilationist discourses operating in the school which frequently positioned the girls as 'outsiders' who were expected to 'fit in or leave' (McKinney, 2010), I was simultaneously intrigued by the respectful positioning of the top streamed Grade 10 class whom I observed over many hours in their English classes. Apart from classroom observations, I conducted group interviews with volunteer learners from this class ranging across a number of topics from their experiences at the school to their linguistic repertoires. A profoundly disturbing moment in these interviews was the (re)production of a troubling narrative of racial knowing by one of the learners:

> Maria: But guys think about it, think about it. Us as black people, what do we really have to say that we are proud of? *(Dissenting overlapping speech)* White people have the Renaissance. No, no, no, of being black. White people have the Renaissance, have buildings, they have all these other *(Dissenting overlapping speech)* For us it's like *(All talk at once)* No, I'm just saying that *(Dissenting overlapping speech)* It's sad because I can't say I have something that's mine. (16 May 2005, Group interview 3).

This moment and the ensuing discussion provoked me to conduct a close analysis of the discursively constructed relations of 'knowing' in the Grade 10 English class. Drawing on post-structuralist theorising of discourse, identity and power, in this paper I examine the kind of learner/subject constructed in classroom discourse, highlighting the constitution of an idealised subject in relation to social positions such as race, class and gender, who is quite different from the learners in this class. In doing so, I analyse the ways in which the girls are positioned by the dominant classroom script drawing attention to the multiplicity of power relations as some learners struggle to insert their voices into this script while others ascribe legitimacy to the teacher's 'local knowledge' (Canagarajah, 2005). The paper concludes with a consideration of missed pedagogical opportunities for disrupting asymmetrical relations of knowing, and the consequences for the learners of the teacher's dominant discourses.

Race and relations of knowing in schooling: culture, identity and pedagogy

In a recent analysis of the history of school desegregation in South Africa, Soudien (2007, p.439) argues that "contact in the South African school is structured around fundamentally asymmetrical relations of 'knowing' between groups", where knowing is defined as "the exercise of power of those who determine the conditions of knowledge and its production and reproduction in a particular context" (Soudien, 2007, p.443, drawing on Miles, 1989). Soudien delineates three phases in this history: firstly the desegregation of private religious schools in 1976–1990, secondly the Clase years ending apartheid schooling 1990–1993, and finally the post-1994 democratic era. The analysis reveals that it was only during the early phase of desegregation involving the opening of private church schools to black learners that there was a brief moment of self reflection and critical introspection within white schools. This was represented in the self-critical voices of Brother McGurk and Sister Michael who called for a consideration of processes of enculturation thus acknowledging the partial cultural scripts operating in white schools. Theirs not being the dominant voice, this moment was neither fully realised nor sustained (Soudien, 2007). In contrast to this, the desegregation process of state schools under Minister of Education Clase was expressly assimilationist with its rule of maintaining the white numerical majority in desegregated schools and its injunction that "the cultural ethos of such schools should remain intact" (Carrim and Soudien, 1999, p.157). However, the lack of a tradition of school ethnographies in South African educational research means that we have limited research evidence on the cultural ethos of (previously) white schools in South Africa,[1] and a lack of research on classroom practices which show how the cultural ethos is being constructed.

A growing body of educational research in the USA argues for acknowledging the centrality of cultural practices and identities in learning, particularly in the context of the under-achievement of learners from non-dominant groups (e.g. cultural modelling Lee, 2000, 2008; funds of knowledge, Moll, Amanti, Neffe, and González, 1992; Moll, 2000, culturally responsive pedagogy, Ladson-Billings, 1995 and cultural repertoires, Gutierrez and Rogoff, 2003). While the researchers have different emphases, all of the approaches attempt to do two things: firstly to broaden what counts as legitimate knowledge in the

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[1] See Dolby (2001) for a significant exception.

classroom (e.g. in the recognition of African American Vernacular English (AAVE) as a rule governed and established linguistic variety and of the value of bidalectalism for students); and secondly to acknowledge and use the diverse resources learners bring with them (including their linguistic and semiotic repertoires as well as other kinds of knowledge) in their acquisition of new knowledge in school. Moll *et al.* (1992) outline an approach which enables teachers who come from different social backgrounds from their learners to learn about the social and cultural backgrounds of their learners so that this knowledge might be used to bridge the gap between ways of knowing at home and in schools. They use the term 'funds of knowledge' to capture the "historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being" (1992, p.133). Irizarry (2007) sounds an important cautionary note that some culturally responsive approaches do not go far enough in avoiding cultural essentialism and in acknowledging the hybridity of learners' identities, social and cultural practices. However, this work has produced evidence of the benefits of taking seriously teacher and learner identities, if we are to disrupt both under-achievement patterns and asymmetrical ways of knowing in schools (see also McKinney and Norton, 2008).

Focusing specifically on the English classroom, (and drawing on a critical literacy perspective), Freebody, Luke and Gilbert, (1991, p.436) argue that "the selective representation of culture is overt in literacy and literature lessons in school." It is the acknowledgment of this heavy cultural load in English curriculum content that has informed debates on what the purpose of school English should be and on efforts to broaden the canonical texts selected for study. In some cases language and literature lessons have provided a productive space for the development of new pedagogical approaches which draw explicitly on the learners' cultural worlds as tools for the mastery of disciplinary techniques (e.g. Carol Lee's (2000) 'cultural modelling' mentioned above). More often than not however, as Gutierrez, Rymes and Larson (1995, p.455) observe, the teacher presents his/her own "internalised cultural discourse" or "cultural habitus" as the norm or as knowledge of the world. That the partiality of this knowledge remains unacknowledged leads to the kind of asymmetries of knowing which Soudien writes about.

Theoretical framework

I conceptualise the classroom as a complex discursively and semiotically constructed social space where the teacher and learners engage in a range of interactions. Following Bakhtin's (1981) notion of social heteroglossia, Gutierrez and Stone (2000) argue that classrooms are inherently multi-voiced dialogical spaces, "regardless of the dominance of the official script" (2000, p.157). Thus classrooms are sites of multiple and competing discourses. My analysis of discourses within the classroom is informed by post-structuralist theory (Davies, 1989, 1990a, 1990b, 1991; Davies and Harré, 1990, Foucault, 1981, 1990, Weedon, 1997). Drawing on Foucault, discourse is defined as

> . . .ways of organising meaning that are often, though not exclusively, realised through language. Discourses are about the creation and limitation of possibilities, they are systems of power/knowledge (*pouvoir/savoir*) within which we take up subject positions.
>
> (Pennycook, 1994, p.28).

Weedon argues that "to speak is to assume a subject position within discourse and to become *subjected* to the power and regulation of the discourse" (1987, p.119). My analysis probes the discourses (power/knowledge) which the teacher draws on in constructing the classroom script. I further analyse how the teacher takes up her subject positions and examine how the learners take up subject positions within the teacher's dominant discourses as well as in other, alternative discourses.

Identity or subjectivity (the preferred term) is conceptualised as discursively constituted, multiple and in process, fluid, and often contradictory, rather than as fixed and unitary. Weedon presents subjectivity as a conscious site of struggle between competing discourses in which the individual plays an active role. This struggle, she argues, enables individuals to resist being positioned in particular ways and to produce new meanings from conflicting discourses. Agency thus conceptualised relies on Foucauldian notions of power as productive, relational and distributed, "exercised from innumerable points" (Foucault, 1990, p.94) and dependent on a "multiplicity of points of resistance" (Foucault, 1990, p.96). Paechter (2001, p.46) reminds us that this "distributed nature of power also makes it clear that institutions and practices may be simultaneously repressive and liberating in their operation". Viewing identity as multiple and shifting across time and space, and performed using different semiotic resources, enables me to deconstruct the uneven processes of assimilation in a desegregated school where girls both participate in and disrupt dominant discourses at different times. Like the classroom, the school

itself is a site of multiple and often competing discourses with dominant discourses (and thus cultural practices) shifting in different spaces.

The research site: girls' school

The school is situated to the North East of central Johannesburg and accommodates about 750 learners. While previously a white English medium of instruction school catering for a predominantly Jewish intake, the school now accommodates black learners who live mainly in townships and the inner-city, and most of whom are from working class backgrounds, with less than half paying the annual school fees of R5 500.[2] Learners are predominantly African with about 25 Indian and 'coloured' learners and about two or three white learners in the school. My focus was on two classes of Grade 10 learners (15–16-year-olds). Most of these learners (57/69) reported linguistic repertoires of between three and seven languages. Learners typically had either a Sotho or Nguni[3] language as their home language with English as an additional language. The school began desegregating in 1991 and remains English medium. In 1991, its enrollment was down to 385 learners. To a great extent, opening its doors to black learners has ensured the survival of the school, situated in an area in which the population is aging and which accommodates another highly elite, private girls' school. Changes in staffing were less dramatic: at the time of fieldwork, the principal, a white woman, had been at the school for more than 30 years, while the more recently appointed deputy head was an Indian woman. The teaching staff were majority white women with a few white men (22/34) while black staff (three African, six Indian and three coloured teachers) made up the minority.

Methodology

Data presented in this paper are drawn from a larger research project exploring language, identity and processes of inclusion and exclusion in four

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[2]   The school fees were R5 500 (about USD550) per learner per annum and only 50 per cent of learners paid full or partial fees. Low school fees was further cited as one of the reasons learners chose the school (ex-model C school fees can be as high as R20 000 per annum).

[3]   The Sotho group includes three mutually intelligible languages, Tswana, Sotho and Pedi while the Nguni group includes the mutually intelligible languages of Zulu, Xhosa, Swati and Ndebele. All of these are official languages in South Africa.

desegregated suburban schools in Johannesburg. The research design drew on traditions of school ethnography from sociology of education (Gillborn, 1995), and particularly more recent studies taking up a post-structuralist approach (Hey, 1997; Youdell, 2003, 2004), as well as ethnography of communication (Duff, 2002; Rampton, 1995, 2006). Data collection tools included observation (captured in field notes and through selected video-recording), regular group interviews with self-selected learners (captured in audio recordings), the completion of learner surveys and language network diagrams, and interviews with selected staff members. In this paper I focus on teacher and learner discourses produced in the English classroom of the 'top' Grade 10 class at one girls' school. I spent one and a half days a week at the school for the first half of the academic year in 2005. During this time, I followed two classes, the one streamed as the top academic class and the other as second from the bottom (there were five Grade 10 classes).[4]

I analysed the data using the tools of poststructuralist discourse analysis as applied to classroom discourse (PDA, Baxter, 2002, 2008; Duff, 2002). PDA is concerned with the ways in which knowledge, social relations and identities are constituted through discourse and is self-conscious of the fact that analysis always foregrounds the researcher's meanings and presents only one of multiple possible readings of the data. PDA draws attention to the highly complex and ambiguous nature of classroom discourse as it unfolds moment-by-moment as well as "the ways in which speakers. . . constantly shift between positions of powerfulness or powerlessness within competing cultural and educational discourses," (Baxter, 2008, p.69). This enabled me to analyse the multiple and dynamic relations of power in the classroom and the ways in which these feed into uneven processes of assimilation.

I turn now to my analysis of classroom discourse focusing on the English classroom. The 'top' class consisted of 35 15–16-year-old black girls, mostly African with one Indian and two coloured learners. The teacher, Ms Smith,[5] is ex-Zimbabwean, white, monolingual English, middle-class, middle-aged, and lives in the suburbs. I begin the analysis with a segment (15 minutes) of an extended whole class discussion and end with a brief analysis of a series of episodes from a range of reading lessons where one learner attempts to insert

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[4]

    While the particular extracts from classroom discourse analysed in this paper were not discussed in the learner interviews, my analysis is inevitably influenced by discussions with learners on related topics.

[5]

    All participants have been given pseudonyms to protect their identities.

local knowledge into the classroom script. Throughout this analysis I am interested in foregrounding the discursive positioning of learners and of the teacher as well as the forms of cultural and local knowledge exchanged.

Lesson overview and turn-taking

Observing the class who were conventionally seated in single desks arranged one behind the other in rows facing the front, I noticed many girls confidently bidding for turns to speak through hand raising or polite interruption (e.g. *Miss? Could you say miss?).* The teacher rarely initiates responses through direct questioning (typical in Initiation Response Feedback/Evaluation, IRF/E classroom discourse structure, Sinclair and Coutlthard, 1975) but rather chairs a discussion in which her voice nevertheless dominates. The teacher takes 45/92 conversational turns while the girls collectively (35 in the class) take 46/92. However the teacher holds the floor for roughly twice as long as the girls due to the extended length of several of her turns (121/181 lines) while learners contribute 60 lines of 181. Almost all of the learners' turns were self-initiated, either by raising their hands, which was acknowledged by the teacher in the invitation to speak (e.g. *T: yes, Busi?),* or by girls taking up their own turn without the teacher's invitation through polite interruption or following directly on another learner's turn. A fairly high number of turns (27/46) were self-initiated in this way. Sixteen of these 27 self-initiated turns are followed up by a feedback response from the teacher. Unusually, the girls directed more questions at the teacher (11 questions versus four from the teacher addressed to them) than the teacher directed at them. The learners' questions typically attempted to elicit the teacher's experience or opinions and reinforced her self-positioning as an authority on the topic under discussion. Significantly, the overarching patterns of turn-taking in the classroom discourse diverge from the IRF structure. The learner-initiated turns as well as their initiation of three of the four main topics for discussion are suggestive of their power in shaping the classroom discussion. However, analyses of turn taking and of who holds the floor do not take us far enough in examining the complex discursive operation of power relations.

The lesson began with Ms Smith distributing handouts outlining an advertisement for a teaching post ('Northern Sotho teacher needed' for Waterkloof High School, Pretoria) as well as guidelines for writing a Curriculum Vita (CV) appropriate to a job advertisement. As the teacher introduced the CV genre by reading through the different elements of the CV,

the girls initiated discussions on whether certain information should be required in one's CV, (e.g. a photographic image, disclosure of marital status). The teacher encouraged the girls' initiation of discussion topics and soon changed the goal of her lesson to supporting learners in developing verbal arguments. After the class, the teacher confirmed the change in her lesson plan by commenting to me that in the continuation of this lesson, rather than moving on to draw up CVs she would select some of the issues debated (e.g. disclosure of HIV status to potential employers) and draw up summary tables with advantages and disadvantages of the different positions on the board as a preparatory step in learners writing an argumentative essay. The genre of the CV (i.e. the academic content of the lesson) was thus back grounded as the learners engaged in the real life questions of how one gains access to the world of work and what happens in interviews and selection procedures. The teacher allowed the learners to intervene in and shape the lesson structure and goals, respectfully positioning them as valuable contributors to classroom discourse.

However, the teacher drew extensively on her own views and experience on selection panels at the school (i.e. selecting from her 'local' or experiential knowledge), consistently taking up the authority position of employer rather than interviewee. She used this experience to construct an 'ideal candidate' for the job who was very different from most of the adults inhabiting her learners' worlds.

Creating a CV: who's the ideal candidate for the job?

The content of the discussion can be separated into five broad areas spread over 92 speaking turns:

(i)   Teacher orientates learners to CV genre (1–3)[6] (22 attempts reorientation)

(ii)   Dimakatso initiates topic change to including a photo image with CV (4–22)

(iii)   Teacher and Karabo initiate topic change to benefits of including marital status on CV (23–44). Later, Rose returns to this topic (47–52)

(iv)   Teacher initiates topic change to people's desperation for employment and links to lying on CV; financial background etc. (52–80)

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[6]   Numbers refer to turns of talk (may be more than one line of talk).

(v)   Refiloe unsuccessfully attempts topic change to revealing HIV
         status (45–46) and later successfully initiates HIV status topic
         (80–92)

The first extract below follows on Dimakatso's (inaudibly recorded) initiation
of the first discussion topic in the class relating to the inclusion of a
photo/image with one's CV.

Extract 1: Discourses of style and aesthetics[7]

8T: alright. In other words if you had **dreadlocks** [pause] [Girls: *hayii*
(Noo)] and you applied to a post in a very conservative company maybe
then [Girls: *hayii*] the image won't fit//
9Several girls: //*Hayi* [No] [several overlapping contesting responses]
10T: you don't like that idea?
(Several girls talking simultaneously – dissenting noises)
11Sameera: because it depends it depends on how you dress
12G: [disagrees]General noise of dissent
13T: Shhh. They are just suggesting, you don't **have** to have a
photograph they're just say if Uh Maria what would you like to say?
14Maria: I just wanted to say that I understand what you're saying
because nobody would want their secretary to come to work looking all
untidy and meeting clients and what if she [uhhm uhmm
negative](inaudible) I do understand what you say miss
15G: miss miss
16T: oh good one happy learner
17Busisiwe: some people do have dreadlocks but if they dress neat and
they can look very nice
(Lots of agreement and overlapping talk)
18T: alright shh shh (pause)
19T: Girls the idea is just to give you a hint that maybe when you're
young you like to be more adventurous in your hairstyles and clothing. . .
But perhaps later when you are applying for posts you may need to look
neater it was just an example

7
        T refers to teacher; G refers to unspecified learner.

The teacher reformulates Dimakatso's point about potential problems in submitting a photo image with one's CV with the example that wearing dreadlocks may not be acceptable to a 'conservative company'. Dreadlocks were themselves not outlawed in school hairstyles and some girls in the class wore this style. Unsurprisingly then, the teacher's example meets with much resistance from the learners as seen in Sameera (11) and Busisiwe's (17) turns as well as general noises of dissent and the repeated chorus of '*Hayi*' (No – turn 9). Maria, who supports the teacher's point of view, herself wears short dreadlocks. The teacher does not seem to accept the learners' dissent and reasserts her position adding weight to it with the inclusion of the real life situation of their applying for jobs in the future: 'Girls the idea is **just** to give you a hint that maybe (. . .) later when you are applying for posts you **may** need to look neater'. However, the teacher shows her awareness of their dissent in her hedged responses ("*just* to give you a hint" and "you *may* need to look neater"). Such hedging can be read as mildly defensive or as an attempt to diffuse potential conflict in their positions on the topic. Despite her hedged response, the teacher continues to draw on a particular discourse of style/aesthetic to construct dreadlocks as an adventurous style that falls outside the boundaries of neatness.

Extract 2: marital status

The second discussion topic is indirectly introduced by the teacher who had returned to the CV genre (22).

> 22T: (. . .)You start with your personal details, alright surname and first name then your address a telephone number date of birth you would just fill in there would just put that in there age in case they don't feel like working it all out for themselves (laughter from a few) sex as in gender right, nationality just to confirm that you are a South African citizen marital status [pause] **might** be useful in the job there [Girls: married] yes you could be married (..)

By pausing after the words 'marital status' and stating '**might** be useful for the job there' the teacher is making an evaluation of the merits of including this information thus deviating from running through the CV genre. Karabo picks up this topic by linking marital status to married women with children. From the teacher's input, it is clear that she is unconvinced that women with several children (4-6) are able to perform the job properly. She positions herself here as a potential employer drawing on her experience on interview panels:

37(…) Girls I've been in on some of the interviews in Ms van der Schmidt's office when we're looking for new staff and it does just give you an idea how much time say from a teacher's point of view are they are going to devote to their lesson preparation marking and so on and say for example let's exaggerate and somebody's got **six** children [protests, laughter]

38G: That's not funny

39One girl: it does happen

40T: it does happen yes, but it's likely that a woman who has six children is going to be very busy when she gets home. Where's she going to find the time to mark *Animal Farm* projects and posters //and things like that//.

In her words 'let's exaggerate and somebody's got *six* children', Ms Smith further positions this possibility as abnormal (an exaggeration). Several learners contest the teacher's position here: Busi (27) who contends that the woman with four children needs a job most; Dimakatso (36) who emphasises the teacher's admission that interviewers are not supposed to ask how many children a woman has; two different girls who chide peers for laughing at the idea of six children (38 and 39) 'that's not funny'; and Karabo (41) who points out that with six children, it is likely that there will be a range of ages with older children sharing childcare of and responsibility for the younger ones. The latter point is particularly interesting in that Karabo challenges the discourse of families and childcare, i.e. the cultural knowledge, that the teacher is drawing on (i.e. a patriarchal, nuclear family of mother, father and children in which the mother has sole responsibility for childcare) as only one of a range of options. While the teacher might have chosen to position herself as interview candidate/job seeker and as a married mother, both positions also within the realms of her experience, it is significant, though not surprising, that she takes up the subject position of authority – potential employer. The former positions might have enabled her to identify momentarily with learners' subject positions and vice versa, while her alignment with the employer maintains a strong social/power distance between teacher and learner, and thus the asymmetrical relations of knowing between teacher and learners.

