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School of Education
University of KwaZulu-Natal
Private Bag X01
Scottsville
3209

E-mail: JoE@ukzn.ac.za

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Editorial

Wayne Hugo

> Keep your heart with all diligence; for out of it are the issues of life
> Proverbs 4:23

Where do we place the *emotional* in the analytical structures we have to think about education? The question sounds strange, combining in one sentence emotions and feelings with analysis and thinking. It also sounds dubious, automatically placing the emotional within the analytical when emotions are more like the colours analysis live in. We could use an old favourite like Basil Bernstein to help us. One of his deep insights was that instructional discourse is embedded within a regulative discourse. By regulative discourse Bernstein meant the rules of social order around *moral values*, behaviour, orderliness, character, identity and attitude. By instructional discourse Bernstein meant the way *knowledge* is taught – the way it is selected, sequenced, paced, and assessed. Regulative discourse holds the instructional discourse within it. The moral and social order gives the ordering framework within which the teaching of knowledge takes place.

Can we place the emotional within the regulative as a subgroup? Can we say that emotions are a part of the regulative discourse around "conduct, character and manner" (Bernstein 2000, p.34). This could be helpful, as it would give us a place, within the massive architectonics of Bernstein for emotions, and it would be a very powerful place. But many of us would balk at seeing the emotional as a part of the moral order. There is something very different about how the emotional works to the moral, although they definitely can come together. There are people who are emotionally intelligent, but morally manipulate this sensitivity. You can be emotionally gifted and morally abusive. Also, there have been strong cases made out for holding onto a moral position no matter what your feelings or emotions are about the case. The moral order is about duty to follow a principle, no matter what your feelings are, or so Kant would have us believe with the categorical imperative. Where can we look to find a theory that holds 'knowledge', 'morality' and 'emotions' together in some kind of synthesis within education? Curiously, within the Western tradition, we find solid accounts of how knowledge, morality and emotions work together in the ancient Greek, Christian, and Jewish traditions, and these accounts extend into the enlightenment era.

There are two simple intellectual moves one can make to find these accounts – open out to the wisdom traditions; and shift from binaries to trichotomies – think in threes rather than twos. The ancient masters of trichotomies were Aristotle, Plotinus, and Augustine, and the modern masters are Kant, Hegel and Peirce. I cannot go through them all in an editorial, but we can use Aristotle's *Rhetoric* and his distinction between three artistic modes of persuasion: logos, ethos, and pathos as a looking glass to locate how the instructional, the regulative, and the emotional work together. Logos is about how actual content is organised in a speech towards a purpose (much like instructional discourse); ethos is about the character, conduct and manner of the speaker (much like regulative discourse), and pathos is about the emotional tango between speaker and listener. Emotions, in this account, are not some subversive obscuring of lucid thought, some boiling cauldron that destroys clear and cold thinking, it is a necessary facet of how a person works towards convincing someone to make a *judgemen*t. When we look through the traditions we find that knowledge and morality do not exist alone, they come in an emotional sea that needs to be skillfully stroked through.

Binaries are a great way to start the quest of understanding how education works as it limits you to two options and this can help when working with multiple distinctions and layers. Dealing with just two categories simplifies things. Bernstein is really good for beginners in educational theory – he teaches you to think in twos. But working in threes releases all sorts of potentialities: witness God the Father, Son and Holy Spirit; body, soul and spirit; thesis, antithesis, synthesis; id, ego, and super-ego. For those of us thinking in an education world saturated with Bernstein, binaries can become a default mode – the instructional and the regulative, classification and framing, strong and weak, sacred and profane.[1] Knowledge and Morality somehow feel more energised, alive and complex with Emotions added to make a triad. It's like a whole facet of existence has been left out when emotions did not feature, and we could not feel it. . . because it was emotions being left out.

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[1] I am talking about a simplified Bernstein used for teaching purposes. He was a master theoretician who used the full range, including trichotomies – witness the Pedagogic Device with its three levels.

We don't have to leave out emotions any more – they have been put back on the agenda with the excellent research of Carola Steinberg, who not only thinks deeply about what emotions in education are, but is prepared to do exacting empirical work that throws up fascinating issues and insights around emotions and education, especially around assessment. Here is one insight on emotions around assessment that take four points to establish itself:

- We normally give ourselves credit for a positive outcome we have been involved in; and give others the blame if the outcome is negative.

- This protects our reserves of positive emotional energy. We get a double dose reward when the outcome is positive (positive outcome and credit for the positive outcome); and only a single negative dose if the outcome is negative, as we tend *not* to take responsibility for the outcome.

- Teachers tend to give learners the credit if they do well in an assessment and partly blame themselves if the learner does badly.

- This drains positive emotional energy as you only get a singly positive dose if the learner does well and a double negative dose if the learner does badly (double blow of learner doing badly and taking the blame for it).

  Insight – positive emotional energy is hard for teachers to sustain when assessing, especially if learners are struggling.

As a teacher and father I know how important positive emotional energy is in the classroom, both for the teacher and the learner. We need to understand the dynamics of emotions in education and find a place for it in how we train our teachers and deal with professional development. Carola Steinberg firmly sets us on the path towards it.