Extract 3: Middle class imaginaries – where one lives and use of public transport

In the third extract the teacher demonstrates how a 'skilled personnel officer', in her words, can circumvent the constitutional limitations placed on the kinds of questions interviewers can ask, again positioning herself with the potential employer.

> 65T: you see a skilled personnel officer or personnel manager when interviewing will know what sort of questions to ask (pause) sometimes you may ask in a friendly way oh how do you cope with the children or I've got a child making a leading comment that gets a response there. So you wouldn't actually ask uhh how many children? Uh Where do they go to school? What ages are they? But sometimes in conversation you may be able to get that sort of information. **And financial status they can't really say. you might ask where the person lives so you know if they're going to be able to get to work on time and see how far away some one who lives far away and maybe has to rely on public transport you know with the busses[8] in the morning then that can be a problem for a job.** Dimakatso, then I'll go to Karabo
> 66Dimakatso: miss if you know like personal questions you're not allowed to ask
> 67T: you could say in a polite way um (obviously if you really want the job then maybe you could say) excuse me I think that is quite personal (some girls laugh) in a polite way
> [dissenting noise]
> 68T: I don't think that would have a bearing on my ability to do the job because I can do and you mention your skills [pause] and the interviewer might pick up something there that it's getting too sensitive there I'll go to Karabo?

It is interesting that the tactics of a 'skilled personnel officer' are not positioned as unethical whereas a job applicant 'exaggerating' i.e.'lying' about their experience or qualifications is clearly labelled as 'dishonest'. Ms Smith had been asked earlier whether a job applicant's financial background could

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8   The teacher is referring here to the problems learners themselves experienced in arriving at school on time with the public bus service repeatedly leaving the terminal late. Since punctuality was taken very seriously at the school and even a single late coming was punished with detention, this was cause for distress among the learners and the school management.

be investigated and had replied 'not in much detail' and returns to this topic in turn 65 with the idea that asking where a person lives may give a proxy for their background. More importantly she makes it clear that living far away from one's place of work (in this case the elite Pretoria suburb of Waterkloof) and needing to rely on public transport (as most of these learners do in relation to the school) would not be ideal for the job: 'that can be a problem for the job'. Dimakatso (66) contests the teacher's discourse here by asking how one could prevent the kind of personal questions she is asking (and that are ultimately illegal).

The final extract concerns the topic of whether an employer has the right to ask about HIV status, again initiated by one of the learners. Many of the learners in the class know that this is unacceptable (as evidenced by several learners themselves answering the question Refiloe addresses to the teacher negatively (81)) but the teacher opens up the question for debate. The teacher's incorrect reformulation of Refiloe's perspective in the final turn of the extract (92) constructs her own position in the guise of the fictional employer's:

> T (. . .)you can look at it from the **employer's** point of view, do they want to employ somebody //(lots of overlapping talk from girls)// shh who's going to get very sick and have a lot of time off work and maybe even become too weak to do the job it might depend on the job there (92).

Refiloe had in fact said that it takes several years for HIV positive people to become ill thus they could be productive employees for some time. Neither the teacher nor Refiloe consider the option of taking Anti Retro Virals to prevent illness and the teacher further stereotypes HIV positive people as getting 'very sick' and having to take time off work. Throughout the discussion there is much contesting of the idea that one's HIV status should be revealed, evidenced in overlapping talk, increased noise levels as well as positions such as Jackie's:

> 91Jackie: they shouldn't know it's a personal question that I don't think all of us would be uh//comfortable// ja comfortable to answer that question I mean um people talk and obviously the interviewer is going to tell the people in the office and they will treat you differently that's obvious

Based on the analysis of the data extracts above, the ideal candidate for the job of Northern Sotho teacher at Waterkloof High School as constituted through the teacher's discourse:

- is conservative in style and does not wear dreadlocks;
- is single or married with no or few children;
- lives close to her place of employment (in this case a school in an elite suburb);
- does not use public transport, which is considered unreliable, and
- is HIV negative.

Much of these features form part of a 'discourse of bodily use' (Paechter (after Foucault), 2001, p.44) which encompasses styling the self; childbearing and illness/health. Such aspects are controlled in particular ways in the ideal candidate. In discursively constructing an ideal candidate for the job, Ms Smith simultaneously constitutes the imaginary subject/learner she is interacting with. While this ideal subject is frequently resisted by those learners who offer counter discourses as we have seen, the teacher's position of authority and her dominance in the classroom script which follows from this, ensure that the discourses she draws on and reconstructs are most powerful. Several learners are positioned by the teacher as agentic (Davies, 1990), as people who can and should be heard or who have worthwhile opinions to contribute. But those whose voices are most strongly heard (i.e. those who benefit from the reformulation and repetition of their turns by the teacher) are those who draw on discourses most similar to or aligned with what the teacher constructs as the employer's point of view, (i.e. the position of authority) and thus which most closely articulate her own position. Striking in the discussion is the way in which the teacher presents her 'internalised cultural discourse' (Gutierrez, Rymes and Larson 1995, p.455) as the norm or as 'knowledge of the world'. The authority of the teacher's discourse is reinforced by her continual self-positioning alongside the employer rather than as a job applicant and interviewee. I would argue that this represents the teacher's inability to step outside an authority position, or a refusal to take up a less powerful learner position, even if momentarily. As such, she alone "determine[s] the conditions of knowledge and its production and reproduction" (Soudien, 2007, p.443) in this context. Consequently, the teacher misses an opportunity to lessen the social distance between herself and her learners, and to reduce the asymmetries in relations of knowing.

Missed opportunities in Gugu's attempts to insert 'local' knowledge

Further examples of such missed opportunities on the part of the teacher are found in her responses to the repeated attempts of one learner, Gugu, to insert knowledge from her own life world, or in Moll's terms, her own 'funds of knowledge', into the classroom script in a number of reading lessons. In the first brief example, Gugu provides a gloss for the 'beer' that the character Napolean in Orwell's *Animal Farm* is brewing with the Zulu word, '*umqhombothi*' and at the teacher's invitation, provides a brief explanation of this. Since it was uncommon to hear a language other than English in the official classroom script, Gugu can be seen as attempting to localise classroom discourse and knowledge (re)production by inserting her 'local knowledge' in this example in two ways: in the use of an indigenous, local language in the English classroom; and in the insertion of knowledge of local beer brewing practices. The teacher's question (*T: and what is that?)* reveals her own lack of knowledge of a term fairly commonly used and understood in South Africa. However, after Gugu's brief explanation, the teacher immediately returned the learners' attention to the text.

In a second example, the learners were engaged in animated off record talk about the reference to 'street name' in a text:

> The class is going through the answers to a test paper which they have already written. It begins with a comprehension exercise – a text to read followed by questions. The teacher asks the girls to take turns in reading aloud. They change turns after each reading a paragraph. In the middle of the passage, the class is interrupted by the Art teacher coming in to ask the English teacher a question. Nozipho, Suraya and Gugu who are sitting in the back right hand corner seem to be arguing about the text. The teacher apologises for the interruption and asks Nozipho 'is there something wrong?' Nozipho replies 'we're talking about the street name'. The teacher then asks 'do you have the same street name?' which elicits laughter from the girls and Gugu explains 'we don't have a street name'. Responding to the teacher's surprise at this, Gugu goes on to explain that she has a house number and that her father has painted a sign for the garden stating their house number and address [E.g. No 246 Section 6, Diepkloof]. The teacher comments 'that was very industrious' before she indicates to the next student to return to reading aloud from the comprehension passage.
>
> (English lesson 25 April 2005 – Extract from field notes)

Gugu responds to the teacher's question of whether she has the same street name by taking up the position of knower, attempting to educate the teacher about norms in her residential area in Diepkloof, Soweto which differ from previously white suburban norms. She explains that they do not have street names but that she has a house number and her father has painted a sign for the garden stating their house number and address. The moment of off-record

group discussion by the girls and their responses to the teacher can be read as one where they knowingly wield power. They were highly engaged and animated in their own off-record discussion and their shared laughter at the teacher's question shows their pleasure in taking up the positions of knower in relation to the teacher's position of (ignorant) learner. While a momentary exercise of power by the girls, the teacher's dismissal of this knowledge through a somewhat patronising comment ('that was industrious'), and her immediate refocussing of the learners' attention on the comprehension text constructs her resistance to Gugu's positioning of her as learner.

In a third example Gugu mentions the *tokoloshe* in relation to the teacher's explanation of a hobbit as 'small people with funny ears' (in the context of a political cartoon, rather than a discussion of the novel, *Lord of the Rings*):

> The class is working together on a set of political cartoons that the teacher has handed out with accompanying questions. The teacher reads the word 'hobbit' and asks "Girls, have any of you seen Lord of the Rings?" to which some answer 'yes'. The teacher comments "then you know small people with funny ears". Gugu responds with the word '*tokoloshe*'[9] and the teacher asks her 'what is a *tokoloshe*?' (. . .). Girls in the class respond with laughter and Gugu gives the very brief explanation "it is small and evil and blue" and then continues to laugh with the rest of the class. The teacher makes no further comment on this and returns to the political cartoon.
>
> (English lesson 9 May 2005 – Extract from field notes)

Similarly to the first incident presented above where Gugu uses the example of 'umqhomboti', the officially monolingual linguistic space of the English classroom is again momentarily interrupted by Gugu's use of Zulu/Xhosa semiotic resources in the word 'tokoloshe'. This moment can also be read as Gugu's attempt to insert 'local knowledge' into the curriculum and thus to shift the conditions of knowledge (re)production in the classroom. However, Gugu's attempted connection was largely ignored as the teacher did not take up the topic but rather directed the attention of the class back to the text under study.

These brief moments are powerful in the context of this classroom in that they give Gugu the opportunity to draw attention to the different discourses and semiotic resources which she draws on as well as to deliberately position herself outside of the teacher's ideal subject/learner position. In doing so she exposes the partiality of her English teacher's knowledge and makes visible

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[9] *Tokoloshe* refers to a well-known creature in Zulu and Xhosa folklore who is short, dwarf-like, hairy and evil with a long penis hung over its shoulder; it is considered to have powers to inflict harm, even death and often said to rape women.

the cultural script from which she draws thus disrupting the teacher's self-positioning as powerful and authoritative knower. The girls' responses of laughter index their own pleasure and sense of power in these moments where the teacher's discourse is shown to be one of many. However, while Gugu's discursive moves disrupt the subject positions that the teacher constructs both for herself and for her learners, the fact that they are not taken up means that she is constrained in positioning herself as legitimate knower, and is unable to radically alter the dominant classroom script.

Conclusion

In interrogating the discursive space of a Grade 10 English class in a desegregated school, I have aimed to make visible the dominant and competing discourses or cultural scripts as well as the discursively constructed relations of power. The overarching structure of classroom discourse appears less tightly controlled than in more typical examples of teacher initiation, learner response and teacher feedback/evaluation (IRF) sequences with some learners being enabled to take up positions of agents in initiating discussion topics and asking questions of the teacher. However in analysing the particular discourses in the discussion, I am arguing that the teacher constructs one kind of ideal subject/learner that constitutes her own learners as outsiders. The particular discourses of style and bodily use she constructs are simultaneously raced, gendered and classed. I have attempted to show that such positioning is not uncontested as several learners draw on their own 'funds of knowledge' to take up counter discourses to the dominant classroom script. The data thus point to the incomplete and uneven nature of processes of assimilation as the girls continually cross the different worlds, discourses, that they inhabit. The attempts of selected learners to resist the teacher's dominant discourses at strategic moments, thus recognizing her everyday or experiential knowledge as partial, are encouraging and draw attention to the complex and shifting relations of power and of knowing in the classroom. But these moments are not fully acknowledged by the teacher who seems unconscious of the partiality of the script on which she draws.

Missed opportunities in the data analysed are constituted by the teacher's refusal to take up the position of learner, despite the invitations from Gugu and others. Ms Smith is comfortable relinquishing speaking turns to the learners and allowing them to pose questions as long as these continue to position her as knower. While this is not unusual in that teachers are inevitably positioned as authoritative, the teacher and learners' different racial

positioning here produces an *additional* effect of conflating whiteness with knowing and blackness with ignorance. It is the repetition of such relations of knowing in the daily, and in many ways unremarkable, experiences of black learners in classrooms like this that works to sediment the "positioning [of] white people as bearers of preferred knowledge" (Soudien, 2007, p.443). The troubling discourse produced by Maria, cited in the introduction is, I argue, an explicit reproduction of these sedimented, unequal ways of knowing: '…us as black people, what do we have to really say that we are proud of ?' Learners such as Gugu, Karabo and Dimakatso who are able to insert their voices into the dominant white, middle class oriented classroom script have the potential to disrupt asymmetrical relations of knowing. However, such disruptions will have most impact when the teacher is willing to position herself as learner, and her learners as knowers, in strategic moments, and is able to acknowledge the partiality of her own knowledge about the world. Enabling teachers to become aware of the partiality of their own cultural scripts, as well as the ways in which their discourses work to position their learners as legitimate or illegitimate members of the classroom community is an important task of teacher education that aims to address asymmetrical relations of knowing in South African schooling.

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The stuff that dreams are made of: narratives on educational decision-making among young adults in Cape Town

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Abstract

This article examines themes of educational decision-making in the narratives of high-school aged youth in the African townships around Cape Town. From a longitudinal, in-depth study, emerged patterns of decision-making that relate to a larger identity-constructing process. I argue that these youth, growing up in the complexities of post-apartheid South Africa, construct positive images of 'future selves' that entail an aspiration for long and successful lives. Such ambitions are shaped in stark contrast to the concrete experiences of life in deprivation of their less educated parents. Youth choose life-paths or strategies to achieve their envisaged future, different from their peers who are said not to be interested in school. Strategies are, however, not static: shifting contextual factors may lead them to rethink their choices and plans; they move between different strategies, or create in-between versions that leave room for adaptation. [educational decision-making; youth; identity; African; future selves; life paths; deprivaton]

Introduction

The context of this article is a broader research project that looked into young adults' educational decision-making (EDM) in an era of AIDS, incorporating both quantitative and qualitative methodologies (De Lannoy, 2008). The larger study aimed at understanding the validity of hypotheses – derived from rational choice perspectives – that suggest that HIV and AIDS affectedness would lead South African youth and their caregivers to devalue education as a resource for upward social mobility (Barnett and Whiteside, 2002). This

article reports on a subsection of the study and presents the narratives of five African[1] young adults in Cape Town regarding decisions on education.

In South Africa, the study of educational inequalities has been dominated by quantitative studies of the socio-economic correlates of grade attainment, drop-out rates, and so on. Results have indicated the impact of household structure, such as number of siblings and gender of the household head, on educational outcomes (Anderson and Lam, 2003; Case and Ardington, 2006). Equally, level of education within the household has been found to have a significant impact on schooling results (Anderson, 2000 and 2005; Lam, 1999), as have school and neighbourhood characteristics (Van der Berg and Louw, 2006; Lam, 1999). However, work in these traditions does not help to understand the ways in which young people interact with their socio-economic and educational context, and how they take up agency within it.

International, mainly ethnographic, research has indicated the importance of understanding youth as agents within the educational context and with respect to their educational choices. Studies have focused on the construction of 'cultures' or 'identities' of resistance that lead to the reproduction of social (class, racial and gender) inequalities: Willis (1977) and MacLeod (1987, 1995) presented cases of working class young men who exerted agency by *actively* choosing to disengage from education and to reject the official, educational achievement ideology. Ogbu (1985) indicated the existence of an 'oppositional identity' among African youth, construed in opposition to a dominant White society that offers no possibility for upward mobility to those who are not White. On the other hand, there is a corpus of work that looks at 'academic resilience' rather than 'resistance'. Such resilience has been defined as the ability to receive higher educational outcomes and maintain motivation, despite a context of adversity that puts youth at risk of lower educational achievement (for example, Waxman and Huang, 2003).

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[1]   The study focused on educational decision-making among African youth, as these are the ones most heavily affected by the pandemic, but also those who have consistently lower educational outcomes in the country. I am mindful of the sensitivity and controversy around the use of racial terms in South Africa, as such categorisations are social constructs maintained under the previous Apartheid regime. Nevertheless, I believe it is essential to recognise these historical constructs in this article, as they continue to carry important social meanings, and explain many of the remaining inequalities in the country. I use 'African' to refer to indigenous South Africans – the African youth in my sample all spoke Xhosa. 'White' refers to South Africans of European ancestry who received prioritised treatment under apartheid.

No South African research has examined school and identity in a similar manner. Available studies (for example, Dolby, 2001; Soudien, 2007) have been concerned with the way in which youth identity is constructed within the school context, yet not with how this would lead to differential educational outcomes. This study contributes exactly to that arena of understanding. The study assumes young adults' agency in educational choices and adopts a *contextual* perspective: one that regards agency as occurring within and in interrelation with the social, economic, cultural and historical context of youths' lives.

In the following sections, this article will first briefly introduce the sociological and psychological literature that underlies the argument on EDM as relating to young adults' identity. Thereafter, section three deals with the methodology applied for data collection and analysis, followed by a short description of the background within which South African youth make decisions around schooling. Sections five and six constitute the body of the paper, introducing the importance of 'dreams': positive images for youths' 'future selves' that shape and influence their decisions around – among others – education. The penultimate, sixth section illustrates, however, how strategies to reach ones aspired future, chosen at one point in time, cannot be considered static. Two case studies, of Siya and Kuthala, are used to show how plans focusing on a longer term future do not necessarily constitute end points in these young adults' complex worlds. Shifting factors in a context characterised by changing family structures, peer pressures, often malfunctioning schools, increasing levels of violence, illness and death in the communities, and so on, may lead young adults to rethink their choices and plans.

A word on terminology:

1. Identity, lifestyles and fateful moments

The conceptual framework for analysing the qualitative material for this study bridges sociological and psychological perspectives on youth identity and school engagement. Unlike Willis (1977), I do not restrict my analysis to a class-based approach. Rather, I borrow from Sadowski (2003) who refers to youth identity in broader terms, including class, race, gender, minority groups, or sexual orientations: "Much of a student's success or failure in school centers [. . .] on questions of *identity*: 'Who am I?' [. . .] 'Where do I want to go with my life?'." (p.1–2)

For the *process* of identity creation, I draw mainly on Giddens' theory on identity in a post-modern society. Giddens (1991) assumes that individuals, in a post-modern or 'post-traditional' society, have the agency to *construct* their own identity, through a process in which "a complex diversity of choices [are] to be made [with. . .] little help as to which options should be selected" (p.80). Identities are constructed in the absence of rigid boundaries, previously created by tradition and culture. However, not all choices may be open to a given individual: [real or perceived] options are restricted by a person's social, economic and structural context. They are *bounded* by "over-arching social structures shaping and constraining what the individual actor *sees* as a menu of rational choices" (Roberts, 2003). Giddens, however, asserts that even in situations of deprivation, individuals retain the ability to exert agency over their situation, to explore options for different life paths. In such cases, he states: "Lifestyle habits are constructed through the *resistance* of ghetto life [. . .]", recognising, however, that choices under such circumstances may become "a source of despair" (1991, p.86).

Furthermore, in the absence of traditional or cultural guidelines, it is impossible to escape the thought that the chosen lifestyle is but one of the possible options available, creating always a certain level of anxiety, even in individuals with high levels of resilience. Such feelings of anxiety become especially pronounced in what Giddens calls "fateful moments", in which an individual is forced to rethink fundamental aspects of present and future existence (pp.202–203), for example, at times of a death in the family, birth, marriage, or divorce.

2. Expanding the notion of self: possible selves and necessary life plans

According to Oyserman *et al*. (2007), "[p]ossible selves [PSs] are positive and negative images of the self already in a future state. . . [they] personalize goals and connect current behaviours to future states, [They] improve self-regulatory capacity and make one's current situation feel meaningful" (p.479). In US-based studies, the authors found that students who had detailed and specific school-focused PSs *and strategies to attain them* (e.g. go to class, ask the teacher for help), were more likely to do well in school than those who did not.