If Steinberg takes us into another dimension, then Fiona Jackson shows us how to do a nuanced analysis of two well established dimensions of educational analysis – Specialisation and Semantics – as worked with in Legitimation Code Theory (LCT). LCT is continuously struggling to get closer to a full and rich but still principled account of how education works. It unusually combines theoretical nuance across a wide array of dimensions with rigorous empirical analysis. Fiona Jackson gives us a detailed example of how

to use LCT when analysing pedagogy within a poetry lesson at a micro level. Pedagogy is Medusa like for any interested education academic. It consists of multiple wriggling dynamic strands, each of which risks turning into a rigid and stultified element. Medusa was defeated by a mirrored shield that enabled one to see her complexity and dynamism within its burnished surface without getting frozen by seething reality. It is this kind of shield that LCT provides, or so one could believe after reading Jackson's intricate analysis that tracks the dynamics of the lesson without turning it to stone.

The third paper of this edition – *Skilled reading in isiZulu: what can we learn from it?* – contains some vital insights that need wide scale publicity. The way skilled readers read in English has a notably distinctive pattern from how skilled readers read in isiZulu, implying that the pedagogy for learning how to read in English and isiZulu has to be different. We cannot just take how we teach learners to read in English as the template and replace the content with isiZulu. The way isiZulu works partly demands a different kind of curriculum and a different kind of pedagogy. It is a similar mistake to how we translated reading books from English to isiZulu. What are simple sentences to learn in English can become highly complex sentences in isiZulu due to its agglutinative nature. IsiZulu forms long and complex words by combining elements together. A simple sentence in English is not necessarily a simple sentence in isiZulu. We need to differentiate how we teach reading in English from how we teach reading in isiZulu. Sandra Land provides us with key research that helps pursue this vital project.

At the heart of what Sandra Land is writing about is the terrible educational reality that if you speak an African language at home rather than English, then your chances of doing well in school are severely curtailed. This is not only because 'African Language' is a proxy for strongly disadvantaged conditions in our post-apocalyptic/apartheid world; but because the way African languages are taught and used in South African schools is a travesty. At the same time, we cannot overlook the continued drastic impact socio-economic disadvantage has on educational performance and the way language and disadvantage tango. It seems, no matter what educational option or strategy is chosen, the poorest children in South Africa lose out. It's a wicked problem wrapped up in a social mess. By wicked problem I mean an intractable situation that has all sorts of other problems and interdependencies wrapped up inside of it, where attempts to solve the problem only seem to throw up more problems; much like what happens when trying to chop off one of the

snakes on Medusa's head – ten more grow in its place. By social mess I mean the following 14 points (Horn and Weber, 2007, pp.6–7):[2]

1. No unique 'correct' view of the problem;
2. Different views of the problem and contradictory solutions;
3. Most problems are connected to other problems;
4. Data are often uncertain or missing;
5. Multiple value conflicts;
6. Ideological and cultural constraints;
7. Political constraints;
8. Economic constraints;
9. Often a-logical or illogical or multi-valued thinking;
10. Numerous possible intervention points;
11. Consequences difficult to imagine;
12. Considerable uncertainty, ambiguity;
13. Great resistance to change; and,
14. Problem solver(s) out of contact with the problems and potential solutions.

This is the world we work within when attempting to improve education in South Africa – a social mess containing a wicked problem.

We see this in how the progression rule is playing out within the Further Education and Training phase. Learners who failed in the FET phase were being held back from writing Matric because they would dramatically impact on the pass rates of the affected schools. This resulted in a massive spike in dropout rates for learners who had managed to get to the FET phase but were deemed not capable of passing the matric exam. Even though the policy was that learners could only be held back once a phase, schools desperately kept learners who had already failed once out of matric. This resulted in unacceptably high dropout rates and forced the department to insist that schools automatically progress learners who had already failed once into matric, *no matter what their grade 11 mark*. The schools mostly dealing with this issue of progression were the poorest and the most rural, precisely the schools that did not have the resources to cope with the extra pedagogic and

2 New tools for resolving wicked problems is a freely available generic pedagogic text that actively teaches how to solve wicked problems using specific tools and steps. See http://www.strategykinetics.com/New_Tools_For_Resolving_Wicked_Problems.pdf

social demands of dealing with failed and older learners. The impact of this progression rule on the emotional wellbeing of FET teachers has been damaging. Worse, in order to cope with the extra pressures of matric teaching, teachers are taken away from teaching grade 10 and 11 to focus on the Grade 12s, resulting in the overall problem only getting crueler. How this sorry tale played out in the Free State is well told by Angela Elisabeth Stott, Hercules Dreyer and Peet Venter in the fourth article of this edition. Their clear analysis and warning of the consequences only read more dramatically after the farce around the 2015 results played out in a way that has seriously damaged the credibility of the National Senior Certificate.

The fifth paper on teacher migration by Gavin George and Bruce Rhodes offers sobering comparisons between what teachers earn in South Africa in comparison to our neighbours like Zimbabwe on the one hand, and more developed countries like England and the USA on the other. Zimbabwean teachers can earn more than double their salary if they migrate to South Africa; and South African teachers can earn more than double if they migrate to England or the USA. More importantly, as teachers become more experienced, they increasingly earn more overseas due to high salary jumps with promotion. South Africa, with its much flatter salary progression paths, risk losing its more experienced teachers, especially if they are emotionally disenchanted and exhausted by South African teaching conditions. This is not to say that, relative to most South Africans, teachers earn well. They do, but not in comparison to their professional peers, and not over a twenty year period.