In their study into adolescent ambitions in the USA, Schneider and Stevenson (1999) apply a similar logic and refer to the importance of ambitions in shaping adolescents' lives and educational outcomes: "[adolescents] can use

their ambitions like a compass to help chart a life course and to provide direction for spending their time and energy" (p.4). Adolescents who have 'aligned ambitions' – whereby educational and occupation goals are complimentary – are more likely to develop a 'life plan', a detailed strategy to fulfill the ambitions. In a post-modern, rapidly changing society, a supportive, knowledgeable structure is needed for the creation of aligned ambitions and detailed life paths.

Both studies argue that lower class families and under-resourced schools are less able to provide adolescents with such knowledge and support a middle class environment.

Methodology

In the year preceding our first contact, all participants had made significant decisions about their education. Kuthala, an 18-year-old girl, had decided to drop out of school in grade 11, after having had a baby. Lindelwa, 19, and Alutha, 18 – both girls – had written and passed their matric exams, but had decided to take a 'gap year', join a study group, and rewrite their exams in order to get better marks, broaden their study options and chances to access bursaries. Noluthando, a 21-year-old woman had decided to continue her tertiary education. Siya, a 22-year-old man, had dropped out in his first year of tertiary education, after his father's sudden death. All lived in resource poor African townships that constitute the majority of low-income, urban settlements around Cape Town, areas invariably characterised by high levels of unemployment, violence, crime, illness and death. All had attended under-resourced primary and high schools.

Lindelwa was first selected through the author's earlier work with the non-governmental organisation Southern African Environmental Program (SAEP).[2] The other respondents were selected through snowballing: the intention was to reach a number of young people from the same socio-economic background, sharing a number of comparable stressors such as peer pressure and school circumstance.

I conducted several informal, as well as semi-structured interviews with all participants, spread out over an extended period of time. All were aimed at

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[2] www. saep.org

gathering a deeper understanding of the youth's life histories, relationships with significant others, experience at and perceptions of school, and the broader communities, insights in and experience with the AIDS-pandemic, and very specifically their choices around schooling. Observational work was conducted when accompanying participants to activities in their areas, ranging from hip hop jam sessions to theatre show cases of local groups, and other outings.[3]

The methodology and ethics for the study were approved by the University of Cape Town. Written, informed consent was obtained from all participants, and all were informed of the fact that they could at any time choose not to answer a question, to 'take a break' from the study, or to stop participating all together, should they at any time feel uncomfortable with the way in which things were going. Invitations to join me to activities in the area were always open (see De Lannoy 2008 p.50, for more details). Analysis of the data was guided by Miles and Huberman's approach (1994), which differs from the original Grounded Theory idea that one should be able to conduct data analysis purely inductively, with theory emerging only out of the text (Babbie and Mouton, 2001). Miles and Huberman (1994) accept the fact that both data collection and analysis may be driven by previously gained and developed (theoretical) knowledge, concepts and questions, an approach that fitted the combined, iterative quantitative and qualitative approach of the broader study.

Educational decision-making in context: a very brief sketch

In post-apartheid South Africa, changes in material provisions might, according to recent community surveys, be rapid in some respects, many youth – especially African – still grow up in impoverished situations, within changing family structures, in communities with often under-resourced

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[3]   I conducted all interviews. Where language proved a problem, a fieldwork assistant would be present to translate. I am aware that the need for a translator in some of the interviews, and the fact that interviews were not conducted in a language that was the interviewer's or respondent's first language, may have had implications for data collection and interpretation. Being a foreign (Belgian), White woman conducting research in African areas might also have influenced the research. The combination of all these factors may have "enabled some things to happen and perhaps closed down other things" in the course of the project (Parker, 2005, p.30). However, where ever possible or believed necessary, linguistic or cultural interpretation was asked of the research assistant and transcriber.

schools, and heavily affected by unemployment, crime, violence and HIV. General Household Survey data of 2006 indicate that 45% of African households still live in informal dwellings (Statistics South Africa, 2008); youth unemployment remains high, again especially among African youth , with an estimated 60% of those aged fifteen to thirty unemployed (Mlatsheni, 2006); and among young adults aged fifteen to twenty-four, HIV-prevalence is an estimated 10% (UNAIDS, WHO, 2008). In African townships such as Nyanga and Khayelitsha in Cape Town, HIV-prevalence is at an estimated high of 28% among women aged twenty to twenty-four (City of Cape Town, Health Services, 2007).

At the same time, these are young people growing up in a globalised world, and in a country where the dominant discourse is one of potential upward mobility, through interventions like 'Affirmative Action' and 'Black Economic Empowerment'. This amalgamation of factors provides the background to young people's EDM discussed in following sections.

Positive educational decision-making:[4] finding one's pride in a focus on the future

Many of the young adults who made positive choices concerning their schooling spoke about the differences between themselves, their lifestyles and those of others around them. Theirs is a choice on identity that is defined in opposition to these 'others': peers who are said to be part of a dominant culture of skipping classes or dropping out all together because 'at school it's difficult, it's boring':

> Most of them, they drop out of school; they are hanging around day and night, drinking, smoking, . . . most of them are girls . . . in our communities the girls are the ones that like partying, clubbing, being with boys, drinking . . . They want to have fun, just to have fun.

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[4]   Educational decision-making is here defined broadly. Positive choices entail choosing to engage, remain engaged, or re-engage with schooling; Negative would be decisions to drop out of an educational institution, or not to invest in schooling by skipping classes, not doing homework, or not looking for possibilities to return to school. The terminology of 'negative' and 'positive' decisions is by no means meant to express a value judgement, but was merely used to help the analysis along and to present the data in a comprehensible way. It should be noted that the classification pertains to decisions as observed at one particular moment in time: some of those who at one point decided to 'drop out' may later try to regain access to education in a school they consider 'better'; such situations are illustrated in greater detail by the case studies of Siya and Kuthala.

This peer culture was described in gendered terms, with young men turning to crime, drugs and alcohol, and girls to partying, smoking and drinking – behaviour that was seen as placing them at a higher risk for being raped, contracting HIV or falling pregnant – or to the lethargically sounding 'just hanging around'.

The young people in my sample that made and maintained positive choices around their education were those that created their identity not – or not only - within this dominant, *current* peer culture. Rather, their focus in life was constructed around an aspired *future*, a 'possible self' (Markus and Nurius, 1987; Oyserman, 2007):

> One day. . . I want to be the person I want to be. (Alutha)

Ambitions, 'a dream', or 'hope' feature strongly in these young adults' narratives, enabling them to maintain a focus on the future, and not be drawn into their peers' culture:

> *If you don't have dreams, you will never be anyone in life.* So you need a dream. . . . I see myself maybe 4 to 5 years to come, having my own office, having the chair that rolls around the office, . . . If you do have *these dreams*, then *that is what keeps you to go on.* (Lindelwa)

Indeed, dreams and hope, in a context of hardship, have 'survival value'. Maintaining ambitions becomes a coping mechanism in the daily experiences of deprivation (Markus and Nurius, 1987).

This importance of hope, dreams and plans in township youths' lives was also noted in earlier work by, for example, Ramphele (2002).

The young adults' dreams, and ideas of future 'success', are often filled with materialistic elements of higher class life. Ironically, in South Africa, those higher class ambitions may resonate with many of the characteristics of the life of White people. They are, however, also part of the growing African elite. Within the townships and through the medium of television, examples are available of those who have made it up the social ladder, and now have big houses, beautiful cars, perhaps a responsible top-level job. These are elements that also convey a new sense of independence, as Lindelwa's description of her dream above illustrates. In another example, Alutha says:

> If I would be successful, then I would have my own house, my car, and even at home, it will be a better home.

This wish for material success and upward mobility has been described also by other scholars in the country. Soudien remarks: "Partly as a result of affirmative action, some young blacks feel that the new South Africa offers previously undreamed-of opportunities. [. . .] Money is essential to young South African adults as a facilitator of the good life and as the key to demonstrating status" (2003, p.69).

Thus, these young adults are aspiring to a much higher class and lifestyle than that of their parental generation, unlike Willis' Lads (1977) who aspired to nothing more than their parents' working class lives. These findings of the qualitative part of the study were corrobated by the analyses of quantitative data (De Lannoy, 2008). Ramphele too noted ". . . many Black youth associate manual labour with the degrading working conditions their parents had to endure. So careers such as plumbing, electrical contracting, and carpentry are seen as low-status options" (2002, p.101).

For these young adults, the value of education lies in their conviction that without schooling, there is no way to fulfill all the aspects of their dream-future. Education has a clear instrumental function:

> Education is very important, most people often say it is the key to success and I fully agree with that. . . . Without education, my future will not have a very concrete foundation. (Siya)

> . . . If you want to earn good money you have to have some level of education and matric will not work for you. With matric certificates you just get the menial jobs and they don't pay well. (Noluthando)

An almost implicit element in the definition of 'success' is the idea of gaining more stability in life; one that is not common to many of those around them, and that, again, cannot be reached without having furthered one's education.

> [. . .] it's nice to have a career. I think it brings stability in your life to be in one place and to work towards something and not jumping from one job to that one. [. . .] if I was not studying right now, I would probably be working maybe at Pick 'n Pay as a cashier [. . .] you won't stay there long, you have to move from this job to the next. (Noluthando)

The legacy of Apartheid's divided educational policy means that only few of the young adults (can) build their positive instrumental ideology concerning education on concrete examples of their parents or other elders.[5] Noluthando

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[5]   Census 2001 data indicated that less than 20% of all adults in the areas that the respondents live in, have completed grade 12; maximum 40% of all adults have completed grade 7.

was a rare example in the group who could refer to a clear example of the
benefits of education: her father is a teacher, her uncle a school principal. The
difference between their lives and that of her uneducated mother who now
works as a domestic worker, served as a motivator:

> . . . My first example is my father who is [better] educated than my mom. He has a nice
> house, nice car, and he's got a stable job, he is able to do things for himself, [not like] my
> mother.

Others looked for examples in the broader community, or went on what they
had heard others say:

> Education is the key to success. . . .You know, [. . .] *in those countries internationally*, they
> say an average person is 24 years with at least 2 degrees. (Siya)

In all of these cases, young adults look at success as a *future* to be gained.
They choose to 'endure' their current situation, and are realistic about the fact
that an investment of their time into schooling today and in the next few years,
will show its benefits only in the years to come. This resonates with
Zournazi's statement that "the idea of an abiding hope directs us to new
progressive thoughts that involves *accepting the world as it is while
persevering in working towards a more equitable and sustainable future*"
(2002, p.6). It also mirrors Gayles' (2005) finding in a study on academic
resilience: "academic achievement [was seen] as *prospectively meaningful,* if
not currently transformative*"* (Gayles, 2005, pp.256, 257).

In short: these young adults maintained positive 'possible selves' [PSs]. High
educational aspirations reflected their understanding of education as a means
to reach those future goals. However, Oyserman *et al*. (2007) pointed at the
necessity to have rather concrete strategies in place, alongside these PSs. I
identified a number of strategies chosen by the youth to support their aspired
future.

Balancing individual and group identity

Youth who maintained a strong focus on education described facing their communities' scorn and name-calling:

> It's hard for you to be who you want to be, without being judged by the others and [. . .] like, you can't be free and act like the person you want to be at the time you want to be [. . .] they would go to say that I am 'madam'. (Lindelwa)

> If you don't go for drugs, like . . . *now you are like an outcast* if you are not one of them.
> (Siya)

Siya described how he was "dubbed Mr. Fezeka High" for doing well in school and for being able to take part in international events as the Maths Olympiad. The absence of support among friends for his academic achievement eventually made him decide to look for another school: "I needed to be somewhere new, you know, where no one knew me."

One can question whether this subjection to name-calling may also be interpreted as a disbelief (or skepticism) among community members in the possibility of upward mobility of the whole group. This kind of disbelief was found, for example, among Willis' Lads and the broader labour class: "To the individual working class person, mobility in this society may mean something . . . To the class or group at its own proper level, however, mobility means nothing at all" (Willis, 1977, pp.128). However, in South Africa, it seems the pervasive discourse of 'freedom' and a better life in 'the new South Africa' does create the general belief in upward mobility. Rather, it seems that name-calling originates among those who (still) have no means to better themselves and are left with not much else but envy of those who have gained a slightly better position. Significant levels of community 'envy', the fact that young people in South Africa are subject to such jealousy, and get caught between individuality and community has, indeed, been mentioned by others. Ramphele described how opting for personal achievement in the very poor socio-economic environments of the townships can be seen as 'selling out', or 'acting white': "The enormous pressure put on young people not to stand out extracts a huge price. They are caught between the contradictory forces of solidarity and personal achievement" (Ramphele, 2002, p. 96).

Remaining faithful to and focused on one's dream, entails careful actions and choices around, among others, friendships and activities. In this respect, Gayles (2005) identified his respondents' strategy to "actively diminish the

significance of their own academic achievement" (p.254) and thereby not place themselves too much outside their peer group. Some of my participants would find ways to combine their need to belong to a wider peer group, with the wish to remain focused on their personal aims, thereby displaying high levels of self-control:

> [. . .] I think it is all about balancing, having a good time and also knowing what you are doing and where you are going. [. . .] *it's not that I don't go to parties but I would never do drugs and I would never chose to be a party animal all my life and not be on the safer side of life [. . .] At the end of the day, I have to be somewhere, so I don't see any life in that.*
> (Noluthando)

> Like my friend, I can say she is my closest friend. She dropped out of school and then if I'm doing my school work maybe she won't understand and would want us to go and have some fun then I'll just say 'no, I can't cause I have to do my homework'. *Like to do what I'm planning to do and to do what I want to* [. . .]. (Alutha)

On the other hand, the example of Siya changing schools to be able to maintain his focus on his work, implies that not all young people (are able to) adapt such strategies: although Siya seemed a very sociable person, active in community work and helping out at the local library NGO, he did not find a way to accommodate both his goal of social integration and that of academic success, and chose to concentrate mostly on his school.

Searching for and receiving guidance and support

Although these respondents showed strong beliefs in their agency when it came to remaining focused on their aims, and making decisions about their friendships, it is clear that some type of guidance may be needed in order to be able to choose, develop and maintain such long-term oriented strategies and decisions. Oyserman *et al.*, (2006, 2007) and Schneider and Stevenson (1999) illustrated the need for parental support and guidance in, for example, developing concrete 'life plans' that could help reach one's goals.

Noluthando narrates her choices about school and the important influence of her family therein: she originally applied for courses on media, but was not accepted by the University of Cape Town (UCT). Then, her family would not allow her to move to a school in Durban where she could study what she wanted. When she was not sure of the next steps to take, her parents kept motivating her:

> I have to study, I have to do something, that's what my parents said, I have to do something.

Her father helped set up a meeting with people at the Cape Technikon, a tertiary institution in town. There, Noluthando was eventually allowed to start environmental management. Her family thus provided her with the guidance and motivation necessary to support her in her long-term orientation.

However, not all participants could rely on such support or motivation from their parents or relatives; lower levels of, and experience with, formal education can result in a lack of a 'real' understanding of school and schoolwork among caregivers (see also Bray, Gooskens, Kahn, Moses and Seekings, 2010). Consequently, many of those who were able to maintain their educational focus had looked for and found additional support in NGOs, or with siblings, a boyfriend, or a particular teacher.

Brittle decisions: the stories of Siya and Kuthala

The previous section described South African youth's belief in the instrumentality of schooling for reaching 'a better life'. It described 'life paths' chosen to achieve these aspired, successful 'future selves'. The narratives sounded structured and convinced: there was a plan alongside the dream, so that dreams would not become mere fantasies. Plans were supported by high levels of individual resilience and goal orientation, and often by other forms of guidance and broader support structures. However, such paths, as described at one point in time, do *not* necessarily constitute an end point in the youths' processes of identity formation. By means of two short case studies, this final section will illustrate how young adults would grapple to maintain their ideals and strengths, when going through (a series of) 'fateful moments' (Giddens, 1991).

Siya's story illustrates what can happen when a young, skilled person loses the necessary (financial) support to keep paying for his education. At the time of the first interview, he was twenty-two and living in Guguletu in a household of five. His grandmother's pension was the family's main income, supplemented by Siya's earnings from small jobs. Both Siya's parents had passed away, leaving a profound impact on his life and dreams. His mother got sick and died in 1997; his father, who had been paying for his civil engineering study at the Cape Technikon, was shot in Gugulethu in 2003 "over nothing. . . he died for nothing". After his death, there were no funds for Siya to continue his education.

Siya always placed an enormous emphasis on the importance of education in his life. Now not able to further his schooling, he felt disappointed and depressed:

> When I was six I always had this dream of driving a car and living in my own flat and that sort of things. You have noticed that I am now 21 years-old, those people of my age are having cars and living in their own space and they are not staying with grandmothers, you know those are the sort of things that stress me.

In moments like these, Siya would expect to be able to fall back on broader institutions than just the family: he applied for several funding possibilities, and informed the Cape Technikon of what had happened, but had not found an entrance back into higher education. Frustrated also about not having been able to start at UCT, Siya referred to the absence of guidance and clarity regarding the educational process after having passed matric.

> I went to UCT and they told me to do a bridging programme for one year before, and I said, [. . .] it was going to be a waste of time. What I am told now (is that) you happen to do something for one year, but still finish on time. *No one ever tells you about these things.*

Despite the hardships and disappointments, Siya did not give up on his dreams, and was in constant search for gaining further skills. After having dropped out, he found work, thereby funding short-term courses for himself, in line with his original interest in engineering. He maintained a close contact with community organisations and me, always enquiring about new opportunities to further himself. In the beginning of 2008, Siya had managed to secure a part-time position at the Cape Technikon as well as additional funding and was back at school. He said he was struggling to catch up with schoolwork after his very long absence. He struggled also with his home situation: his grandmother had fallen ill and had moved back to the Eastern Cape. Siya was left feeling he now no longer had a real home and that there was not enough money to maintain everyone in the house. He claimed that the remainder of the family he now lived with did not give him support for his education, He was very worried he would not make it through the exams at the end of the year because of all these worries.

Khuthala was 18 at the time of the first interview, mother of a one-year-old baby boy. Growing up with a father who drank and abused her mother, left no money for school fees, uniforms or sometimes even food, she was fetched by her grandfather to live in the Eastern Cape, away from the abuse. When her grandparents died, she moved back to Cape Town. She now lived in Gugulethu, together with her mother, father, brother and baby. Khuthala still

describes the current situation at home in negative terms, wishing she "would have a different father, or maybe I had no father".

She described herself as a kind, observant person, "hungry for knowledge", who loved to go to school. She attached great importance to education, extending to her entire generation: to her, success is also about "making history for South Africa", showing the rest of the world and the older generations in the country that even someone out of what she says they call "the cursed generation", can make it. Her statement illustrates a process of constructing an identity in oppositional terms, *not* against the normative belief in the benefits of education, but against this popularly held belief of "a lost generation".

Despite Khuthala's positive attitude towards education, her unplanned pregnancy made her drop out in 2005, when she was in grade 11. Her narrative again echoes examples of how institutions that are expected to provide guidance and help, fail today's youth: her home is not a place where she can find safety and stability, and medical services in her area let her down severely. Khuthala had known about contraceptives, but when she went to the clinic to ask for the pill, the nurses told her they only gave injections:

> . . . in our clinics, the nurses are not so nice. You go and tell them 'no, I don't want to use an injection, I want to use pills', and they tell you 'blah blah we're going to give you injections if you don't want to, you can just go to hell.

She was left to herself to make a decision about the method of contraception within a relationship she considered stable and mature enough not to opt for condom use anymore. She had unprotected sex with her boyfriend of over a year and fell pregnant.

Kuthala repeatedly mentioned that she felt she had "lost herself" after the birth of her baby. She could no longer go to school, she had no time to read or even to think, she had "regrets" and felt "stupid". Yet she maintained a strong belief in the value of education for her further life. During our first talk, she was committed not to give up her dreams:

> My future. . . well, I still have time. [. . .] I can still go to school, I can still pursue my dreams, [. . .] I'm not just gonna give up just because I have a baby [. . .] I'm still going to where I want to be.

She was considering in very concrete terms finding a part-time job, taking the baby to crèche and starting part-time education in 2007. However, when I

spoke to her at the beginning of 2007, she told me "something had happened at home" and she had had to take on a full-time job in a clothing shop. She asked me to let her know of possibilities to combine full-time work with studying. I forwarded information about a school in a neighbouring township that offered classes at a time that allowed people to go to work afterwards. I contacted Khuthala again a few weeks later, only to hear a lot of doubt in her voice: most day classes were full, and night classes happened at a time when lack of reliable transport would make it too dangerous for her to attend. She now also expressed uncertainty about being able to combine all the tasks. Her belief in self-efficacy had clearly taken a serious knock. At the beginning of 2008, I was told things were not good with her and she was still not back in school.

Both stories mirror Ramphele's observation of the fact that "key factors as the family, school and community repeatedly fail" today's youth (Ramphele, 2002, p. 31). In the absence of clarity and support to help them complete their education to levels they feel necessary, both Siya and Khuthala expressed feeling anxious, adrift and depressed. They did not lose track of the importance of schooling, but both resorted to survival strategies that would allow them to at least earn some money and perhaps in the long run allow them to start education again. It is not hard to imagine how many other young people in situations as these would lose focus and resort to other, even more short-term oriented activities.

Conclusion

I argue that young adults' educational decision-making is an integral part of their identity-formation. Youth in my sample constructed positive images of future selves: their ambitions for future lives were consistently high, allowing them to maintain their belief in 'a better future', shaped in contrast to the concrete experience of lives in deprivation of their lower educated parents. They adopted strategies or 'life plans' to support those ambitions. However, neither the ambition for a future self, nor the choice of strategy take shape in isolation. They are created and chosen in the complex context of 'the New South Africa' that presents these previously disadvantaged youth with a widespread belief in upward mobility, but that also confronts them with changing family structures, often inconsistent or 'failing' social relationships, peer pressures, and so on.

These strategies are also not static: 'fateful moments' may lead young adults to (having to) rethink their choices and plans. The absence of support networks and guidance to make their chosen strategies or 'life plans' as detailed and concrete as possible, can easily lead to a breakdown in the process of identity-formation, to helplessness, or even depression. Young people's wish to break out of a situation and reach their goals is still present, but they no longer know exactly what actions to take and how not to lose their hope and sense of agency. Life becomes characterised by a process of trial and error in which it is very easy to make 'wrong' choices which, in turn, may lead to further alienation.

The findings of the study indicate the need to carefully understand young adults' complex worlds and the interaction thereof with their decision-making processes. Hypothesising a potential loss of the value of education in the face of adversity, unfounded by a thorough understanding of youth in their daily living contexts runs the risk of increasing the rumours of a "lost generation" of youth. Instead, I argue in favour of the possibility of offering support to those who, even in the absence of support and clear guidance, do maintain long-term aspirations for a better future. Understanding why exactly young adults *do* remain focused on education, and the kinds of barriers they may need to overcome in doing so, should enable policy makers and NGOs to design the kinds of interventions that can tap into youth agency, and that can help build personal resilience in the kinds of harsh living environments the majority of South African youth find themselves in.

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Knowledge matters: interrogating the curriculum debate in engineering using the sociology of knowledge

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Abstract

A growing field of research applies perspectives from the sociology of knowledge to analyse curriculum in particular disciplinary contexts in higher education. This article considers recent calls in engineering education for reform of the curriculum, centred on a debate between project-based and problem-based (PBL) models. A Bernsteinian analysis shows that moves towards these kind of curricula would involve a weakening of both classification and framing, particularly in the case of PBL. Although these proposals tend to be motivated by a desire to improve the quality of student learning, it is suggested that in implementation the more radical forms of PBL could have implications for student learning that are quite the opposite to what is intended. Furthermore, there are likely demands on academic identity that might not be possible to accomplish in the present situational logic of the academy. Curricula are needed that recognise the boundedness of specialised knowledge and pedagogical practices that can assist students to navigate these boundaries: project-based may well be a more sensible curriculum response in engineering education than PBL.

Introduction

> . . . the curriculum question has become a central concern in engineering education.
> (Ruprecht, 2000, p.360)

Curriculum is a hotly debated topic in education. Everyone has an opinion on what should be done to 'fix' the problem, be it literacy levels in the primary school, the ability of graduates to function in the workplace, or whatever. From the perspective of sociology of knowledge, this clamouring of voices is hardly surprising, given that curriculum is the key site in education where power operates. A crucial contribution of this field, in particular in the work of British sociologist Basil Bernstein, has been to provide detailed descriptions of the mechanisms whereby curriculum tends to operate to secure the interests of dominant groups in society (Bernstein, 2000). Significantly, this work has started to deliver important insights into key aspects of curriculum that are

essential for fostering the academic success of traditionally marginalised groups (Hoadley, 2006). A striking finding has been that 'progressive' curricular arrangements, intended to deliver greater social justice and equality, in practice can actually serve to further disadvantage precisely those groups of students that they seek to empower (Muller, 1998).

Work in the sociology of knowledge has tended largely to focus on schooling, but more recently there has been a growing interest in applying these theoretical tools to the context of curriculum in higher education. At the disciplinary level, this work involves explorations of:

1.   How curriculum knowledge gets constructed.
2.   The constraints that the knowledge structure of the discipline places on the curriculum, and
3.   The range of identities that the curriculum makes available for students (Luckett, 2010).

Studies have been conducted so far in the disciplinary areas of history (Shay, 2011), sociology (Luckett, 2009) and design (Carvalho, Dong and Maton, 2009). This article aims to contribute to this growing body of knowledge by a preliminary exploration of curriculum as it plays out in the field of engineering education.

Engineering education is located at the heteronomous pole of the field of higher education, where external influences, particularly those from professional bodies and industrial concerns, play a significant role in determining what gets valued (Maton, 2005). These external influences provide ongoing fuel to the curriculum debate in engineering education, largely focused on a concern about what graduates can actually 'do' when they enter the world of work, and generally issuing in curricular proposals which suggest a stronger focus on developing skills and engaging with 'real world' problems. A study of knowledge and curriculum in this field thus has potential value for other disciplinary areas which also face outwards towards the world of practice, what Bernstein (2000) terms 'regions'.

Much of the discussion in the engineering education literature on possible curriculum models centres firstly on a set of claims around their intentions and secondly around whether they 'work'. And with regard to the intellectual resources at hand to make these judgements, it is frequently stated that the tools of engineering are appropriate to the task (cf. Froyd and Ohland, 2005;

Rompelman and De Graaff, 2006). This article suggests that the tools of the sociology of knowledge are maybe more suited to interrogating curriculum proposals than those of engineering design, and it engages with these debates through outlining and then marshalling these tools.

Locating the curriculum debate in engineering education

Engineering curricula in most parts of the world are directly controlled by professional engineering bodies through regular audits. In South Africa, this body is the Engineering Council of South Africa, a statutory body which runs a delicate line between the interests of capital and those of the state. Moreover, in its interaction with the global professional community, it has an interest in ensuring that South African engineering graduates can get professional recognition in the key countries of the first world. Thus arose the most noticeable impact on engineering curricula in recent times in the form of 'outcomes-based' accreditation which was introduced initially in the revised US ABET criteria (Accreditation Board for Engineering and Technology (ABET), 2000), and thereafter in the accreditation bodies of partner bodies in the Washington Accord, a multinational agreement offering mutual recognition of engineering degrees including the USA, UK, Australasia, Hong Kong and South Africa.

The shift to outcomes-based accreditation falls in line with much current popular thinking in higher education and in society in general which asks questions about what graduates can 'do' rather than more traditional perspectives which centre on what graduates 'know'. This also matches the current demand from the cash-strapped industrial sector which has started to demand that graduates can deliver value from their first day in the workplace. The common refrain seems to be that the traditional engineering curriculum does not sufficiently prepare graduates for functioning in the workplace, as stridently expressed in the following quote:

> In recent years studies have been conducted in many countries to determine the technical and personal abilities required of engineers by today's industry. These studies have indicated some key concerns. Today's engineering graduates need to have strong communication and teamwork skills, but they don't. They need to have a broader perspective of the issues that concern their profession such as social, environmental and economic issues, but they haven't. Finally, they are graduating with good knowledge of fundamental engineering

science and computer literacy, but they don't know how to apply that in practice (Mills and Treagust, 2003, p.3).

The urgent tone noted above is reflected across much of the current discussion on curriculum in engineering education. There is an assumption that the curriculum is not delivering what is needed by society and that substantial change is needed in order to do so. For example, note the following statement from Jackie Walkington, an Australian academic who has published widely in engineering curriculum development:

> Today's faculty leaders and managers in higher education can no longer facilitate curriculum development as they have in the past. Strategic planning and operational decisions must reflect the changing nature of society, the world of work and education. This does not mean just to react to changes in other places, but to be proactive in predicting and responding to future needs of all stakeholders in the higher education environment (Walkington, 2002, p.133).

In this climate of heightened urgency for change has arisen a substantial debate on what form the curriculum should take. Key positions on curriculum are outlined in the following section.

New curriculum models in engineering education

The traditional engineering curriculum involves an exclusive focus on basic science courses at the start of the programme, with the subsequent introduction of engineering science courses alongside more advanced science courses. Towards the final years of the degree, at the point where students have mostly grasped all of the advanced engineering science, there is the introduction of project work, focusing particularly on engineering design. One innovation that has been implemented in some places over the last few decades is the introduction of engineering science courses from first year (see, for example, Reed and Sass, 2000). In some cases these introductory engineering courses involve significant project work.

The current debate on curriculum in engineering education centres on what role project work should play across the whole curriculum, not just at the first year introductory level and in the capstone design courses. The most prominent labels for these new curriculum models are those under the banners of *problem-based* and *project-based* learning. Although there is further terminology which provides variations on these themes (see, for example, Lehmann, Christensen, Du and Thrane, 2008; Mills and Treagust, 2003;

Perrenet, Bouhuijs and Smits, 2000), for the purposes of this article it will suffice to focus on the two key models. Problem-based learning (PBL) originated in medical education and in its pure form it rests on an assumption that students will learn best in 'authentic' learning contexts where they are tackling real world problems and locating the necessary knowledge as they need it. Project-based learning typically refers to course modes where students are required to apply the knowledge that they have been taught; the focus here is on the application of new knowledge through the problem. This is of course the mode of teaching that has been long used in engineering education in the final year design project course, as mentioned above. Problem-based learning is a much more radical move where knowledge is only accessed as and when needed by the project.

Kirschner, Sweller and Clark (2006) use the label 'minimally guided approach' to describe problem-based learning together with related curriculum modes that have been fashionable across the twentieth century, particularly in school science, including inquiry learning, discovery learning and experiential learning. The most widespread application of PBL in engineering curriculum is most probably at Aalborg University in Denmark, a whole university where 75 per cent of the courses are offered in a project-based format. Lehmann and colleagues (2008) argue that the problem-oriented and project-based learning paradigm that they utilise in their engineering programmes is best placed for being able to incorporate problems around sustainable development across the curriculum.

The debate on curriculum in engineering education is thus largely centred around PBL and its variants. One of the strongest statements on the relevance of PBL to engineering education comes from Veldman and colleagues (2008) who in the title of their recent article state provocatively "Can engineering education in South Africa afford to avoid problem-based learning as a didactic approach?". With a departure point centred on outcomes-based education, they claim that PBL has the best chance of achieving curriculum alignment with the learning outcomes. They also claim that PBL is well placed to facilitate development of what they term 'non-subject-related skills'. Others are somewhat more guarded. Two recent review papers on the application of PBL to engineering education (Mills and Treagust, 2003; Perrenet, Bouhuijs and Smits, 2000) suggest that it is not appropriate as a model for overall curriculum development, but is rather best applied in specific courses.

It would thus appear that most commentators are in agreement that project work should form a significant part of the engineering curriculum, and that this needs to run in a sustained manner throughout the curriculum rather than appearing only in the final year as in the traditional capstone design course, or even additionally in the first year as an introduction to engineering. The debate centres on what is more suitable: the highly publicised PBL model which uses problems rather than traditional knowledge categorisations to structure the curriculum, or the more traditional project-based mode which leaves the traditional organisation of knowledge areas intact and couples these with projects to show applications of this knowledge.

Two exemplars of innovative curricula in chemical engineering

To provide some empirical illustration of the positions in this debate, two undergraduate chemical engineering curricula will be considered here: a well-established project-based curriculum at Imperial College in the UK (Perkins, 2002), and a recent curriculum innovation at University of Sydney in Australia which describes itself as problem-based (Barton, Abbas, Cohen, Gomes, Harris, Holt and White, 2006). Both universities are highly selective and take in high performing students from 13 years of schooling, offering a four-year chemical engineering degree which leads to an accredited masters qualification in engineering.

At Imperial College the programme involves chemical engineering from the first year of study. There is an intensive use of project work running throughout the curriculum. The timetable reflects this structure, with lectures and tutorials in the mornings covering standard chemical engineering subjects (including mathematics and chemistry) as well as management and humanities, and design-oriented project work taking place on all except one 'free' afternoon. To progress to the following year, students need to pass with 40 per cent in both the (largely project-based) course work and the final examinations. 'Mastery' assessment is a key part of the assessment, whereby students need to demonstrate 80 per cent proficiency in an integrative examination paper focusing on the essentials of chemical engineering. The last two years of the programme offer a range of different directions for students depending on the interests they have developed. Some opt for a year abroad, while others take elective directions based on particular specialisations.

The University of Sydney recently undertook a complete rebuild of its undergraduate chemical engineering curriculum, in response to a perception that its graduates lacked the competencies required in the workplace, especially an 'adaptive flexibility' needed as so many of them no longer went to the traditional process industries. It was felt that the semesterised curriculum with knowledge in different compartments was a key contributor to this problem, and thus a complete overhaul was embarked upon. The new curriculum is structured around a problem-based learning approach, emphasising competency attainment, and aiming for strong horizontal (within a semester) and vertical (across semesters) integration. Courses were designed that fitted into the following categories, with each semester containing all these course types:

(a)   core principles (presenting fundamental chemical engineering concepts)

(b)   enabling technology (tools, often computer-based, needed to solve problems)

(c)   engineering practice (Core Practice courses) and

(d)   electives (either specialised or broadening).

All of these courses are offered in PBL mode, where learning takes place through engagement with real world problems and students need to acquire the necessary knowledge under the guidance of a teacher. The course structures do not reflect the traditional chemical engineering science subjects organised around particular unit operations e.g. reactor engineering or separation processes. There are no dedicated mathematics courses after the first year; any mathematics needed is taught in the context of the relevant chemical engineering course. An important aspect of the delivery of the new curriculum is that each course is taught by a team of academics. There is a 'semester supervisor' in each year who focuses on obtaining the necessary horizontal integration across the courses.

The first year of the programme is run in conjunction with other engineering programmes in the Faculty, and many students actually enter through a flexible route where they only choose their programme at the end of the first year. In years two and three of the programme, assessment of the core and enabling courses is via 'competency' assessment (similar to the 'mastery assessment' at Imperial College) and students are simply awarded pass/fail results. Assessment of competency is through a range of course assessments as well as the final examination. Because of the commitment to tight integration

in the programme, student progression through the programme is largely 'plug flow' in nature, with only one uncompleted course being able to be carried into a subsequent year. Supplementary oral examinations are conducted with borderline candidates in order to keep as many students as possible in the planned curriculum.

What has been described here are two curriculum models that have sought to depart from the traditional engineering curriculum. In the project-based curriculum at Imperial College there is a retention of the traditional structure for the presentation of basic science and engineering science knowledge (through traditional subject structures and lecture/tutorial modes) with the inclusion of a strand of project-based work which runs alongside throughout the curriculum. The revised curriculum at the University of Sydney demonstrates the problem-based curriculum model, where the traditional subject structure of the engineering curriculum is largely abandoned, and knowledge is marshalled as needed when tackling a set of carefully designed problems.

This article now turns to an explication of key tools from the sociology of knowledge in the context of engineering knowledge and curriculum, in order to build a base from which to interrogate these models of curriculum innovation in engineering education.

Using Bernstein's sociology of knowledge

Implicitly underpinning of the work of Basil Bernstein, more recently formulated as a distinct tradition, is a social realist perspective on knowledge. Young and Muller (2010) encapsulate this as "an emphasis on the irreducible *differentiatedness* of knowledge" (their emphasis). They continue:

> Knowledge is structured, in part independently of how we acquire it, and knowledge fields differ in their internal coherence, their principles of cohesion, and their procedures for producing new knowledge (Young and Muller, 2010, p.15)

Commonsense discussions of curriculum frequently conflate curriculum knowledge with disciplinary knowledge: these are seen to be one and the same thing. There is often also a further conflation of curriculum and pedagogy. Bernstein's 'pedagogic device' recognises that these are distinct forms of knowledge each associated with a particular field of play: disciplinary knowledge functions in the field of production (in the arena of research and

scholarship), curriculum knowledge functions in the field of recontextualisation and is manifested in curriculum documents etc. and pedagogy functions in the field of reproduction. In considering curriculum, a significant area for investigation is the process of 'recontextualisation' where there is a selection and a reforming of disciplinary knowledge to transform it into curriculum. Importantly, as knowledge moves between one field and another, a 'discursive gap' exists where power interests are at play (Bernstein, 2000).

Nonetheless, recognising the emergent powers of knowledge it is clear that the underlying disciplinary knowledge structure will always place some limits on the form that the curriculum can take (Muller, 2009). As Maton (2009, p.55) writes, ". . . knowledge has its own causal powers and tendencies. That is, different structurings of knowledge possess different affordances – they lend themselves more to certain forms of pedagogy, evaluation, identity, change over time, and so forth, than others." Thus, a starting point for interrogating curriculum in a disciplinary area requires an examination of the discipline as represented in the field of production.

As noted earlier, in Bernstein's terms, engineering can be described as a 'region', lying at "the interface between the field of the production of knowledge and any field of practice" (Bernstein, 2000, p.9). The field of practice of engineering has a long-standing tradition of knowledge based on 'what works', the so-called 'heuristics' or 'rules of thumb'. For example, in chemical engineering it is known from practice that it is economically optimal for the velocity of a liquid in a pipe to be between 1 and 3 metres per second. For the purposes of this paper we will call this 'engineering practice knowledge'. At the time that engineering disciplines established themselves as legitimate members of the academy (Noble, 1977), there was a pulling away from the field of practice (on the shopfloor) towards the field of production (in the academy) to establish the 'engineering sciences', which build on a set of recontextualised 'singulars'. Thus, for example, 'chemical engineering science' is a scientific field of its own which uses advanced mathematics, physics and chemistry. This field involves, for example, a complicated set of differential equations which describe the mass transfer of substances through a particular region in space. In Bernstein's (2000) terms, engineering science knowledge (like other science knowledge) is a "hierarchical knowledge structure", which "attempts to create very general propositions and theories, which integrate knowledge at lower levels" (Bernstein, 2000, p.161). Engineering science knowledge is of course the engineering knowledge which is valorised in the academy, compared to engineering practice knowledge,

which some commentators suggest is more akin to an art than a science (Winkelman, 2006), although Gamble's (2006) analysis of knowledge in the field of practice suggests that it too is underpinned by principled forms of knowledge.

In the recontextualising process there is a contestation between these two different forms of engineering knowledge as to the prominence that they enjoy in the curriculum. Given that it was the engineering sciences that established themselves in the academy, at least in part in a move away from engineering practice knowledge, it is maybe not surprising that the engineering sciences strongly dominate engineering curricula around the world. However, the professional voices, most notably through the mechanism of accreditation, have managed to retain an emphasis on practice through the inclusion of design courses, particularly at the final year level, which involve real world problems where students are required to engage with contextual information and apply heuristics and other methods of approximation where appropriate.

The dominance of engineering science as the basis for engineering curriculum is currently under further contestation from another angle. There are those who argue that there are other knowledge areas, for example politics, economics and social science, which need to be incorporated into engineering for it to be able to fulfil its mission of responding to human needs. Bernstein has shown how the social sciences tend to have a 'horizontal' knowledge structure where parallel perspectives are set up against each other, rather than subsuming subordinate concepts into a higher structure. The incorporation of two different kinds of knowledge structures into one curriculum thus poses an interesting challenge to engineering educators.

An important contribution of Bernstein's framework for analysing curriculum is the analytical construct of 'classification' which refers to the boundaries between categories of knowledge. It is in the legitimation of these boundaries that power is exerted (Bernstein, 2000). Traditional engineering curricula exhibit strong classification, especially at the lower levels involving exposure to a range of 'singulars', but the final year design project mentioned above involves a weakening of classification as students are expected to integrate engineering science knowledge from different areas, as well as incorporate engineering practice knowledge where appropriate (Kotta, 2008). Alongside classification Bernstein identifies 'framing', referring to matters such as selection of content, sequencing and pacing, as the key means whereby control is exercised, socialising individuals into particular identity spaces. From this perspective one can see that traditional engineering curricula which are largely

prescribed and content-loaded tend to be strongly framed. Bernstein conceptualises such a curriculum, involving strong classification and framing, as a 'collection code'. This concept is intended as an 'ideal type' but nonetheless versions of it can be recognised, for example in the early years of the traditional engineering curriculum.