The sixth paper by Jan Heystek and Lorinda Minnaar focusses on principals' perspectives of key factors that contribute to sustainable quality education. Given that there is a strong drain on the emotional energies of many of our teachers, and that in comparison to their peers in many developed countries South African teachers don't earn well, it is important to put some emphasis on what does work. Just as importantly, we have to continuously ask the Opportunity Cost question – what is the cost of our choice, given that it prevents us doing something else that is also worthwhile. When resources are spent on one strategy to improve education we should always hold in mind what else we could have used the resources for. When billions of Rands get spent on reforms that show hardly any benefit, then it is not only their failure that should concern us, but what else the resources could have been used for. Heystek and Minnaar argue that we should be allocating our resources very

carefully, given how limited they are, and that resources should go to places where strong traction is gained. They put it well:

> Dedicated and well-qualified teachers who teach disciplined learners in a safe environment should receive priority in any action principals and Departments of Education take to improve and sustain the quality of education in the Western Cape and possibly in all South African schools.

As Matthew 13:12 has it in the King James version:

> For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath.

That sounds wicked to me.

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Wayne Hugo
School of Education
University of KwaZulu-Natal

hugow@ukzn.ac.za

Teachers dealing with learners' achievement - what do their emotions tell us?

Carola Steinberg

Abstract

Hargreaves (1998, 2004) has clarified the multiple ways in which teaching, including assessment, is an emotional practice. In this article I present one facet of teachers' emotions in relation to assessment, namely, their emotions towards the quality of achievement produced by their learners. The data comes from teachers who were committed to their profession, talking in focus groups about the range of emotions they experience in relation to various 'objects' (Nussbaum, 2001) within their assessment practice. The descriptive analysis of their common emotions illustrates how teachers are on an emotional rollercoaster in response to the 'object' of learners' achievement, with positive emotions in response to strong, and negative emotions in response to weak achievement. It also illustrates how teachers see themselves and their effort reflected both in strong, and in weak learner achievement. Turner's (2007, p.99–100) principle that "individuals will make attributions about the cause of their emotional experiences", with positive emotional arousal tending towards self-attributions and negative emotional arousal tending towards external attributions, makes this self-attribution of committed teachers for not only strong but also weak learner achievement a significant finding.

Introduction

My interest in researching teachers' emotions in relation to assessment was stimulated by the contradiction between the experienced reality of teachers (and teacher educators) feeling anxious, irritated and despairing about their jobs during exam times, yet when I asked, they advocated assessment as a necessary lever for individual advancement and educational quality. Why is something we experience as not conducive to our emotional well-being nevertheless staunchly supported intellectually?

I turned to the burgeoning literature on teacher emotions and found that Hargreaves (1998, 2000, 2001) presents convincing evidence that "teaching is an emotional practice" which "activates, colours and expresses" (1998, p.838) the feelings of teachers and those with whom they work. He describes how emotions shape teachers' relationships with students, school structures,

pedagogy, curriculum planning, parents, colleagues and educational change/ reform. Yet he barely mentions emotions about assessment. Nor do other researchers who have written about teacher emotions (e.g. Bahia, Freire, Amaral and Estrela, 2013; Bullough Jnr, 2011; James, 2011; Kelchtermans, 1996, 2005, 2011; Nias, 1996; Oplatka, 2007; Palmer, 1998; Winograd, 2003; Zembylas, 2005).

As a sub-set of teaching, assessment is also an emotional practice for teachers (Steinberg, 2008). Assessment is core to the purpose of teaching because it is the mechanism for establishing whether or not learning has taken place. At the same time, assessment is a conflicted aspect of teachers' work: the curriculum and assessment policy changes frequently, the social pressures are intense, (e.g. learners and parents expect high marks, newspapers blame teachers for low results) and the moral demand for fairness is ever-present. These often conflicting pressures inevitably arouse intense emotions in teachers.

Emotions as a conceptual lens for research

The centuries-old Western understanding of thinking as rational and emotions as irrational has been laid to rest by modern neuroscience (Damasio, 1994; Le Doux, 1999), giving rise to the insight that "it is the interaction between cognitive and emotional capacities that makes rationality and memory possible on a human scale" (Turner, 2007, p.37).

Nussbaum (2001) explores this interaction by emphasising that "emotions are about something: they have an object" (p.27) and they "direct us to an important component of our well-being and register the way things are with that important component" (p.135). Emotions are intertwined with "complex beliefs" (p.28) and "see their object as invested with value and importance" (p.30). Thus, "emotions are acknowledgements of our goals and their status" (p.135). Yet in spite of the object's importance, we cannot control it, and so "the emotion records that sense of vulnerability and imperfect control" (p.43). Archer (2000) describes how these 'objects' come from different sources: 'objects' from the natural order evoke physical feelings like pain or cold and demand our attention to physical wellbeing; 'objects' from the practical order evoke emotions like curiosity or anxiety and demand attention to performative achievement; while 'objects' from the social order evoke a whole range of

emotions that relate to our self-worth in social interactions. These 'objects' and the resulting emotions can often be conflictual, for example, when exhaustion (from the natural order) intersects with feeling responsible for marking a pile of exams (practical order), or when the pleasure at learner engagement during lessons (practical order) co-exists with the fear that engagement may slow down curriculum coverage, resulting in a reprimand from district officials (social order). These emotional conflicts generate an "inner conversation" (p.209) to prioritise concerns and actions for decision-making. Nussbaum thus enables the understanding that the intensity of emotion is proportional to the significance of the object in our own scheme of things, while the valence (positive or negative) of the emotion indicates whether we appraise the object's impact on our well-being as supportive or threatening. Archer enables us to see how human agency is shaped by a reasoning process initiated by emotions that arise in response to physical, practical and social demands.