Both the project-based and problem-based models of curriculum outlined above tend to involve a weakening of both classification and framing across the curriculum, more radical and widespread in PBL. As seen in the curriculum from the University of Sydney, the organising principles for the PBL-type curriculum are based on real world contexts, not on the abstract conceptual organisers of the discipline. Selection of material tends to be less fixed, and depends on the particular problem at hand. Pacing of learning is more at the level of individual students and their needs. This form of curriculum relates to Bernstein's other ideal type, the 'integrated code'.

Bernstein's concepts of classification and framing have been more recently extended by Maton to apply not only to knowledge structures but also to what are termed 'knower' structures (Maton, 2007). Knowledge structures speak to the relationship between the knowledge and the object of knowledge, while knower structures refer to that between the knower and the knowledge. Just as each curriculum will have an implicit (or explicit) knowledge structure, there is always a knower structure, i.e. a notion of what the ideal knower should be. However, knower structures can also be weakly or strongly framed and classified, just like knowledge structures. Maton suggests a further conceptualisation of these as the strength or weakness of

1.   the epistemic relation – classification and framing of the knowledge structure and

2.   the social relation – classification and framing of the knower structure.

Traditional curricula in engineering, while certainly embodying an ideal 'engineer' tend to place relatively little emphasis on dispositions and attitudes of the student. Thus an increased focus on personal growth, implicit in most curriculum models which involve more project work, does, I argue here, imply a strengthening of what Maton terms the 'social relation' underlying the knowledge structure. This is not to mean that we necessarily return to the 'cultured gentleman' as the ideal knower of the traditional humanities curriculum, but this would nonetheless imply an increased exercise of power and control on the student's dispositions at the graduate outcome stage.
It is important to realise that Bernstein's theory does not immediately place a

normative value on strong or weak classification or indeed on strong or weak framing. However, he suggests that if there are proposed changes in the modalities of classification or framing it will always be important to ask two key questions:

1.   *Which group is responsible for initiating the change?* (dominant or dominated)
2.   *If values are weakening, what values remain strong?*

(Bernstein, 2000, p.15)

With regard to the first question, Bernstein suggested that if a dominant group is requiring change this will be a rather different situation to if a dominated group is doing so. The former are likely to favour strategies that conserve the status quo, while the latter will favour subversive strategies. Considering calls for reform in engineering education, we need to examine whether the pressure for change is from within (autonomous) or without (heteronomous) the field. The curriculum debate outlined earlier is largely being conducted by engineering academics with an interest in teaching and learning. Slowly there is a growing interest in a scholarly engagement with these issues and a growing recognition of the value of education research, but these are early days and much of the debate proceeds with little reference to the education literature. Thus, Radcliffe and Jolly (2003) note the prevalence of the 'lone enthusiast' in engineering education, who are often able to infect at least a few other colleagues with their enthusiasm for a particular initiative. With regard to the current focus towards an inclusion of more project work, these resonate with the power interests external to the academy, notably, industry and professional bodies, who are increasingly focused on 'what graduates can do'. Furthermore, with the escalation of focus on teaching and learning in the academy, these calls for curriculum renewal are also in a favourable position with regard to internal power structures.

But whose interests do they ultimately serve? At this point we need to focus on those invisible people who generally move with quiet perseverance through our curriculum structures: the students. The traditional university set itself up to be able to work with an elite group of students from middle class homes and high quality schooling; the massified university of the post-war era is still struggling to come to terms with the fact that the students have changed. Traditional curriculum structures in engineering education have been shown to be insufficiently responsive to where students are coming from, but it is not automatically so that reformed curricula with different degrees of inclusion of project work will necessarily meet the goals that they have set for themselves

in the context of the real and diverse student bodies that enter engineering studies in the 21st century.

Implications of new curriculum proposals for student learning

In discussing student learning Maton (2009) makes the distinction between 'cumulative learning', where new understandings are built on prior knowledge or 'segmented learning' where new ideas get accumulated but not subsumed into existing understandings. This is of course a central concern in all of learning research and practice. It is fairly clear that curriculum design will play a crucial role in either constraining or enabling cumulative learning.

In an illustrative analysis of two curricula contexts which emphasise 'authentic learning', Maton (2009) shows that although these contexts had expectations that students develop abstract understandings of the knowledge areas, because of their teaching environment which involved minimal guidance and only explanations of the task at hand, many students did not manage to fulfil these expectations: their new ideas remained rooted in the context of the problem. Maton argues that these contexts in fact "set up many students to underachieve as it is the ability to generalise and abstract that is rewarded in such tasks" (p. 51). Furthermore, it is those students with less advantaged backgrounds who are particularly disadvantaged by this kind of curricula arrangement which requires you to utilise tacit knowledge often of the sort that comes with a particular family background.

This is therefore the first caution for radical (PBL) curriculum reform in engineering: that in making less explicit the boundedness of the specialised knowledge that needs to be acquired, that one might particular disadvantage those very students one is intending to help. In this regard Muller (2007) offers the following observation:

> . . .understanding hierarchy in discourse is a necessary prelude to combating it in society.
>
> (Muller, 2007, p. 2)

A dangerous misconception of many progressive education agendas has been that the way to make academic knowledge more accessible is to dissolve the boundaries that exist in traditional curricula. At the heart of Bernstein's conceptualisation of learning are the concepts of 'recognition' and

'realisation' rules that focus directly on the central significance of recognising and navigating boundaries. Young and Muller state this clearly:

> By emphasising the social differentiation of both knowledge and institutions, social realist approaches challenge the widely shared assumption that boundaries are always barriers to be overcome rather than also conditions for innovation and the production and acquisition of new knowledge. As Bernstein (2000) argues, boundaries play an important role in creating learner identities and are thus the conditions for acquiring 'powerful knowledge' as well as being barriers to learning.
>
> (Young and Muller, 2010, p.16)

Above it was also noted that all of these innovative curricula involving a greater emphasis on project work might involve a strengthening of the social relation. This development could also have implications for student success and progression, especially those not from middle class backgrounds with the kind of cultural capital that can predispose one to pick up these subtle demands. This will be a challenge to pedagogy and assessment, not to say that it should not be taken on, but it should not be taken on lightly.

Student identities and academic identities are closed tied together in a 'necessary' relation in that the possibilities for student agency are constrained by the practices of academics (Archer, 1996). Thus, in interrogating new proposals for curriculum in engineering education, we also need to look at the potential impact that these could have on academics.

Implications of new curriculum proposals for academic identities

Kotta's (2011) investigation of student learning in the context of a relatively traditional curriculum points to the difficulty that engineering educators have in collaborating sufficiently to deliver just a portion of curriculum (senior design) that requires working in a more 'integrated code' manner. When the pedagogy failed, it was the students from more disadvantaged education backgrounds that suffered the most. Kotta traces the logic of the academic practices and identities to the values at play in the institution and provides a warning for engineer educators who think a shift to more project work will be easy to accomplish.

Bernstein points out that in a 'collection code' curriculum, because staff are differently specialised and linked together in a hierarchical system, very little collaboration is needed or is practised. An 'integrated code' system makes

very different demands of staff: of necessity they need to collaborate since the organisational structure will require this. Bernstein issues a caution, noting that a model like this is 'highly vulnerable' because it will be open to a range of influences from the outside. Furthermore the staff will need to form a strong social network if it is to be at all successful; simply 'no easy activity' (p. 11).

Muller (2009) also notes that because of the hierarchical knowledge structures in the 'hard' disciplines, there is little contention over what's in the undergraduate curriculum, and thus academics spend relatively little time on their undergraduate teaching (compared to those in the 'soft' disciplines). This continues into the postgraduate arena where again, relative to those in 'soft' disciplines, less time is spent on supervision, such that research output (and/or industry collaboration) can be prioritised. Thus it can be seen that the structuring of knowledge has a structuring effect on the social relations in the field.

Thus it is clear that a significant curriculum restructure towards a more integrated code has huge implications for academic identity and academic time. Importantly, if these relations remain unchanged, the integrated code curriculum will simply be a disaster. 'What matters' in the field of higher education will always be a matter for contestation, but one is unlikely to quickly see a radical shift of valuing.

Conclusion

> Our purpose is not to defend a conservative position or to look back to a 'golden past'; far from it. It is to confront the view (which we share) that access to powerful knowledge is a right for all not just the few, with a theory of 'powerful knowledge' and how it is acquired and the crucial role of formal education in that process.
>
> (Young and Muller, 2010, p.24)

This article set out to interrogate curriculum reform proposals that are currently on offer in engineering education, using tools from the sociology of knowledge. The debate in engineering education centres on concerns for what graduates can do when they enter the workplace. A key curriculum question is which of problem-based learning, with a reorganisation of the curriculum around real world problems, or project-based learning, which retains a traditional organisation of the curriculum, is more suitable. An analysis of these positions using Bernstein's tools of classification and framing together with Maton's elaboration thereof, shows that although both of these models

involve a strengthening of the social relation (a greater exercise of control over legitimate student identities), the problem-based mode also involves a weakening of the epistemic relation (a blurring of knowledge boundaries).

For an analysis of any curriculum reform from a sociology of knowledge perspective it is important to analyse which groups are calling for the change. Although as noted above there are significant external pressures on the engineering curriculum, it might also be noted that it is largely engineering educators with a passion for teaching and learning who are proposing particular curriculum models. The intentions are good. However, the analysis moves to a consideration of the likely implications of such curriculum modes for student learning, particularly in the context of a massified higher education system which needs to cater beyond the needs of the elite. Preliminary research suggests that curricula with weakened boundaries such as those represented by the more radical PBL versions might indeed have outcomes quite contrary to those intended, with particular difficulties posed for students from weaker academic backgrounds. Furthermore, there is a serious likelihood that in the current situational logic in the academy, academics will lack the collaborative practices to properly 'pull off' such a curriculum move. This suggests a further detrimental effect on student learning.

At this point it is worth noting the important distinction between curriculum and pedagogy which comes with a social realist perspective (Young and Muller, 2010). Good teaching in engineering has always involved pedagogies which help students make the link between engineering science knowledge and the real world 'out there'. However, this is not the same as making the real world the organising principle for the curriculum, as is the case in the problem-based curriculum. In conclusion it is therefore suggested that what is needed is a curriculum which recognises the boundedness of both engineering science and engineering practice knowledge, and which helps students to navigate between these terrains. In this light, it would appear that the more cautious project-based curriculum model has a better chance of meeting the needs of all students, both in the realm of curriculum, but also, significantly, in pedagogy and assessment.

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The teaching quality of mathematics lessons in South African schools

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Abstract

This study focuses on the quantification of the quality of mathematics teaching in 38 randomly selected sixth grade classrooms in the province of Gauteng, South Africa. The teaching quality is measured by coding videotaped lessons in three different components: mathematical proficiency, level of cognitive demand, and observed teacher knowledge. Results suggest that the majority of mathematics lessons in this province focus on procedural skills even when the intended lesson focused on conceptual understanding. In addition, most of the learners engaged only in low-level tasks and teachers demonstrated a lack of knowledge about how to integrate the content with effective pedagogical techniques.

Introduction

Despite widespread acceptance of the notion that improving learner performance may have a high economic and social payoff, policy analysts in all countries have surprisingly little hard data on which to base educational strategies for raising achievement. In South Africa this question is all the more pressing. South African learners score at low levels in mathematics and language tests even when compared with learners in other African countries (Plomp and Howie, 2006; Van der Berg and Louw, 2006). Further, the South African government's own evaluations of ten years of democracy show little improvement in educational outcomes despite significant policy changes (Department of Education (DoE), 2006). While some reasons for this poor performance may be evident, and there is widespread agreement that the main challenge in South Africa is the quality of education, there is little empirical analysis that helps policy makers understand the low level of learner performance in South African schools or how to improve it.

As a first step toward an empirical approach to unpacking the factors contributing to low levels of learning in South African schools, the Human Sciences Research Council in partnership with a consortium of South African universities and researchers at the School of Education at Stanford University

engaged in a small scale empirical pilot study that focused on the role that teacher skills and practice play in South African learners' learning within the socio-economic and administrative conditions in those schools (and South African society more broadly). The team collected multiple forms of data, including learner, teacher, and school data (Carnoy, Gove and Marshall, 2007). This paper only focuses on the measure of teaching quality in mathematics lessons captured by video cameras. The purpose of this part of the study was to describe the teaching quality of the mathematic lessons. By 'teaching quality of mathematic lessons' we mean a composite of several aspects that characterise the teaching with the focus in the rigour and depth of the mathematics presented to the learners. These included the presence or absence of mathematical proficiency elements as intended by the curriculum or other teaching materials; the level of cognitive demand of the tasks the learners engaged in; and how efficiently the teacher uses her or his own mathematical and pedagogical knowledge to successfully implement the lesson. Even though there are other important aspects to consider when observing classroom lessons, we focus on the quality of the mathematics teaching because of its promising links with teacher knowledge and learner outcomes (Hill, Blunk, Charalambous, Lewis, Phelps, Sleep and Ball, 2008; Kazima, Pillay and Adler, 2008; Hill, Rowan and Ball, 2005).

Imagine, for example, a Grade 6 classroom in which learners are learning how to identify two-dimensional shapes and three-dimensional objects. The teacher begins class by showing concrete models of objects such as cubes, pyramids, and objects around the classroom (such as learners' notebooks and bookshelves). The teacher then discussed the differences between a two-dimensional shape and a three-dimensional object and assigns a task. Learners must first cut different objects out of paper and then work in small groups to classify the objects according to dimensionality. After about thirty minutes of the teacher supervising learners' cutting and pasting, the lesson wraps up with each group presenting their classifications and with the teacher acknowledgement of the learners' successful work. There are several aspects of this lesson to notice: the teacher draws attention to the properties of shapes and objects with concrete objects that learners can observe, manipulate, explore, and relate to everyday life. Learners are actively engaged as they discuss properties such as length, width, and height and mathematical vocabulary ('2D', '3D', and 'dimension'). The lesson gives the opportunity for the learners to work collaboratively arguing about the classification of the objects rather than just sitting together working individually. The lesson presents geometric ideas in a creative way rather than giving the learners a list

of two-dimensional shapes and three-dimensional objects from a textbook which have already been classified.

However, inspecting this lesson more closely, we notice that, despite its engaging and masterful pedagogical techniques, the *mathematical quality* of the lesson is lacking. When discussing the properties of a three-dimensional object the teacher gives learners a definition of a three-dimensional object – that it is an object with length, breadth and height. She proceeds to use concrete objects to demonstrate this definition, but uses only rectangular prisms. While this is correct for rectangular prisms, it is not true in general for all 3-dimensional objects. In the observed lesson, many learners come to the conclusion that a three-dimensional object is defined by an object that has three measures, length, width, and height. We saw this when the learners presented their work, since several of them identified cylinders and regular triangular prisms as two-dimensional figures because they only have two measures (height and circumference for the cylinder, and height and length of side of the base for the prism). This is evidence of an over-generalised definition of a three-dimensional object. The teacher never addressed this incorrect generalisation made by the learners and accepted all classifications of shapes that the learners presented as correct. Further, the resource materials that the teacher used in the lesson represented a deviation from a well-designed lesson presented in a textbook. That is, the *mathematical teaching quality* of the lesson was low, despite engaging instructional activities that fit many of the new South African curriculum requirements.

When analysing the lessons, we focus on aspects that determine the teaching as well as the quality of the mathematics. So, for example, while some observational instruments might have ranked the above lesson highly for its high-level cognitive task, engaging discourse, hands-on activities, and collaborative work, mathematics educator observers would have serious concerns over its content and consequential contribution to the development of learner misconceptions. The way we measure the lessons in this study is designed to capture these concerns.

Using a sample of 38 teachers from randomly selected schools in the Gauteng province of South Africa, we formulate the following questions:

- What is the level of attention to development of the strands of *mathematical proficiency* in the lesson?

● What is the *level of cognitive demand* in which the learners engage when the teacher implements the lesson?

● What is the *level of the observed mathematical and pedagogical knowledge* of the teacher during the lesson?

In what follows, we summarise the literature related to instruments designed to examine classroom practices in general and mathematics practices in particular. Next, we describe our method, including the use of our coding scheme by applying codes to specific lesson episodes. Finally, we present our results and discussion in the context of teacher education and professional development.

Measuring teaching quality in mathematics

Many research educators have observed school classrooms and measured their characteristics for different purposes (Shavelson, Webb and Burstein, 1986). The number of classroom observational instruments reviewed by Roshenshine and Furst (1973) and later Brophy and Good (1986) is almost as large as the number of studies reviewed – over 150. These particular instruments measured only behaviours related to teaching in general, such as pacing of instruction, classroom management, clarity and questioning the learners. More recently, in Latin-American countries, researchers have measured the time learners spend doing seat work, recitation activities, group work, and 'dead time' with the purpose of explaining the differences in learners outcomes across countries (Carnoy *et al.,* 2007). These aspects of teaching, although important, do not measure if the teacher is using the instructional techniques or behaviours in a way that is effective or consistent with the content goal of the lesson.

Perhaps in response to the need to explain better the mathematical aspects as well as the mathematical pedagogy harnessed during lessons, mathematics educators have turned their attention to the development of more specific observational protocols and instruments. What follows is a summary of the existing instruments and what constitutes the basis of our coding scheme in the context of South African schools.

Studying mathematics tasks and learner cognition during instruction

In our review of the literature, we found a set of instruments that focus on mathematical tasks and their implementation. One is the instrument used in the TIMSS video study (National Center for Education Statistics, 2003) to describe instructional practices in seven countries. Some of the aspects considered were 'Making connections', 'Stating concepts', 'Using procedures', and 'Giving results only', as intended by the mathematical content and as a result of the implementation of the lesson. Their major finding was that in Australia and the United States the lessons retained the 'Making connections' focus less often than the lessons in the other countries. A related instrument is presented in Henningsen and Stein (1997) where they investigate the factors associated with high-level mathematical tasks presented by the teacher and retained at high-level in the implementation by learners in the classroom. The high-level refers to one of the levels of *cognitive demands* defined by the authors as "the kind of thinking processes entailed in solving the task as announced by the teacher (during the set-up phase) and the thinking processes in which learners engage (during the implementation phase)" (p.529). The thinking processes they considered range from memorisation to complex thinking and reasoning. They found that the major factor that helps retain the high-level of cognitive demand is the effectiveness of the teacher in maintaining learners' engagement by scaffolding and consistently pressing them to provide meaningful explanations or make meaningful connections.

At more specific levels with respect to content, Gearhart, Saxe, Seltzer, Schlackman, Ching, Nasir, Fall, Bennett, Rhine and Sloan (1999) developed an instrument to code videotapes and field notes from 21 primary classrooms. Their purpose was to measure the effect of curriculum and professional development (opportunity-to-learn construct), in the context of teaching fractions, on learner achievement. Their instrument included aspects like "the degree to which practices elicit and build upon student thinking, the extent to which conceptual issues are addressed in treatments of problem solving, and the extent of opportunity to utilise and interpret representations in ways that help students build understandings of underlying mathematical concepts" (p.292). The last two proved to be significant aspects associated with learners' performance.

Collectively, these studies suggest that when studying the quality of mathematics instruction, it is important to include aspects that describe the

mathematics the learners have the opportunity to learn intended by the curriculum or other instructional materials as well as the way the mathematics is presented and assimilated by the learners. In other words, we need to focus on the *mathematics* that is available to the learner, independently of the way the teacher is teaching it and the learners are learning it; but also on what the *learners* get out of a mathematics lesson measured by the level of cognitive demands. In the international comparison literature, Carnoy *et al.* (2007) investigate these two domains in lessons across three Latin America countries (Cuba, Chile and Brazil) to explain the differences on learner outcomes in those countries. The authors used as a framework to describe the mathematics available to the learner, the five strands of mathematical proficiency that the National Research Council (2001) publication *Adding It Up* sets out as necessary for anyone to learn mathematics successfully and which they define as mathematical proficiency: conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition. These strands have some similarities with the TIMSS framework listed above and with the United States' National Assessment of Educational Progress (NAEP) framework. To describe the thinking process the learners engaged during instruction, Carnoy *et al.* (2007) use the levels of cognitive demand defined by Henningsen and Stein (1997) and Stein, Smith, Henningsen and Silver (2000). They found that learners in Cuba, which had the highest learner outcomes in relation to the other countries, engaged in higher levels of cognitive demand and their curriculum also gave more opportunities for the development of mathematical proficiency (i.e. more representation of all five strands). What this study and the ones mentioned above do not take into account is the third key player during instruction – the teacher. Fortunately, there is another body of research that has focused on teachers' knowledge and skills during instruction; we summarise it in the next section.