In addition, Turner (2007, 2010) provides the understanding that emotions are not only a personal but also a social force. "Emotions are embedded in social structure and culture" in a two-way process: "emotions are systematically generated under sociocultural conditions and, once aroused, they have effects on these conditions" (Turner, 2007, p.66). He develops a conceptual scheme through which he can show how "emotions generated in micro-level encounters are often the fuel for either change of, or commitment to, meso- and macrostructures and their respective cultures" even though "most of the time" personal encounters and institutional processes are constrained by the culture and structure of the level above (2010, p.171). Emotions have this power because love/loyalty and other strong positive emotions generate well-being and thus function as "symbolic media", which, like the symbolic media of money, power, health or knowledge, are distributed by institutional domains (2010, p.173) and once acquired, can be used to accumulate not only more positive emotions but also more of other symbolic media. So, for example, a teacher with a mainly positive emotional valence is more likely to inspire effort and higher marks from learners and then be promoted to HoD, thus gaining more money and power, compared to a depressed teacher. This makes positive emotions a valued resource, both intrinsically and socially. Yet, like money and knowledge, they are distributed unequally, so that the "distribution of positive and negative emotional energies among members of a population will generally correspond to the distribution of other resources such as money, power, prestige, influence and love" (2010, p.175). So, for example, teachers in a school attended by children whose parents have

sufficient socio-economic resources will have more opportunities to gain the symbolic medium of positive emotions in response to learner achievement compared to teachers working in schools situated in poor socio-economic contexts. Turner enables us to see how personal emotions are both aroused by and become an influential factor in the operation of institutional and societal structures. Turner's sociological theory of emotions also offers two concepts particularly useful for analysing teachers' emotions towards learner achievement, namely, self-verification and attribution, which will be presented later, together with the relevant data.

Taken together, Nussbaum, Archer and Turner enable a complex understanding of the functions and effects of emotions, thus making emotions a useful lens for data analysis. Emotions provide a value judgement about 'objects' that are important to us and initiate inner conversations which motivate decision-making and action. They are also a social factor, shaped by and shaping institutional structures and cultures. Positive emotions are intrinsically desirable and function as a 'social medium' distributed by institutions such as schools and education systems. Using emotions as a research lens thus enables insight into individual as well as institutional perspectives and decision making.

Research into teachers' emotions in institutional contexts

As mentioned above, there is a growing literature into teachers' emotions, which provides valuable insights into teachers' work and identity. I don't have the space to review it here, rather, I want to draw out one key learning – namely the relationship between teachers' emotions and the institutional contexts in which they work.

Hargreaves (1998) emphasises that "the emotions of teaching, their nature and form – be it "happiness" or "anxiety, frustration, anger, guilt and other negative emotions" (p.841) – are shaped by teachers' "moral purposes" (p.838) and "are therefore inextricably bound up with the basic purposes of schooling – what the purposes are, what stake teachers have (and are asked to have) in them, and whether the working conditions of teaching make them achievable or not" (p.841). Hargreaves thus centrally links teachers' emotions

to their beliefs and ideals about the purposes of education, as well as to their institutional working conditions.

Kelchtermans (2011) strengthens this argument by explaining how teachers are positioned institutionally in a way that generates vulnerability with intense positive and negative emotions. He demonstrates how vulnerability is a "structural condition of teaching" (p.80) which has both moral and political dimensions and becomes manifest at three levels of the education system. At the level of the system, teachers are politically vulnerable in the face of policies and decisions made by education departments, especially when the designated changes affect their daily workplace context and conditions, yet the reasons and moral norms of the changes are not discussed or explained. At the level of the school, teachers are vulnerable in the micro-politics of the professional relationships in the school, especially when political conflicts arise over resources or organisational procedures that appear to be technical issues, but are actually based on different moral conceptions of what "good education" or "being a proper teacher" entails (p.76). The deepest structure that generates vulnerability in teachers is found in the classroom, namely the "limits to their professional efficacy: students' learning outcomes are only partly determined by teachers' action" (p.71). In spite of their moral ideals and their best efforts, not all learners will learn what the teacher presents and "successful outcomes remain uncertain" (p.72). This confronts teachers with "the limits of their impact" as well as "the limits of their professional knowledge and skills" (p.72), generating vulnerability.

It is this limited impact and, by implication, limited professional knowledge and skill, that is measured and made publically visible through the results of learner assessment. Low learner achievement makes teachers structurally vulnerable: at system level, it may affect promotion opportunities; at school, their reputation is at stake; personally, it questions their sense of what it means to be a 'proper teacher'. The more emphasis the education system places on assessment, the more the limits of the efficacy of teachers are in full public view. No wonder assessment results arouse intense emotions in teachers.

Research into teacher emotions in assessment

The international research studies concerned with teachers' emotions towards assessment are small in number, yet illuminating. Some studies showed teachers grappling with the emotional complexities of their assessment practice. Stough and Emmer (1998) illustrated how teachers are reluctant to give formative feedback on tests because they struggle to manage the intensely emotional responses from students in that context. Reyna and Weiner (2001) demonstrated how teachers' emotions towards test results are interdependent with their attribution for the cause of failure: teachers are more sympathetic when failure is not the student's 'fault', and angrier when they think the student has made insufficient effort.