Studying teachers' knowledge during instruction

Measuring the way teachers apply what they know (mathematically and pedagogically) to teach effectively has been studied more recently. Hill and colleagues (2008) give an extensive review of literature in this area and provide an instrument that captures aspects focusing on the mathematical quality of instruction (MQI instrument) and its relation to their measures for mathematical knowledge for teaching (MKT). The aspects that this instrument measures are mainly based on the theoretical and empirical work defining the MKT construct (Ball and Bass, 2000; Ball, Hill and Bass, 2005; Hill, Shilling

and Ball, 2004). The MQI instrument measures aspects that focus on the teachers' skills and knowledge during instruction. These include mathematical errors, responding to learners inappropriately or appropriately in terms of the mathematics, connecting practices to mathematics, richness of the mathematics, and mathematical language. In this exploratory study, the authors found a significant association between levels of MKT and the mathematical quality of instruction. Previously, Hill *et al*. (2005) found a positive association between MKT and learner achievement gains, which supports the contention that the teachers' mathematical knowledge during instruction is ultimately related to learner achievement. In South Africa, Kazima *et al.* (2008) and Adler and Pillay (2007) have used case studies that build on the work of Deborah Ball and Heather Hill to provide more detailed insights. For example, they argue that the mathematical work that teachers do needs "to be understood. . . in relation to particular topics in mathematics, and to particular approaches to teaching". (Kazima *et al*., p. 296). Therefore, when measuring teachers' mathematical work during instruction, we also need to take into consideration the topic or main goal of the lesson and the particular teaching approach, which is related to pedagogical perspectives.

Taking all these aspects into consideration, we design a new instrument that will not only help describe the teaching quality of the mathematics but, in the future, also can be linked to teacher and learner outcomes. In the next section, we describe in more detail the aspects of our instrument, sample and data collection, and analysis.

Method

The quantitative method to describe the teaching quality of mathematics was driven by the main goal of the larger project (Carnoy *et al*., 2007) of which this study is a part. This was to unpack the factors contributing to low levels of learning in South African schools by focusing on the role that the teacher skills and practices play in learners' learning within the socioeconomic and administrative conditions in those schools. More specifically, results from the larger study seem to suggest that there is a relationship between the teaching quality and teachers' knowledge in a paper-and-pencil assessment, similar to the work of Hill *et al*., (2008) and Marshall and Sorto (2011). In this paper, we only describe the development of the instrument used to code the lessons and report on the descriptive part of the teaching quality since the original project was a pilot study and the quantitative relationships found were more exploratory in nature.

Sampling and data collection

A random sample of 40 schools was drawn from the Department of Education records in Gauteng Province. The sample schools were spread across five district municipalities, the City of Johannesburg, City of Tshwane, Ekurhuleni, West Rand, and Sedibeng. These district municipalities cut across a diverse area of formerly racially segregated, rich and poor neighborhoods and schools. One Muslim school was not videotaped because of religious considerations and in one school an English lesson was videotaped instead of a mathematics lesson. Thus, the lesson analyses are for 38 sixth-grade mathematics lessons in 38 schools. Although the teacher sample is probably not completely representative of the province, it provides us with a good set of data to describe the teaching quality of mathematics lessons distributed across different categories of schools.

The filming was done towards the end of the school year (one lesson for each teacher) by previously trained personnel of the South African team. Teachers were notified in advance about the research team visits and all of the lessons observed were about teaching mathematical content as opposed to review sessions for upcoming assessments.

Framework and instrument development

The framework to characterise the teaching quality of the lessons for this study is a product of several sources. These include our experience as mathematics teachers and mathematics teacher educators; our experience studying teaching in developing countries in Latin America; our experience working with teachers in the Gauteng province; and the existing literature that investigates mathematics instruction. The development of the codes started with observational classroom codes used in rural Guatemala (Marshall, 2003 and Marshall and Sorto, 2011). From this study, we learned that mathematics instruction in rural settings was much less complex in terms of pedagogical techniques and use of resources than most lessons studied in more developed countries like United States, Germany, and Japan. The limitation of this study is that the codes did not include the measurement of the level of content or curriculum that was being covered. For the next study analysing 42 videotaped lessons in Brazil, Chile, and Cuba (Carnoy *et al.*, 2007) the framework used in Guatemala was extended to include codes that addressed not just general pedagogical processes but level of mathematical proficiency and levels of

cognitive demand. The purpose of this analysis was to explain differences in academic achievement among the three countries that could not be explained by statistical methods such as education production functions and hierarchical linear modeling (Carnoy and Marshall, 2008). Even though the addition of new codes helped sharpen the focus on the intended and implemented mathematical tasks, the framework was missing that which other authors (Adler and Pillay, 2007, Hill *et al.*, 2008) argue is needed when analysing the quality of mathematical instruction. In response to these kinds of concerns, we included one more aspect – the *level of the observed teachers' knowledge while teaching*. These new codes were tested for the first time in the Panama and Costa Rica study (Sorto *et al.*, 2009) with 50-videotaped lessons.

We now turn to a detailed description of the three major components of the framework used in South African schools: the mathematical proficiency the learners have the opportunity to acquire; the level of cognitive demand the learners are engaged in during the lesson; and the observed teacher's knowledge while teaching.

Mathematical proficiency. This is measured by evidence of the development of any of the five strands that form the mathematical proficiency variable, which according to *Adding It Up* (National Research Council, 2001) are necessary to learn mathematics successfully. The five strands are:

- conceptual understanding – comprehension of mathematical concepts, operations and relations;

- *procedural fluency* – skill in carrying out procedures flexibly, accurately, efficiently, and appropriately;

- *strategic competence* – ability to formulate, represent, and solve mathematical problems;

- *adaptive reasoning* – capacity for logical thought, reflection, explanation and justification; and

- *productive disposition* – habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy (p.116).

These strands are not taken as individual goals but rather as interdependent and interwoven aspects required for the development of mathematical proficiency. If any one of the five elements is missing, the learning process is not considered complete. Nevertheless, in the context of evaluating a (short)

lesson it may be unrealistic to expect development of all five elements – even in a very good class. This calls for some flexibility in how we assess the mathematical proficiency of the lesson. The focus in this component is the *mathematics* available to the learner.

Cognitive demand. The level(s) of cognitive demand in which learners engage during the lesson are derived from a rubric in Stein *et al*. (2000) classification of higher and lower cognitive demand. These include:

- *Memorisation* – recollection of facts, formulae, or definitions.

- *Procedures without connections* – performing algorithmic type of problems and having no connection to the underlying concept or meaning.

- *Procedures with connections* – use of procedures with the purpose of developing deeper levels of understanding concepts or ideas.

- *Doing mathematics* – complex and nonalgorithmic thinking, learners explore and investigate the nature of the concepts and relationships.

The focus in this component is the thinking processes in which *learners* engage.

Observed teacher's knowledge. We characterise the *observed* teachers' knowledge in a lesson by focusing on three aspects. The work of Shulman (1986) forms the basis of these categories. These include:

- *Grade level mathematics knowledge* – the presence of computational, linguistic, and representational accuracy for the mathematics at the grade level being taught. We take into account any mathematical errors during instruction.

- *General pedagogical knowledge* – the use of general instructional techniques beyond the lecture mode. Elements include how well the teacher has all the learners engaged, his/her use of proper classroom management techniques and the quality of instructional materials.

- *Mathematical knowledge in teaching* – the degree to which teacher can appropriately integrate the use of the instructional techniques with the mathematical concept being taught and its effectiveness on learning.

This also includes the use of correct language to clearly convey mathematical ideas clearly.

Together these three analytical elements make it possible to go beyond a simple reconstruction of each lesson and consider the deeper mathematical meaning of what is being taught. These elements also allow us to assess what the teachers know and how they apply this knowledge in the classroom.This in turn makes for some useful linkages between the lesson analysis and teacher questionnaires.

Of course, what is observed in one lesson does not measure the entire body of knowledge a teacher has in mathematics, or any of the other kinds of knowledge. The purpose of looking at the teacher's knowledge for these lessons is not to characterise the entire knowledge of a teacher. For this we would need a case study where we observe a teacher for a long period of time. The purpose is to measure how well the teacher uses these specific knowledge forms in a particular lesson.

Coding and inter-rater reliability

To capture the presence of the twelve different components (five components for mathematical proficiency, four components for cognitive demand, and three for observed teacher's knowledge) a coding system was used for each lesson. After observing a particular lesson the researcher adjudicated a code of 'present' (P) or 'not present' (NP) for each component that defines the three elements of teaching mentioned above. A conservative judgment was used for the 'present' code. That is, if the component was observed at least once during the lesson, a code of P was adjudicated. Other video studies (e.g. Hill *et al.*, 2008, Andrews, 2009) have broken the lessons into small segments of five or ten minutes or episodes to account for the complexity of instruction. However when this method was applied to our lessons, we did not find significant differences between the codes considering the lesson as a whole compared to and lessons broken into smaller segments. For logistical reasons we did not conduct any type of structured or semi-structured interviews with the teachers who were videotaped. This is a limitation because interviews would have allowed us not just to validate our coding system but also to enrich our understanding of teaching practices in these countries. In addition, an overall evaluation of the teaching quality observed in the lesson was assigned using the scale 1 (*low*), 2 (*medium*), or 3 (*high*). These ratings were a holistic composite of the 12 components described above.

We (two researchers) first worked independently to code each lesson, and then reconciled our codes by holding discussions about any disagreements. We agreed most of the time and there were only few instances where we needed to discuss discrepancies in coding. Inter-rater reliability between the two of us ranged between 85 per cent to 100 per cent for individual codes.

Results

A result that stands out is the large class sizes in Gauteng, on average 37.1 learners in our sample, varying from 11 to 67 (standard deviation equal to 10.1). The length of classes we observed were almost all between 30 to 40 minutes long.

With respect to what teachers and learners do in the classroom, we characterise a typical mathematics lesson in Gauteng's sixth grade classrooms. About one-third of the lesson time is teacher-led, in which the teacher is presenting the content to the whole class. Another one-third of the lesson time is taken by the teacher asking questions to the class which are answered by individual learners or in chorus. (On average, for the 38 classrooms we timed, 44 per cent of the recitation time was individual responses, 36 per cent was chorus, 15 per cent was solving at the blackboard, and 5 per cent was groups reporting). The final third was seat work. Much of the recitation time (individual learners and learner chorus responding to the teacher) is mixed in with teacher-led talking about mathematical content. In the highest SES schools, more time is spent on whole class teacher presentations and on seat work, and less on recitation. In the lower SES classrooms, learners are more likely to be seated with their desks grouped into 4–6 learners facing each other, although when the learners in such grouped situations are doing seat work, it is almost entirely individual. Actual work in groups constitutes only about 4 per cent of class time.

We now turn our attention to an analysis of the teaching quality of the content. The mathematics content observed in the entire set of lessons was evenly distributed between three major mathematical areas: number concepts and operations, geometry, and measurement. We only observed one lesson in the area of data handling and probability and one lesson in the area of Patterns, functions, and algebra. Table 1 summarises the results according to the three major elements of our quality of teaching construct.

Table 1: Percentage of lessons in which each component was observed

	Per cent of lessons
Mathematical proficiency:	
Conceptual understanding	46.15
Procedural fluency	76.92
Strategic competency	12.82
Adaptive reasoning	46.15
Productive disposition	33.33
Cognitive demand:	
Memorisation	74.36
Procedures without connections	58.97
Procedures with connections	41.03
Doing mathematics	5.13
Observed teachers' knowledge:	
Grade level mathematics knowledge	97.44
General pedagogical knowledge	92.31
Mathematical knowledge in teaching	25.64
Total lessons	38

Mathematical proficiency

It is a lot to expect opportunities for the development of all five of the mathematical proficiency strands to be present in individual lessons, especially in short lessons. Instead we were more concerned about the extent to which all strands turn up in the overall summary of multiple lessons. In other words, are there specific elements of proficiency that are largely absent from these classrooms as a whole?

The overall pattern of the development of proficiency in mathematics in South Africa is somehow balanced with respect to some of the components (see Table 2). Even though the majority of the lessons provide for procedural aspects of mathematics learning, nearly half of them also provide for the conceptual and reasoning aspects. It was clear from the observations that some teachers value conceptual understanding before learners move to the manipulation of symbols or computation. This is also consistent with the kinds of questions used by teachers in the classroom. However, as we will see later, not all teachers were able to teach conceptually in an efficient way. There were few instances where learners had to show the ability to formulate,

represent, and solve mathematical problems, also known as strategic competence. When this strand was observed the learners were given mathematical problems applied to real word situations and asked to apply their knowledge of previous mathematics content learned to arrive at a solution. There were a few examples where development of strategic competence was observed. In all of these observed lessons learners were either engaged in whole class or group discussions. In one lesson where the mathematics focused on the concept of fractions, learners were solving problems, making conjectures, and sharing their reasoning in relation to questions involving dividing sausages and groups of apples into different fraction parts. The teacher demonstrated excellent questioning and guiding skills. In another lesson the learners were actively involved in making models of 3-D shapes from which they could then count the faces, edges and vertices in order to analyse and compare 3-D shapes. A third example, on the topic of time (Measurement), the teacher assigned questions to groups and gave time for them to work out their solutions before they had to present these solutions to the class. When learners presented, he pushed them to explain their answers and enabled them to understand where they had gone wrong. Learners had to rethink when necessary and had to give clear explanations for their solutions.

For the lessons that lack the aspects of 'Reasoning', rules, definitions, and procedures were often presented without the teacher providing an opportunity for learners to consider why they were true. When learners were involved in working on a problem or asked to give an answer, they were not expected to explain their reasoning or provide a valid justification. Many educators refer to this type of teaching as 'answer-centred'. In one, where the teacher went over a fairly traditional worksheet that learners had evidently done as homework. The sheet called for writing numbers in words, giving values of underlined digits in several five digit numbers, writing numbers represented on abacus diagrams and writing numerals for numbers given in words. The class chorused when called to do so and individual learners wrote their solutions on the board, once the solutions had been confirmed by the teacher. There was no discussion and there were no questions that created opportunities for reasoning. An extreme example was a lesson where the learners spent the whole time copying down information from the board onto a chart. The teacher circulated answering questions very curtly. She seemed to just want them to get on with the copying. The words 'copy' and 'copied' very often formed part of her answers.

Finally, the productive disposition strand refers to learners seeing mathematics as sensible, useful, and worthwhile combined with a belief in their ability to

do the maths. This category was observed only during the lessons where learners were either involved in the application or reasoning of mathematics. This occurred in about half the lessons. However, in those lessons learners seemed to enjoy and value the logical thinking and problem solving activities.

Level of cognitive demand

Beyond the topic covered in the lesson, the kind and level of thinking required of learners on a particular topic or mathematical task impacts on the quality of the learning experience. The measure of the level of cognitive demand enriches and relates to our previous measurement of mathematical proficiency. A large percentage of the lessons (74.36 per cent) required learners to simply recall rules and definitions or perform algorithms with no relation to the underlying concepts. Opposite patterns are observed for the higher-level cognitive demands. A smaller percentage of lessons require learners to understand the meaning of operations or underlying concepts behind the procedures and a very small per cent require learners to investigate or explore relationship between mathematical ideas. The distribution of lessons for the first three levels is to some degree uniform.

We have an important observation about the level of cognitive demand based on the lessons we saw in South Africa. The observed level was the one *implemented* by the teacher and not necessarily the level *intended*. For example, the videotaped lessons show that about 50 per cent of the teachers had intended to deliver a higher-level lesson, guided by textbooks, pre-prepared activities, and concrete models. However, only about 26 per cent successfully implemented such lessons. The South African lesson designs tend to include demanding questions, but the actual formulation and sequence of questions does not always make it possible to probe the learners' conceptual understanding. These findings are consistent with results from the TIMSS 1999 Video Study and with findings by Stein *et al*. Mathematical tasks or problems with high level cognitive demands "are most difficult to implement well, frequently being transformed into less-demanding tasks during instruction" (2000, p. 4).

Another important observation was the lack of coherence in a large percentage of lessons. Teachers tend not to have a clear goal of the lesson. Some of the lessons started with a short mini lesson on some topic and ended with an 'activity' related to the topic, but unrelated to the mini lesson. Often the teacher does a mini lesson and then does not follow up with other activities. This is a big problem – lessons do not have sufficient substance to allow

learners opportunities to consolidate what has been learned. The other problematic pattern observed was the lack of whole class discussion on the activities or worksheets. The 'discussion' is often just a chorus of agreement to given answers – or the completion of comments-prompted answers. These really give no indication as to whether or not the learner actually was able to give the answer him/herself.

The teacher's observed knowledge

In this part of the analysis we turn to observations to classify teacher knowledge. This is a novel approach with few antecedents (Hill *et al.*, 2008; Sorto *et al.*, 2009), and implementing it presents a number of challenges. It clearly requires mathematics education experts to classify the teacher's knowledge based on his/her actions and choices in the classroom.

For content knowledge there are a number of possible 'clues' for assessing what the teacher knows. It is fairly straightforward to focus on the examples of problems they solve in class or the corrections they make of learner mistakes. Careless mistakes when teaching operations or procedures, or more serious misconceptions about underlying concepts, are each indicators of content knowledge deficiencies. This same standard can also be applied to higher level content knowledge, although we expect this element to be less applicable in the average lesson.

There are also the general pedagogical skills we referred to earlier, although we have not compiled a complete list of these actions. Once again a trained expert in the subject with extensive experience observing teachers is needed to classify the teacher's *pedagogical knowledge*. Elements include how well the teacher has all of the learners engaged, his/her use of proper classroom management techniques, and the quality of instructional materials.

The third and final domain of knowledge is formed by the integration of the two previous knowledge areas. This *mathematics knowledge in teaching* is not necessarily separate knowledge, but it is demonstrated in the class by how well a teacher uses mathematical and pedagogical knowledge to help learners learn mathematics.

Table 1 shows the percentage of teachers that demonstrated knowledge in each of the kinds of knowledge described above. One important note is that the

kind of knowledge demonstrated was connected with the goal and level of cognitive demand of the lesson.

For the mathematical knowledge category, teachers were coded according to demonstrated knowledge of the mathematics by the correctness in their written and spoken mathematical statements. Table 2 shows a description of some of these errors or incorrect statements and their significance in terms of the teaching and learning of the content. Most of these errors were related to the inappropriate use of the terminology and lack of accuracy in the mathematical language when explaining the concept. Most of these incorrect statements or inappropriate explanations were coded as lack of mathematical knowledge in teaching.

Table 1: Percentage of lessons in which each component was observed

	Per cent of lessons
Mathematical proficiency:	
Conceptual understanding	46.15
Procedural fluency	76.92
Strategic competence	12.82
Adaptive reasoning	46.15
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Cognitive demand:	
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Procedures with connections	41.03
Doing mathematics	5.13
Observed teachers' knowledge:	
Grade level mathematics knowledge	97.44
General pedagogical knowledge	92.31
Mathematical knowledge in teaching	25.64
Total lessons	38

Table 2:   Errors of expression, concepts incorrectly explained by teachers

Errors observed	Mathematical concept involved	Significance
1	Wrote 9+(64-8)=(9+56) x 64.	Careless error
2	When finding ⅓ of 30, the teacher writes out the numeric algorithm, calls it a 'proof' of the value of ⅓ of 30.	Inappropriate use of mathematical language and significant in the teaching of fractions.
3	Says a bucket is a 2-D shape since it has no sides.	Confusion with properties and identification of 2-D shapes and 3-D objects.
4	Position of angles incorrectly shown on the 360° 'standard positions' in rotation. Says that a reflex angle is from 180° degrees to 270°. Draws a 90° angle as a semi-circle.	Confusion of geometric concepts and terminology relating to angle.
5	Says that the opposite angles of a parallelogram are not equal.	Just careless in this instance.
6	The concept of a point is explained, using the example of the sun as the origin of a ray. But teacher confuses learners who say the 'sun cannot be a point'.	Conceptual explanation – visualisation of geometric concepts leads to confusing explanations.
7	Draws a line and a line segment on the board, but labels them incorrectly and speaks about them incorrectly – calls line a line segment and vice versa.	Confusion of terminology/ naming of geometric shapes.
8	Fraction terminology – calls a mixed number a mixed fraction. Says simplest form 'I must always convert it back to a mixed fraction' (e.g. 28/5 is not in simplest form).	Terminology and concept – fractions in simplest form; mixed numbers.
9	When speaking about fractions, reads 1 2/4 as 'one over two four' throughout the lesson.	Inappropriate use of mathematical language. Reading fraction numerals as words.
10	Calls a protractor a ruler throughout lesson.	Terminology
11	Says that place value and total value are the same thing.	Place value terminology affecting conceptual understanding.

In terms of pedagogical knowledge, there was evidence of the knowledge of pedagogical techniques. In particular, the use of concrete models to illustrate concepts and the more frequent use of hands-on activities such as cutting, colouring and pasting. This measure is linked with the intended level of cognitive demand of the lesson analysed above. The final element is the degree of effectiveness of the use of these techniques and how well they were connected with the mathematical concept being taught. Note the small per cent of teachers (26 per cent) in this category. Some teachers in this category showed a well-planned lesson with a rich task presented to learners and a good 'flow' of the lesson. Others were effective because of the powerful explanations and skilful level of communication on the part of the teacher to bring the complex mathematical ideas to the level of the learner. The better teachers used questioning to elicit answers given independently by learners, from which an observer can say that the learner has understood what he/she is talking about.

Conclusion

There is a large variation in terms of teaching quality levels in the Gauteng province of South Africa. We did observe classs with high levels of opportunity for the development of mathematical proficiency where learners where engaged in high-level cognitive tasks, engaging discourse, hands-on activities, collaborative work, and teachers that demonstrated skills and knowledge of mathematics and pedagogy. Sadly, these classs were the exception.

A typical mathematics lesson in the province of Gauteng, South Africa is characterised by a teacher lecturing about a concept or a topic for a short time, doing an example of an exercise on the board, and then the learners work in their notebooks doing similar problems for the rest of the time. Characteristically few (two to six) problems are set for the learners. The teaching focuses mainly on procedural skills and the learners are engaged in cognitively low-level tasks. Teachers demonstrate knowledge of the mathematical content at the grade they are teaching and also demonstrate knowledge of general pedagogical techniques. However, most teachers do not integrate these two domains of knowledge effectively. More specifically, most teachers do not have a clear aim or goal for their lessons and they do not present the learners with a well-sequenced series of activities that help the learners acquire the underlying mathematical concept. Further, many of them do not use proper mathematical language when trying to explain the concepts and they lack ability to effectively use models and multiple representations to

illustrate abstract concepts. This evaluation of the quality of mathematics teaching as evidenced in a sample of 38 schools and its implications will be further investigated in the full comparative study.

Acknowledgement

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Student teaching assessment instruments: possibilities and pitfalls for promoting professional development

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Abstract

Student teaching is assessed both formatively and summatively: formatively, to further students' professional development, and summatively to determine students' teaching competence before they qualify. Assessment instruments provide standardised ways that allow for comparative profiling of student teaching. However, assessment instruments that assume a checklist design tend merely to rate whether aspects of student teaching are competent or not against a list of criteria, restricting their potential for providing formative feedback. This paper argues that a radically different type of formative assessment instrument is required to promote professional development. Instruments for the formative assessment of student teachers need to help them understand what they *are* doing, what they're *not* doing and what they *should be* doing in order to teach more effectively. This paper analyses how two student teaching instruments present different conceptions of effective teaching practice. An example of how a university tutor used each instrument for formative assessment of student teachers shows that an assessment instrument that portrays teaching as a complex, cognitive practice enabled her to consolidate and reinforce her formative assessment in a more nuanced way than was possible when she used an assessment instrument with a simple checklist design.

Introduction

A university tutor remarks that when observing student teaching she seldom knows in advance how she will respond, or what formative feedback she will provide. She explains: *I go into the classroom with very few expectations. It's about responding to the lesson I have in front of me. If a lesson goes poorly, I usually pick out about five or so critical issues to discuss with the student.* Her ability to select which 'critical issues' will be conducive to promoting the student's development involves a professional judgement about what is most salient in a particular context. Such decisions are neither arbitrary, nor merely a technical application of procedures (Cochran-Smith and Lytle, 1999; Schön, 1987). Morrow (2007, p.77) maintains that a professional practice such as teaching has a cognitive basis and is "shaped and guided by the theory that

informs it, and by the concepts, beliefs and principles of those who participate in it". On these grounds he argues that professional practices are "socially constructed and maintained" (p.77). To be inducted into a practice is thus to "enter into a relationship not only with its contemporary practitioners but also with those . . . whose achievements extended the reach of the practice to its present point" and to subject oneself to "the authority of the best standards realised so far" (MacIntyre, 1981, p.181). There is therefore a significant difference between a response to student teaching based on personal whim compared with one from a coherent and grounded conception of teaching, having drawn on evidence and sound reasoning (Hawe, 2002).

Assessment of student teaching

A 'constitutive professional goal' of teacher education is to "enable others to become more competent in the professional practice of teaching" (Morrow, 2007, p. 82). Like other Higher Education institutions offering teacher education, the BEd programme offered by the School of Education, University of the Witwatersrand includes fixed periods of work-based learning, referred to here as Teaching Experience (TE). University tutors summatively assess student teachers at the end of their final year of study to determine their readiness to enter the teaching profession. Until then student teaching is formatively assessed in order to support students' professional growth. While directly observing student teaching, the tutors write open-ended responses to the lessons. Their observations are a useful basis for prompting student teachers to analyse and reflect on their teaching during post-observation reflective discussions. Towards the end of a practicum session tutors, together with supervising teachers, need to consolidate the formative feedback given to each student teacher under their supervision. As large numbers of university tutors and supervising teachers are involved in the observation and mentoring of student teachers during any practicum period, a *student teaching assessment instrument* provides a standardised way for them jointly to profile how each student has progressed professionally during the TE stint. Such interim assessment reports are valuable in reflecting students' progress back to them. These student teaching assessment instruments are given to and discussed with student teachers during a scheduled debriefing session with the university tutor on completion of the TE period.

The criteria, design and levels of competence of student teaching assessment instruments present student teachers with a particular concept of what is

considered essential to their professional development. To develop as a professional teacher Morrow (2007, p.84) contends that it is vital for student teachers to distinguish between "the definitive features of the practice" and those variables that are tied to particular teaching contexts. The criteria against which students are assessed should ideally embody those 'definitive features' of teaching that constitute the essence of their professional development. Analysing the conceptions of teaching that student teaching assessment instruments impart – intentionally or otherwise – to student teachers is crucial if student teachers are to develop a "strong and properly grounded" conception of teaching (p.84).

This paper analyses two such assessment instruments, both designed to facilitate the professional development of student teachers. Instrument A (Appendix 1) adopts a 'checklist' design in which students' level of competence is ticked off against a list of criteria. Instrument B (Appendix 2) has a 'rubric' design, with statements that describe increasingly sophisticated and thoughtful teaching practice in relation to and between stipulated criteria. These appendices show an example of how a university tutor, Sarah, used these assessment instruments to consolidate her formative assessments of student teachers in two successive sessions of TE during 2007. In this paper I aim to show how the conceptions of teaching conveyed in student teaching assessment instruments create possibilities and pitfalls for tutors in their support of the professional growth of student teachers.

Several papers on student teaching have considered the logistical arrangements of TE sessions in South Africa (e.g. Quick and Siebörger, 2005; Reddy, Menkveld and Bitzer, 2008) and the voices of roleplayers, such as the supervising teachers and student teachers (e.g. Marais and Meier, 2004; Ngidi and Sibaya, 2003; Robinson, 2003). Papers that consider the assessment of student teaching (e.g. Fraser, Killen and Nieman, 2005; Reddy *et al.*, 2008) focus on surveying current institutional practices, interpreting policy implications for such assessment, and the complexities of verifying the teaching competence of candidates prior to their graduation. While acknowledging the challenges in regard to the summative assessment of teaching practice, those debates and concerns lie beyond the scope of this paper. This paper focuses on the *formative assessment* of student teaching, intending to promote the professional development of students well before graduation.

Formative assessment of student teaching

Teacher education providers are expected to devise student teaching assessment instruments that initially provide developmentally appropriate feedback to student teachers, and ultimately "measure the extent to which candidates can teach competently and effectively in South African schools" (SGB for Educators, 2001, p.37). If university tutors act simultaneously as both a *development facilitator* (when they assess student teaching to provide formative feedback) and a *gatekeeper to the profession* (when they observe student teaching to provide a summative assessment), these conflicting roles compromise one another (Reddy *et al*., 2008; Rath and Lyman, 2003; Yule, Crowley, Duff, Higgs, Kortenhoeven, MacPherson, Munting, Nel, Nowlan, Olivier, Spies and Tait, 1990). Formative feedback should precede summative assessment, and therefore reducing the amount of formative assessment would be detrimental to the overall professional development of student teachers (Martin and Cloke, 2000).

Those who are more expert in the practice have "earned the right to direct others in relation to certain conceptual rules, virtues and knowledge codes of the practice" (Slonimsky, 2010, p.46). For this reason student teachers are assigned supervising teachers and/or university tutors who should act as more expert mentors. The purpose of formative feedback on their lessons is to "enhance [student] teachers' own understanding of their own actions – that is, their assumptions, their own reasoning and decisions, and their own inventions of new knowledge to fit unique and shifting classroom situations" (Cochran-Smith and Lytle, 1999, p.267). Although making errors is part of the learning process, being able to identify and learn from one's mistakes "often takes an experienced other to provide the necessary feedback and perspective" (Grossman, Schoenfeld and Lee, 2005, p.205).

'Expert' and 'novice' teachers observe and interpret episodes of teaching and learning in different ways (Berliner, 1994). Drawing on their understanding of the *internal logic of teaching as a practice*, expert practitioners are more able to recognise subtle patterns and make informed inferences in episodes of teaching that they observe. By contrast, the fluidity of expert teaching appears straightforward and effortless to novices. Beginning student teachers tend to interpret teaching they observe as a sequence of atomistic events and routines, without perceiving how they connect as a coherent whole. They do not readily discern the subtleties associated with complex pedagogical reasoning that informs the many appropriate choices that are made for effective learning

(Hammerness, Darling-Hammond, Bransford, Berliner, Cochran-Smith, McDonald and Zeichner, 2005a, p.375). It is thus common for beginners to underestimate the cognitive dimension of teaching and to regard their teaching as successful if learners are quiet, attentive and manage their class work (Lochran, Mulhall and Berry, 2008).

The purpose of formative feedback from 'expert' supervising teachers and university tutors is to prompt student teachers to consider teaching as a practice in ways otherwise hidden from them. To enable student teachers to become more competent, student teaching assessment instruments for formative assessment need to support tutors in their task of helping student teachers understand what they are doing, what they're not doing and what they should be doing in order to teach more effectively. Student teaching assessment instruments can therefore be valuable in constructing a Zone of Proximal Development (ZPD) in which university tutors can promote students' professional growth (Vygotsky, 1962).

Learning to teach

Morrow (2007) suggests that the principal competence for professional teaching involves the ability to "organise systematic learning" (p.85). This competence requires that prospective teachers develop a thorough understanding of content knowledge in the subjects they teach that extends beyond factual information to include "skills, capacities and dispositions and the practices in which we are trying to enable learners to become practitioners" (p.126). Morrow (2007, p.82) identifies knowledge of content within a discipline as a "necessary precondition for any teaching". Content knowledge on its own, however, is not enough.

Shulman (1987) described the blending of content knowledge and pedagogy into Pedagogical Content Knowledge (PCK) as the unique professional knowledge base of teaching. PCK is still regarded as "one of the cornerstones of teacher knowledge" and a vitally important part of initial teacher education (Rollnick, Bennett, Rhemtula, Dharsey and Ndlovu, 2008, p.1366). To make wise decisions about how to teach a topic effectively student teachers need to consider the components of PCK both separately and in relation to one another: the content knowledge to be taught, their knowledge of learners and their contexts and their general knowledge about teaching. To construct their PCK, then, it is essential that student teachers learn to "move beyond their

initial needs and concerns so that they might come to understand the complexity of teaching and see value in transforming their knowledge into a form that is useable and helpful in shaping their classroom teaching" (Nillsson, 2008, p.1282).

Shulman's (1987) *Model of Pedagogical Reasoning and Action* provides a framework for linking teachers' knowledge and understanding, their pedagogical decision-making and their classroom actions. He suggests that teaching takes place through a succession of processes: gaining a thorough comprehension of the content knowledge to be taught; transforming that content knowledge into representations that are both conceptually appropriate and accessible to the learners – using PCK; executing the intended plan during the lesson; monitoring and evaluating the learners' understanding and learning; and reflecting on the teaching and learning process to generate new insights, thereby developing their PCK further.

Methodology

To investigate the conceptions of 'learning to teach' presented by two student teaching assessment instruments I compared the open-ended feedback of university tutors written during their lesson observations to the ways that the two assessment instruments allowed them to profile student teaching. For this I drew on previous research which analysed 893 lesson observation reports and 406 completed checklists, written by 48 tutors in response to their observations of the teaching of 66 Bachelor of Education (BEd) student teachers over a four-year period (Rusznyak, 2008). The university tutors in this study were all full-time staff members at the Wits School of Education, and lectured BEd student teachers in academic study of teaching subjects, subject and phase teaching methodologies, and educational studies. While this paper draws on data from tutors' interpretations of student teaching, this focus is not intended to suggest that the mentoring role of supervising teachers is superfluous.

Semi-structured focus group discussions were held with nineteen student teachers and three university tutors in order to explore their collective experiences of assessment in TE. The student sample was selected to ensure representation in gender and race and to reflect the perceptions of student teachers who had matriculated from schools in rural, suburban and township contexts. The university tutors interviewed had more than five years of

experience of assessing students in TE, and were involved in teaching methodology courses. They also represented a multiracial sample. All focus group discussions were taped and transcribed, and used to triangulate insights emerging from the documentary analysis. Ethical clearance was obtained from the Wits School of Education Ethics Committee to access documentary lesson observation and assessment reports for the purpose of this study. Written consent was obtained from those who participated in focus group discussions.

While this paper analyses Instruments A and B specifically, the findings and discussion have wider relevance because of Instrument A's similarity to other such student teaching assessment instruments. Comment on the selection of its criteria and its use of judgement-level descriptors will be brief: the focus is instead on the extent to which the assessment instruments reflect the conception of teaching contained in the tutors' open-ended comments.

Instrument A

Instrument A is the student teaching assessment instrument used by the Wits School of Education from 2002 to May 2007. Like its equivalents elsewhere it was designed to comply with the requirements of the Norms and Standards for Educators (Department of Education (DOE), 2000). It took the form of a checklist drawing on criteria from the specified Exit Level Outcomes for qualifying teachers (SGB for Educators, 2001). Instrument A arranged the selected competences around the Seven Roles of the Educator as stipulated by the policy at the time (DOE, 2000). Appendix 1 shows how Sarah, a university tutor with expertise in primary school teaching, used Instrument A to profile the progress of a student teacher whose teaching she observed during TE.

Relational comments and atomistic criteria

Instrument A presents teaching as a compendium of considerations, each occurring in isolation from others. University tutors, by contrast, often base their interpretation and evaluation of lessons on a more holistic understanding of teaching. Thus a tutor describes a lesson in which many criteria listed in Instrument A have been adequately met, but is nonetheless concerned about its internal coherence: "*Technically, this was a competently planned and executed lesson: your focus was clear, you introduced a concept, you engaged learners' previous knowledge, using various scaffolded explanatory phases, you added*

input, gave an exercise and checked answers. You followed a clear learning pathway towards your intended outcomes. But you can still enhance your teaching by developing strategies to make this pathway more meaningful and more collaborative, using problem-solving exercises from their real life to really engage their interest." While the tutor acknowledged that the criteria had been competently addressed as discrete elements, she created a ZPD by identifying where the student needed to consider her methodological choices in a more carefully integrated way. The tutor thus correctly emphasised that the different aspects of teaching relate to one another to produce a powerful learning experience that is more than the sum of the discrete parts.

A striking feature of the open-ended comments of the tutors is the way in which particular aspects of practice are described as being appropriate or inappropriate pedagogical choices only when considered in relation to other aspects. These relationships are completely obscured when teaching performance is profiled only as a series of ticks next to items on a checklist.

Hierarchical relationships of criteria

Whether by design or default, a checklist design necessarily arranges criteria in a particular sequence. Without a nuanced understanding of teaching as a cognitive practice the criteria can easily be interpreted as equally important in an undifferentiated sequence, or as of diminishing importance down the list. For example, in Instrument A the use of the voice happens to be listed as the first criterion. When asked what makes a successful lesson, a student responded, *With my big booming voice, I manage to exert a presence in the classroom*. His response mirrors the sequence of criteria in Instrument A, and indicates a perception that the essence of effective teaching has to do with confident delivery rather than enabling access to knowledge.

Unintended messages about the relative importance of criteria can undermine the efforts of university tutors in fostering professional growth. For example, Instrument A lists a 'sound knowledge of content' as the eleventh (and final) criterion of how student teachers are assessed in an educator's role as 'Learning Mediator'. The position of this criterion suggests that features like use of voice, classroom management, group work, teaching resource material are as, if not more, important than 'sound knowledge of content'. A student, for example, reveals this misunderstanding in her journal when she describes that *Teaching in a Grade 4 class, the level of content knowledge is not that*

deep, therefore the degree of knowledge that I have is sufficient to educate the learners. Such assumptions were strongly challenged by tutors in comments such as: *This lesson did not seem to have much content to cover. You allowed a general discussion to evolve and did not seem to have focus as to what you needed to achieve.* Similarly, lesson observation reports showed that without worthwhile activities based on substantial content, even students who easily managed to settle their classes seldom sustained their interest up to the end of the lesson. For example, a tutor advised a student teacher that *[you] will lose the children if you don't have something worthwhile to say and do. The class was restless because not much happened.* Such comments from the tutors point to a significant relationship between content knowledge and the success of a lesson. The visibility of this important relationship is to be diminished by the position of 'Sound knowledge of content' in the list of criteria in Instrument A.

University tutors' expressions of the relationship between the various criteria can lead to instances where their feedback actually contradicts stipulated criteria. Consider, for example, the criterion in Instrument A that requires them to assess student teachers on 'effective group/pair work'. This criterion elevates group/pair work as a teaching strategy over individual and whole-class teaching, with no reference to the nature of the content of the lesson. Analysis of the lesson observation reports shows that in some lessons the students' use of group or pair work seemed an inappropriate methodological choice for the topic or the context, or for the developmental stage of the student's teaching. Thus a tutor comments: *use of group work is not working well at present.* She recommends that the student *cuts down [group work] for now, and rather give very short, focused activities with tight time limits and clear end products*. Another explains that it is not enough to ensure that learners discuss a topic in groups in every lesson taught. Rather, learners should be *given resources to explore and opportunities to contribute to the learning, whether individually, in pairs, in groups or whatever is appropriate to the learning outcome*. Mere criteria without explanatory qualification can thus discourage student teachers from making appropriate methodological choices for particular contexts, and undermine the formative feedback that university tutors provide as they weigh up various factors in evaluating the students' pedagogical choices.

Creating a ZPD

Checklists like Instrument A require university tutors to 'tick' the student's level of competence in terms of each criterion. The position of these ticks does not help the student meaningfully to distinguish an 'excellent' performance from a 'very competent' one. Similarly, the distinction between an 'incompetent' and a 'not yet competent' performance is unclear. By simply labelling a student's performance as 'competent', without noting what specifically makes it so, the assessment instrument does little to deepen the student's conception of what effective teaching entails. By contrast, open-ended relational comments do precisely that.

Instrument A requires an evaluation of the important criterion 'Ability to reflect on self as educator'. University tutors report that student teachers generally *just want to know if I liked their lesson or not,* and found that they nearly always needed to *give [student teachers] a reflecting prompt before beginning the feedback*. Tutors report that students tend initially to respond superficially with comments like *My lesson was fine because the learners were interested*. In such cases an accumulation of experience in the absence of developmental feedback is unlikely to deepen their understanding of teaching as a practice, or their ability to reflect analytically on their lessons.