Other studies explored teachers' emotions towards the institutional aspects of assessment. Hargreaves (2004) theorised how accountability measures that increase the public visibility of failure might generate emotions that reinforce class differences and are difficult to acknowledge.

Empirical studies provided clear evidence that externally set, standardised assessments increase the intensity and discomfort of teachers' emotions (Smith, 1991; Hargreaves, 1994, 2003; Stecher & Barron, 1999), while high-stakes standardised assessment can lead to teacher demoralisation, particularly in low socio-economic contexts where students have little chance of success or where the external assessments do not correspond with teachers' ideals of good teaching (Falk and Drayton, 2004). Teachers' most intense emotions were expressed towards accountability measures that assess their work directly, like school evaluations or performance appraisals, leaving them angry, ashamed and professionally weary (Jeffrey and Woods, 1996; Mahony, Menter and Hextall, 2004). Occasionally, when teachers are activated by their negative emotions, they can become determined to reveal and agitate against the excesses of accountability (Kornfeld, Grady, Marker and Ruddell, 2007). Yet generally, the intensely negative emotions and long-lasting effects evoked in teachers by accountability measures left them demoralised and "ontologically insecure" (Ball, 2003) long after the evaluation had taken place.

I did not find South African studies that dealt directly with teachers' responses to assessment and learner achievement. Yet there are studies investigating teacher stress, which found high levels of resignation, burnout,

cynical attitudes and demoralisation (Naidoo, Botha and Bisschoff, 2013; Pienaar and van Wyk, 2006; Hayward, 2003). This gap in the South African literature increased my interest in how local teachers experienced assessment and what issues arose for them while they were doing and reflecting on it.

Collecting and coding the data of this study

The data on which this research is based came from 7 focus group interviews conducted in Johannesburg in 2008/9 with 19 experienced senior phase teachers in functional, urban, public schools, ranging from well-resourced schools serving middle class areas to resource-poor schools serving working class and squatter communities. Teachers were recruited into the study through fortuitous connections and post-graduate students who invited their colleagues. The interview asked about teachers' emotions in relation to: the value of assessment, their memories, assessment policy, learners, marking, report writing, accountability, and managing their emotions. The interview data was systematically coded using Atlas-Ti and then analysed by thematic content, so this article presents the findings of an interpretative qualitative study.

The participating teachers took their jobs seriously: they enjoyed teaching 'most of the time' , they experienced teaching as 'rewarding' and 'fulfilling' because it was 'good to work and assist the community' and contribute to something that was 'essential to the future success of our country'. Yet although they 'loved working with the kids', they did not appreciate the 'insane demands of the paperwork' and they were divided on whether or not to recommend that their children become teachers. As a group, they enabled me to record the beliefs and emotions of committed teachers working within the framework of a functioning system. They did not heroically fight against all odds to change the lives of their learners and community, but they were committed to doing a good job, wanted to make a difference and invested their life energy in their profession. As Cheryl said, 'real teachers' care about what they are doing: 'I really think that there is a whole emotional investment. If you're a teacher, there's an emotional investment, if you are really a teacher'. They understood 'real' teachers as emotionally committed to making an effort so that learners can achieve.

After much careful coding, re-coding and counting of all the utterances of teachers about assessment that contained strongly expressed emotions, what emerged were three key 'objects' (Nussbaum, 2001) within assessment that teachers were concerned with and felt strongly about: learner achievement, assessment practice and accountability demands. For the purposes of this article, I am engaging only with teachers' emotions towards the 'object' of learner achievement.

Presenting the data: teachers' emotions towards learner achievement

The single code that was numerically most prominent was emotions towards the 'object' of 'learner achievement'. In terms of their emotional focus, the teachers in this study were most concerned with the achievement of their own learners, followed by the achievement of the learners in their school and in the nation as a whole. Ideally, they wanted all learners to achieve and pass. Hargreaves (1998) argues that teachers' relationship with students is the "emotional filter" (p.842) through which they see the value and rewards of being a teacher. In response to questions about assessment, the teachers in this study illustrated how their emotional filter was substantively concerned with the growth, achievement and success of learners.

Teachers' emotions follow the quality of learner achievement

Teachers were 'quite involved emotionally' with their learners' development and assessment results. Weak learner achievement generated palpable distress: it made teachers feel 'very disappointed', 'extremely frustrated', 'horrible', 'sad', 'irritated', 'hurt' and 'sorry for learners'. Teachers took for granted that learner achievement reflected on their own performance and talked about how, when faced with the failure of their learners, they 'felt like an idiot' and wanted to 'hide away', 'went mad', 'tried to deal with burning anger', got 'frustrated' and 'depressed', all underpinned by a helplessness of 'we don't have strategies to solve that'.

When there was no learner achievement, i.e. when teachers did not manage, through their effort, to enable learning, the teacher-learner relationship could come to an end. Celiwe described it graphically: "When they fail, they end up

absconding out of your house, because they weigh themselves as failures, as slow learners". Even if the relationship did not come to a complete end (children are, after all, legally obliged to go to school), the teachers struggled to maintain their motivation to continue teaching. Unless learners 'put their hearts into it' and performed, it became 'hard' for teachers to continue 'putting in such a lot of effort' and motivating themselves, because they felt 'demoralised', 'very upset', 'deeply disappointed', 'absolutely heartbroken' and 'very de-motivated'. When the distress over low learner achievement and the resultant self-accusation became too extreme and painful, they considered leaving the profession:

> We become confused about why all the learners are failing. Where is the problem? What is it that I've not done right? So it's very bad, it's painful. You can end up saying, maybe it's because I am a failure, that is why I could not bring the subject closer or clearly to learners. Maybe that is why other people leave teaching. (Thobile)

These feelings intensified when teachers looked beyond the learners in their class to the broader picture nationally, which left them 'shocked and scared' because learners 'cannot write letters properly, they can't spell properly, they can't read documents and comprehend properly, so there are these huge gaps' and they haven't built the mental capacity either', which is 'brewing disaster' for the country. Thobile summed it up: "At the end you cry; there is no help".

The only antidote to this distress was strong learner achievement, which made teachers feel 'satisfaction', 'reaffirmed', 'worthwhile', 'most wonderful', 'rewarded', 'having their moment' and even 'having a life!'. When learners understood and 'I can see what I was teaching them', teachers felt 'proud', very happy', 'very excited', 'so good' and 'uplifted'. Learner success was the internal motivator that drove these teachers to do their work.

> When the learners pass you become motivated, like, I want to do this again, and more and more. Because you want to see them passing again, at different levels every time. So you become intrinsically motivated because learners do well. (Thobile)

The quality of learner achievement generates an intense emotional rollercoaster ride for teachers

The teachers in this study talked about how they 'get upset about failures' and 'feel good when kids do unexpectedly well'; how, depending on learners' achievement, they feel 'like a failure' or like 'we've done something!'; how they feel 'enthusiastic' when learners respond well to an assessment task and

'disappointed and de-motivated' when learners don't. The peaks of positive emotions (joy, satisfaction, excitement) when learners achieve motivated the teachers to further effort, yet alternated with sloughs of dark emotions (self-doubt, despondency, frustration) when learners did not understand or failed, which de-motivated teachers. These emotional rollercoaster rides were not under the teachers' control. Teachers were being pulled into the ups and downs by the quality of their learners' work, by their learners' emotional responses towards assessment results, and by their own empathy with learners.

This interdependence between teachers and learner achievement places teachers in a position of permanent tension. Their effort is a necessary but not a sufficient condition for good learner achievement. Learners are the ones who need to do the learning, with teachers having a strong shaping influence on, but not control over, their learners' assessment results. This makes teachers' continued motivation and effort dependent on a positive response to assessment by the learners. As teachers don't control the direction of the ride, they are hanging on to the seatbelts of their emotional rollercoaster for dear life.

The next quote illustrates how Khumbula, even when he is specifically setting out to describe the 'not gloomy' feelings about assessment, slides up and down the emotional rollercoaster.

> I don't think we need to look only at the gloomy part of assessment (laughs). We should also think about the other parts that really make us happy, or sometimes uncomfortable. What makes me happy when it comes to assessment is: when I do the question, the interaction with the learners, asking them questions and the responses I get. ... Giving them feedback as well, maybe to add a little bit more on what they've given me, to extend their knowledge, I like that. That's what I enjoy very much, the interaction with them. Then what really upsets me is marking low quality work from a learner, after having spent so much time speaking to them or having activities that would really lead to better understanding and you still find some learners are just lethargic, they don't even care (laughs). Sometimes they don't even write anything. Then you wonder, why is this child not motivated? Maybe you also need to think about learners' feelings as well when it comes to certain activities. Maybe we bore them; we don't know (laughter). (KG15-K)

Khumbula sets out to speak about the aspects of assessment that make him 'happy', but the word 'uncomfortable' follows in the next breath. He 'very much enjoys' the 'interaction' and 'giving feedback that extends learners' knowledge', but gets 'really upset' by learners who are not engaged and give him 'low quality work'. Then he 'wonders' why the learners are 'lethargic' and 'not motivated', which leads him back to his sense of himself as a teacher

and the things he is 'maybe' not doing ('considering their feelings') or unwittingly doing ('boring them'). Getting such varied responses from learners (both positive responses and lethargy) makes his emotions fluctuate wildly, leaving him concerned and insecure about the impact of his work on the learners.

The intensity of these rollercoaster emotions portrays the importance of the 'object' of learner achievement to teachers, indicating how close learner achievement is to the heart and identity of committed teachers. The intensity becomes significant in the light of the human need for self-verification. Turner (2007) clarifies that "individuals want to have their views of themselves verified" because their "sense of self is on the line during interactions" with others (p.102). The need for self-verification becomes stronger, the closer the interaction is to the core self-conception or the main sub-identity of a person (p.103). The emotional intensity with which teachers respond to learner achievement enables the insight that it is the core professional self-worth of teachers that is verified (or not) by the achievement of their learners. For committed teachers, assessment is an emotional practice that lies at the centre of their professional identity.

Learner achievement generates much self-reflection in teachers

The reflection on their professional identity was particularly prominent at times when teachers' expectations of achievement were not met. Faced with learner non-achievement, they felt 'embarrassed', 'bad', 'confused', 'inadequate', 'apprehensive', 'hurt', 'pain', 'self-blaming', 'self-questioning', 'unsure', 'something wrong'. Low learner achievement made them reflect on themselves and their work: wondering why their 'best' efforts were 'not enough', whether they taught well enough, what they 'did wrong', what could have been done differently, what they could 'adjust' in the future. At times when learner non-achievement was too frequent or too severe, they even made a judgement of 'total failure' about their entire career. Hlubi spoke for all when he said:

> I feel embarrassed and bad if my learners are not performing the way I wanted them to perform. Because the main aim of teaching them is to ensure they are well developed, they are well educated. But if they do badly in my assessment, I get confused, to say, what went wrong? Or where did it go wrong? Then I restart to think again and see what I can adjust, so that they can be able to get some little bit of achievement.