University tutors' comments from lesson observation reports show how students' insight, creativity and innovation are critical in distinguishing between 'excellent' and 'very competent' student teaching. For example, a university tutor justified his rating of a student teacher as 'excellent' in his open-ended comment:

> Your knowledge of learning areas is very good, and is complemented by *thoughtful* reading and *sound consideration* of resources and methodological possibilities. Your learners are constantly engaged in a variety of *stimulating and valuable* activities. Your use of resources and support materials were at all times *relevant and inspiring* (my italics).

Student teachers who were considered 'excellent' demonstrated elements of effective performance and also of thoughtful pedagogical choices appropriate both to content and learners. This was evident in the qualitative analysis of lesson observation reports and assessment profiles. In regrettable contrast, the assessment instrument showed no indication of these as distinguishing features in the professional judgement of tutors. Instrument A goes as far as to list students' ability to reflect on their teaching as a criterion, but gives no indication of the connection between a thoughtful disposition and an excellent student, and a lack thereof in a merely 'very competent' one.

Revising student teaching assessment instruments

In a survey of student teaching practices in South Africa, Reddy *et al.* (2008, p.159) found that at most institutions, including ours, student teaching assessment instruments existed, but was "reportedly under constant review, as new perspectives on what constitutes good or bad teaching emerge". While it was originally designed in an attempt to implement the requirements of the Norms and Standards for Educators Report (DOE, 2000), an internal Wits School of Education review of the effectiveness of TE assessment that Instrument A did not adequately reflect university tutors' conceptions of what it takes to learn to teach.

An analysis of 893 lesson observation reports showed empirically that many similarities exist between the issues addressed when university tutors respond to student teaching and the processes described in Shulman's (1987) Model of Pedagogical Reasoning and Action (Rusznyak, 2008). Both stress the importance of student teachers' understanding of the knowledge to be taught. Shulman's model refers in general to the 'transformation' of content knowledge into a form suitable for presentation to learners: tutor comments frequently considered the detail, such as lesson preparation, formulation of purpose, coherence and logical sequencing of lesson steps, and the design of teaching and learning materials. Similarly, Shulman was content with the term 'Instruction' to describe the actual lesson delivery, while the tutors' comments went into the details of ability to communicate, lesson pacing, class management, involvement of learners and so on. Like the 'Evaluation' and 'Reflection' processes in Shulman's Model, most of the university tutor comments were concerned with helping students monitor learning during and after the lesson, and prompting them to reflect on their teaching.

Instrument B

A revised student teaching assessment instrument (Instrument B) was designed by a team of university tutors from the Wits School of Education, and replaced Instrument A in August 2007 as the student teaching assessment instrument used at the Wits School of Education. Instrument B differs substantially from Instrument A. It uses the criteria and level descriptors that emerged inductively from the analysis of the (893) lesson observation reports mentioned above (Rusznyak, 2008). Those aspects of student teaching that university tutors felt compelled to address in their open-ended comments were

found to relate to the teaching processes Shulman (1987) describes in his Model of Pedagogical Reasoning and Action (see Rusznyak, 2010). Shulman's model, therefore, guided the sequence of criteria listed in Instrument B. These criteria were loosely grouped under the rubrics of: student teachers' comprehension of the content knowledge; its transformation for learning; the execution of the lesson; evaluation of learning and reflection on teaching.

For every criterion, Instrument B describes four levels of competence, typifying trends observed in student teaching (Rusznyak, 2008). The defined levels range from 'Not yet coping' (to describe how incompetent student teaching commonly manifests), to 'Thoughtful, insightful teaching competence' (to describe commendable teaching that is informed, coherent and reflective). For each criterion there are four descriptors of what teaching would look like at each level of competence. These descriptors were, largely, empirically generated from the analysis of the university tutors' observation reports. Alongside each criterion, space is provided to allow university tutors and supervising teachers to make comments regarding their student's teaching. Appendix 2 (q.v.) contains an example of how Sarah used Instrument B to consolidate her formative feedback to a student teacher during that first implementation in August, 2007.

It can be seen how Sarah used arrows to indicate students' developing competence either within a defined level, or progressing from one level to another. She also made use of the final column to elaborate on the generic descriptors provided in the rubric to make additional comments and recommendations specifically directed towards the student teacher she supervised. Instead of merely identifying areas of concern, Instrument B allowed her to provide an altogether richer account of the students' teaching performance than had been possible for her with Instrument A.

Promoting a relational understanding of teaching

Causal and hierarchical relationships feature prominently in lesson observation reports, but are completely absent in Instrument A and student teaching assessment instruments like it, with its checklist design. Instead of contributing to a more textured understanding of teaching, it serves further to entrench the compartmentalised thinking that Berliner (1994) finds common in beginning student teachers. The checklist design reduces teaching to "tallies of

action that may not be coherent or appropriate" for the intended learning (Hammerness, Darling-Hammond, Grossman, Rust and Shulman, 2005b, p.423). Student teaching assessment instruments that merely allow university tutors to rate whether their skills are competent or not yet competent cannot substantively contribute to helping student teachers deepen their understanding of their developing practice.

Whereas the isolated criteria in Instrument A mask the complexity of teaching, Instrument B's descriptors make explicit links between criteria, thereby facilitating the development of students' understanding of PCK. For example, Instrument B relates the purpose of the lesson to the goals of the subject; selection of teaching strategies to the demands of the content; use of teaching support materials to the needs and level of learners, and so on. Thus Instrument B presents the criteria, not as self-contained elements of teaching, but rather as descriptors within a web of relationships. To foster the interpretation and assessment of student teaching in ways that support mentoring requires that assessment instruments reflect teaching as a practice that is more than a "series of unconnected episodes", and instead reflects the notion that individual actions derive their meaning from being considered as "parts of larger wholes" (MacIntyre, 1981, p.190). Exploring these sorts of relationships contributes to students developing an understanding of teaching as a coherent and cognitively-informed practice.

Limitations of assessment instrument B

Due to space constraints, Assessment Instrument B restricts itself to four levels of competence that might reasonably be expected of a newly qualified teacher. The inclusion of just four levels might easily convey the message to student teachers that once they have developed a reflective disposition towards their teaching, thinking carefully about their teaching (level 4), they have reached the pinnacle of what it means to teach. The instrument thus does not present 'learning to teach' as a continuing process extending beyond initial teacher education. Teachers could, for example, advance to higher levels of teaching by actively researching issues arising during incidents of teaching and learning (Osman, 2010).

The joint completion of Instrument A by university tutors and supervising teachers was usually uncontentious, possibly because of its straightforward nature and its scope for subjective interpretation of terms like 'excellent' and

'competent'. However, since the introduction of Instrument B there have been instances where a tutor and supervising teacher could not reach consensus regarding their perceptions of their student's level of teaching competence. In such cases, separate assessments are submitted. Initial experience with the use of Instrument B suggests that often tutors tend to be more critical than the supervising teachers, who are inclined to assess students generously if they have been hardworking and compliant irrespective of the quality of their teaching. In other cases, some supervising teachers seem to expect an already fluid and established practice from student teachers who are still in the beginning stages of learning to teach. These differences invite further research.

While Sarah's examples show how Instrument B opens up possibilities for a more textured formative assessment of student teaching, her inclusion of detailed comments for all the criteria undoubtedly made it more time-consuming than Instrument A. However, the feedback she was able to provide to the student teacher ensured that the assessment itself was not a mere formality, but could contribute meaningfully to the students' professional development. Fraser *et al.* (2005) argue that sustained, systematic observation of student teaching in classrooms is "costly and time-consuming, but necessary if we are to pay any more than lip-service to the idea that graduates of teacher education programmes should be competent enough to provide quality education". The findings of this study show how Instrument B enabled one particular tutor to create a ZPD for her students' professional development in ways that were not possible with the simplistic view of teaching presented by Instrument A.

Conclusion

No single student teaching assessment instrument could possibly capture the full complexity of all that is involved in 'learning to teach'. However, prevailing conceptions of what university tutors generally regard as *sine qua non* to effective student teacher development can be identified with reasonable confidence. Recent research shows that certain teacher education programmes produce newly-qualified teachers who "can act on their commitments; who are highly knowledgeable about learning and teaching and who have strong practical skills" (Darling-Hammond, 2006, p.5). Initial teacher education cannot fully develop the entire repertoire of knowledge, skills and attitudes required for expert teaching in four short years; yet it has the potential for laying a firm foundation for developing students' conceptions of teaching as a

complex professional practice (Hammerness *et al*., 2005a; Feimen-Nemser, 2001; Darling-Hammond, 2006). It is therefore essential that teacher education programmes use every available means to maximum effect to promote students' professional development. Student teaching assessment instruments can play a small but powerful role in this.

Student teaching assessment instruments that present student teachers with a facile view of teaching squander valuable opportunities for helping student teachers develop a sound conception of teaching, beyond the technicist acquisition of a compendium of particular skills. A radically different type of student teaching assessment instrument: more nuanced, better reflecting the complexities of the practice of teaching is required to support a formative assessment of student teaching that promotes professional development. The way that Instrument B portrays teaching as a complex, cognitive practice, represents a significant step towards this end.

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Appendix 1: Sarah's use of Instrument A to consolidate her observations of a student's teaching (May 2007)

	Excellent	Very competent	Competent	Not yet competent	Incompetent
1. Learning mediator in the classroom					
1. Communication in the language of instruction			X		
Voice: volume, pitch, pace, enunciation, tone		X			
Questions		X			
Giving instructions			X		
Explaining		X			
2. Attitude to learners: respectful, professional, supportive		X			
3. Level: sensitive to learners' needs		X			
4. Classroom management: arrangement, organisation		X			
5. Classroom management: constructive discipline			X		
6. Integrated use of media/aids: Chalkboard, OHP etc			X		
7. Stimulating and directing critical and creative thinking		X			
8. Effective group/pair work: learner centred		X			
9. Suitable pacing of learner activities			X		
10. Effectiveness of learner development (quality of learning)			X		
11. Sound knowledge of content			X		
2. Interpreter and designer of learning programmes and materials (preparation)					
1. Planning in line with new curriculum (interpreting official documents).			X		
2. Selecting and sequencing sufficient, suitable and accurate content		X			
3. Selecting a variety of teaching strategies appropriate to learner context		X			
4. Have outcomes been clearly stated?		X			
5. Have outcomes been achieved?			X		
6. Quality and accessibility of preparation file			X		
3. Leader, administrator and manager					
1. Co-operates with colleagues, a good teamworker		X			
2. Regular control and assessment of learners' work		X			
4. Scholar, researcher and life-long learner					
1. Evidence of thorough research (beyond textbooks)		X			
2. Wide general knowledge appropriately applied in the learning situation			X		
3. Ability to reflect on self as educator		X			
5. Community, citizenship and pastoral role					
1. Upholding and teaching the Constitution, human rights and responsibilities and respect to others		X			
2. Developing life skills e.g. related to studies or social issues like HIV, crime, violence, drugs			X		
3. Providing a listening ear or extra help to those in need			X		
4. Active involvement in the extra-mural programme of the school		X			

Appendix 2: Sarah's use of Instrument B to consolidate her observations of a student's teaching (August 2007)

	Level 1: Not yet coping	Level 2: Emerging teaching competence	Level 3: Developing skilled teaching competence	Level 4: Thoughtful, insightful teaching competence	Comments from university tutor/ supervising teacher
Knowledge & understanding of content	Inaccurate content, and/or misunderstands concepts frequently	Knowledge often limited to what learners need to know	Research evident, demonstrates comprehensive knowledge of topics	Demonstrates broad and networked understanding of topics & subject	Evidence of research beyond what was provided
Formulation of purpose	Limited consideration or understanding of purpose of lesson	Purpose of the lesson is unclear; vaguely formulated purpose	Clear purpose in terms of key questions, skills, attitudes and values	Worthwhile purpose reflects goals of subject & understanding of curriculum	Work more directly with the outcomes in the NCS
Design of lessons	Incoherent lesson steps not related to purpose of lesson	Lesson steps often disjointed without links between steps	Lesson steps coherent but not always thoughtfully scaffolded	Thoughtfully conceptualised and scaffolded lesson steps aligned with purpose	Spend a little more time developing the learners' concepts
Lesson plans	Vaguely written or generic write-up of lesson steps	Prepares thoroughly for observed lessons; other lesson plans are sketchy	Thorough and coherent planning of individual, isolated lessons.	Thorough advanced planning of coherent units of worthwhile lessons	Planning was detailed and clear
Teaching & learning support materials	Many lessons lack support materials	Mainly uses support materials provided, but without own initiative	Selects appropriate support materials on own; uses them effectively.	Develops/modifies resource material appropriate to level of learners; uses them effectively	Good choice of materials
Support required from teacher in planning	Heavily dependent on assistance	Needs continuous supervision	Requires support & guidance	Can work on own with degree of guidance normal for a beginner teacher.	Needed some assistance, but good at improvising
Ability to communicate	Struggles to communicate with learners in language of instruction	Explanations, questions and instructions are not always clearly conveyed to learners	Uses the language of instruction to question, explain and instruct. Language appropriate to level of the learners	Uses appropriate language to explain, instruct and question learners clearly; actively develops learners' subject literacy in lessons.	Some instructions are too complex for learners – break them up into 1 step at a time.
Teaching & learning strategies	Teaches mainly by transmitting content to learners; learning strategies not evident	Uses a few teaching & learning strategies, with little variation	Experiments with a variety of teaching & learning strategies	Thoughtfully selects, and effectively uses teaching and learning strategies appropriate to content and learners	uses a number of strategies – see if you can broaden your range more

Appendix 2 (continued)

	Level 1: Not yet coping	Level 2: Emerging teaching competence	Level 3: Developing skilled teaching competence	Level 4: Thoughtful, insightful teaching competence	Comments from university tutor/ supervising teacher
Learner participation & development	Many learners remain passive during lessons; few opportunities for learner development	Learners are given tasks that develop recall	Learners actively involved in comprehension or application tasks	Tasks require learners to engage with resources; extend their thinking and understanding	*Try develop activities that are more meaningful for learners*
Class management	Learners are largely inattentive; little attempt to address problems	Experiences difficulty in establishing & maintaining discipline	Maintains discipline through most parts of lessons	Creates disciplined, safe learning environment	*Discipline is consistent, but sometimes breaks the flow of teaching*
Time management	Wastes learning time during lessons	Pace of lessons often uneven, too quick or too slow	Strives to get through work in available time; mostly suitable pacing	Uses teaching time efficiently and productively; responds to pace of learners	*usually completed lessons as planned*
Monitoring learning & understanding	Assumes learners understand explanations	Attends to learners when they ask for assistance	Assesses learning through questioning & monitors answers	Probes learners' understanding; acts on feedback to address misunderstandings	*Check that learners are following throughout lesson.*
Assessment of learner tasks	Assessment tasks given to learners not marked	Some tasks marked; little feedback provided	Tasks marked regularly, with formative feedback	Appropriate formative & summative assessment; remediates where needed	*Provided formative feedback*
Reflection on own teaching	Does not acknowledge problems with lesson even when pointed out	Requires feedback to understand why lesson 'worked' or not	Reflects on strengths & weaknesses after lesson; modifies next lesson	Reflects during lesson & changes tack if necessary; in-depth reflection follows	*Needs help understanding strengths and weaknesses of lessons*
Handling of feedback from teacher/tutor	Unable to understand guidance & constructive criticism	Accepts guidance, but unable to implement effectively	Accepts feedback, often able to integrate in own practice over time	Implements feedback into own practice immediately and effectively	*Student is open to learning and makes use of feedback.*
Professional relationship with learners	Not perceptive of learners' needs; does not relate to them	Too friendly or too firm; struggles to find appropriate balance	Aware of learner needs; considers their context and diversity	Subtle understanding of learner strengths & weaknesses, empathising emotionally and intellectually	*Good awareness of learners needs and diversity*
Professional relationship with school	Uncooperative; does not comply with the code of conduct	Largely cooperative; at times does not meet conduct expectations	Co-operative member of school community, complies with code of conduct	Makes meaningful contribution to school; committed to teaching; exemplary conduct	*Student had a good relationship with staff and school*

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Journal of Education

The *Journal of Education* is an interdisciplinary publication of original research and writing on education. The Journal aims to provide a forum for the scholarly understanding of the field of education. A general focus of the journal is on curriculum. Curriculum is understood in a wide and interdisciplinary sense, encompassing curriculum theory, history, policy and development at all levels of the education system (e.g. schooling, adult education and training, higher education). Contributions that span the divide between theory and practice are particularly welcome. Although principally concerned with the social sciences, the journal encourages contributions from a wider field.

While it is intended that the journal will remain academic in nature, the readers are considered to be educational generalists and articles which are of interest to such readers will receive preference. Potential contributors are asked to ensure that submissions conform to the guidelines outlined at the back of the journal.

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Submissions

Unsolicited papers are welcome for consideration and should be addressed to the Editor of the *Journal of Education*. Submitting authors should note that a per page fee of R100 will be levied on published submissions. Institutional Research Offices of higher education institutions usually pay this type of fee. Authors whose affiliated organisation may not have instituted this practice are asked to contact the Editor, as the levy is a means of sustaining the journal, and is not intended as a deterrent to aspiring authors!

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The references should be listed in full at the end of the paper in an acceptable standard format, preferably the following:

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Surname of reviewer, Initial(s). Year of publication. Title of review (if there is one). [Review of] *Title of book reviewed* by Name of author in its most familiar form. *Name of periodical* volume number (part number) or date (if applicable): inclusive page numbers.

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Frequently asked questions

Is the Journal of Education SAPSE accredited?
Yes

How many issues per year?
In terms of a recent policy decision, we aim to produce at least two 'normal' editions of the journal each year in addition to at least two special issues (one of which will be the Kenton Special Edition).

Most journals now have a per page fee which contributors are required to meet should their articles be accepted. Does the Journal of Education levy such charges?
Yes. This step was necessary to cover the costs of the increased number of issues each year. A levy of R100 per page will be applied to successful articles submitted to our office. The central research offices in most institutions of higher education routinely arrange for such payments to be made. We encourage individual authors who do not have such cover to contact us.

Are articles peer reviewed?
Yes. Our goal is for articles to be refereed by three experts in the field.

What is the waiting period after submission?
Referees provide their crucially important service for no reward, and are sometimes unable to oblige on time but we endeavour to respond within three months.

Can I send my submission by e-mail?
Only if you live in a place where submission of three hard copies is inordinately difficult or expensive, please. The norm is three hard copies sent to our office. The electronic version of the article may be sent as an email attachment, or on a disk included with the hard copies.

To what extent should an article being submitted be presented in 'the style' of the journal?
Citation and referencing should be in the style of the journal (see the previous section 'Notes for Contributors'). Authors are not expected to reproduce the particular fonts and font sizes used in the journal, but the levels of headings and subheading should be clear on the hard copies submitted. With regard to the electronic version of the article, we prefer as little formatting as possible.

Does the journal have a policy to encourage and support budding novice researchers?
Unfortunately not – this is simply beyond our capacity. While we welcome extended comment that referees may be able to offer, we cannot impose on their good services beyond the expectation of an overall judgement on the article, together with brief justification of that judgement.

What is the rate of acceptance/ rejection?
The following statistics for 2008 and 2009 provide an indication of the pattern of acceptance/ non acceptance:

Year	Accepted with no or minor revisions	Accepted after revisions	Not accepted
2009	3	16	42
2010	0	14	42

Even an increase in the number of issues each year will not keep pace with the ever-increasing number of submissions. We can do little to mitigate the competition engendered by state funding policy and the kinds of incentive schemes that have become a feature of the higher education landscape.

Is there an appeal mechanism should my article not be accepted?
Beyond summarizing reasons for rejection – where applicable – we regret that we are unable to enter into detailed discussion on decisions reached by the Editorial Committee on the basis of referee reports.

The journal describes itself as providing "a forum for scholarly understanding of the field of education". What does this really mean?
We understand this as implying that articles should represent a rigorous enquiry (conducted through argumentation or empirically) into the understanding of educational issues. Such inquiry originates in a problem rather than a solution, and it is rare for such enquiry to have no reference to, or engagement with, a broader literature and theory. Advocacy in the form of prescriptions or 'how to do it' recipe knowledge for practitioners seldom finds favour with referees. The question of audience is key. The assumed audience is the collective body of researchers rather than those more narrowly concerned with the effective implementation of specific policies.

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