Teachers' self-reflection in the mirror of learner achievement was grounded in the assumption that a teacher is a person who is responsible for children to learn something. Regardless of the socio-economic environment of their schools, the teachers reflected on and judged themselves by how well they had 'charged' their learners:

> I need to take responsibility for those learners. Even if it's a case where they are never going to get A's, but they're currently getting E's and I should get them to C's. It should be like that, there's no doubt in my mind. (Cheryl, in a school with middle class children)

> I think assessment is very important. You are going to assess yourself as the teacher, how much did the learner learn from you? (Mathoto, in a school with working class children)

'Real' teachers commit to responsibility for learner achievement

Turner (2007) argues that in their need to understand why and how things happen, "individuals are constantly making causal attributions as to the sources of various outcomes" (p.97). Linking causal attribution to emotions, he presents a principle for the direction that the attributions will take, namely that "positive emotional arousal reveals a proximal bias with individuals making self-attributions" (p.99) while "negative emotional arousal evidences a distal bias, with individuals making external attributions" (p.100). This means there is a general tendency for the positive emotions aroused by success to lead people to attributing the cause of success to themselves (thus giving themselves a double dose of pleasurable emotions), while the negative emotions aroused by failure leads people to attributing the cause of failure to others (thus avoiding the second dose of negative emotions).

As I coded and analysed all the causal attributions for learner achievement made during the interviews, it emerged that the teachers were making self-attributions not only for the success, but also for the failure of their learners.

Table 1: Causal attributions subdivided into types of learner achievement

Teachers' causal attribution for learner achievement to:	Learners	Self	System	Total
High achievement	1	2	0	3
Low achievement	21	21	28	70
Achievement in general	15	20	7	42
Total	37	43	35	115

Teachers were primarily concerned with attributing causes for the low achievement of learners (70), they often attributed causes to learner achievement in general regardless of its outcome (42), yet they seldom made an attribution for high learner achievement (3). In terms of self-attributions, they took clear responsibility for the level of learners' achievement in general (20) and in no way shirked their responsibility for low achievement (21). Teachers from all the schools made self-attributions for low learner achievement and there was no discernible pattern across socio-economic levels. Making a majority of self-attributions (43) is appropriate, as it means the teachers were taking responsibility for the core of their job. Yet they balked at taking sole responsibility for low learner achievement: they attributed blame for failure to both learners (21) and the system (28). Issues included in the attributions to the system were education policy, administrative assessment demands placed on them by the department which interfered with teaching, learners' language diversity, class sizes, colleagues lower in the system, parents, and generally overwhelming low socio- economic conditions.

This pattern of attributions means that the teachers in this study were not following the general human pattern of making self-directed attributions for positive results and other-directed attributions for negative results, but, with regard to learner achievement, were making causal self-attributions not only for success but also for failure, thus accepting the double dose of negative emotions as their due.

Discussion: Learner achievement lies at the heart of teachers' professional identity

Like all human beings, teachers aspire to having more of the "symbolic medium" (Turner, 2010, p.173) of positive emotions, both for its intrinsic and its exchange value. Teachers with more positive emotions are more likely to have positive interactions with learners and colleagues, increasing their emotional energy in the process and becoming more likely to teach in ways that reward them with the success of high learner achievement, which in turn continues the positive cycle. In contrast, when teachers experience negative emotions because of learners' low achievement, they lose emotional energy, have less emotional symbolic media to exchange and a negative cycle ensues. When this cyclical process is linked with causal attribution, the result is intensification. When teachers receive the positive emotions and energy of

their learners' success and at the same time make a self-attribution for that success, they feel doubly good. In the space of this positive emotional intensification, it becomes easy to make additional external attributions to learners for their effort, to colleagues and parents for their support and even to the education department for its guidance. In fact, these positive external attributions entrain others and generate more positive emotions to go around. But when teachers are faced with the negative emotions and loss of energy coming from their learners' failure, the nature and direction of their attributions really matter. If teachers make a causal self-attribution for low achievement, then they feel doubly bad – not only do they have to deal with their already felt negative emotional response to failure; they also have to deal with the self-recriminations about having caused that failure through their own incompetence or lack of effort. If they attribute the cause of low achievement to an external source, then they still feel bad about the failure, but at least they don't have to feel guilt and shame about themselves as well. It also matters towards whom the external attribution is directed – if it is directed towards learners, with whom teachers are in daily contact, the negative attribution can cause their relationship to sour, generating even more negative emotions and making the teaching an unpleasant experience. To safeguard the children from becoming the 'objects' of their negative emotions, the "inner dialogue" (Archer, 2000) of teachers may make external attributions directed towards the 'system' – department officials or parents who are seldom seen, or, even better, policy documents or unknown policy makers who cannot fight back.

In this light of this understanding, it is a pleasant surprise that the committed teachers in this study went against the general trend of attributions as predicted by Turner's principle. Even though they made some external attributions, they did not refuse to accept the double dose of negative feeling that arises from both failure and responsibility for that failure. They remained committed to their "moral purpose" (Hargreaves, 1998) of being responsible for the quality of learner achievement. They worked on the assumption that because assessment functions as a summary of what has been taught, it becomes a comment on the effectiveness of teaching, with the results reflecting on the teacher nearly as much as they do on the student. They were thus living in a "structural condition" of "vulnerability" (Kelchtermans, 2011, p.80): the more they did what is correct for their professional identity, which is to understand their role as someone who is responsible for generating the achievement of others, the more they ended up facing the "limits of their professional efficacy" (p.71) and taking responsibility for learner failure,

which gave them a double dose of negative emotion. Their morally correct position led them into an emotionally uncomfortable place. This resonates with Hargreaves' finding that teachers feel "very insecure as a profession" because of their guilt and fear of "not measuring up" (1994, p.150).

Conclusion

Turner's (2010) claim that positive emotions function as a symbolic medium and resource that every person strives to have more of, makes visible two important implications of these findings.

The first implication is professional. As seen through the lens of their emotions, attaining high learner achievement is an intrinsic self-interest for every teacher. Too much learner failure generates negative emotions which de-energise and de-motivate teachers. If teachers want to gain access to the symbolic medium of positive emotions, i.e. to have more joy/self- gratification and less disappointment/self-doubt in the course of their work, it means that, (if they want to remain teachers and not move out into management or administrative positions), they structurally have no choice but to care about, take responsibility for, work hard and make the effort to enable good learner achievement.

The second implication is institutional. Teachers can only remain motivated to do their job to the best of their ability for as long as the highs and lows of the emotional rollercoaster balance each other out, so that the negative emotions of failure are balanced by the positive emotions of success. Teachers cannot achieve this balance alone – they are working within an institutional and societal system that shapes their working conditions. Sixty per cent to 75% of schools in our country are underperforming (Shalem and Hoadley, 2009; Hoadley, 2013), primarily for reasons arising from socio-economic factors. When failure is endemic for socio-economic reasons, there will be many occasions when the few emotional highs of learner success cannot carry teachers past the long duration of failure lows. This has implications for the emotional health of South African teachers: an overdose of the negative emotions of failure may generate instability in teachers' self-attribution for learner achievement and weaken their commitment to the effort involved in enabling learner achievement. At those times, teachers would benefit from less public blame and more institutional support (be it emotional, educative or administrative) to lift them into a more capable and hopeful feeling. Using

Turner's language, it is important for societal attitudes and education department regulations to increase teachers' share of the symbolic medium of positive emotions.

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Carola Steinberg
School of Education
University of the Witwatersrand

carola.steinberg@wits.ac.za

Using legimation code theory to track pedagogic practice in a South African English home language poetry lesson

Fiona Jackson

Abstract

This paper utilises two dimensions of Legitimation Code Theory, Specialisation and Semantics, to describe and analyse aspects of the poetry pedagogy of a South African home language subject English teacher. The Specialisation analysis illuminates how, while the lesson is oriented towards social relations in its focus on cultivating learners' literary gaze, the teacher's pedagogy exhibits varying emphases on epistemic relations and social relations in different phases of the lesson. These concepts facilitate more precise description of the pedagogy, which assists in clarifying and explicating the nature of the pedagogy of a teacher working with a cultural heritage orientation to literary instruction. Analysis within the Semantic dimension enables the tracking of pulses of shifts in abstraction and particularity through the lesson. This highlights the ways in which the teacher moves between more and less abstract and concrete forms of knowledge, which implicitly models ideational networks required for higher levels of close textual analysis.

The Lesson
EDWARD LUCIE-SMITH

"Your father's gone," my bald headmaster said.
His shiny dome and brown tobacco jar
Splintered at once in tears. It wasn't grief.
I cried for knowledge which was bitterer
Than any grief. For there and then I knew
That grief has uses – that a father dead
Could bind the bully's fist a week or two;
And then I cried for shame, then for relief.

I was a month past ten when I learnt this:
I still remember how the noise was stilled
in school-assembly when my grief came in.
Some goldfish in a bowl quietly sculled
Around their shining prison on its shelf.
They were indifferent. All the other eyes
Were turned towards me. Somewhere in myself
Pride, like a goldfish, flashed a sudden fin.

Introduction

Subject English is a protean beast – multiply defined and highly contested (Macken-Horarik, 2014, 2013, Gibbons, 2009, Green, 2008, Christie and Macken-Horarik, 2007). Given the variety of disciplinary sources from which it draws (humanities to social sciences), subject English presents a particularly intricate knowledge base. Within many school systems it serves as both the medium for knowledge building and communication and the object of study itself (Larsen-Freeman and Freeman, 2008). The complex role it thus performs in such contexts, in providing the communicative means for learners to access wider and increasingly abstracted, formalised systems of knowledge, points to the importance of developing more rigorous, cumulative understanding of the nature of the knowledge practices enacted within subject English classrooms. The insights to be generated from application of Legitimation Code Theory concepts potentially provide access to deep level organising principles useful to the field of English education, and education more widely. Teachers and learners often struggle with the 'invisible' nature of what constitutes mastery in literary studies. The explication of knowledge practices within English literary processes can contribute to increased consciousness amongst teachers of the range of pedagogic formations available to them, and the implications of these for their practice and their learners' progress. In this article I focus particularly on processes of unpacking the knowledge practices of subject English poetry instruction.

The context of subject English education

Within the South African school system subject English occupies an uneasy space. Historically and ideologically associated with imperial British colonial rule, English yet holds considerable contemporary value for many South Africans as a local and globalised lingua franca offering access to economic capital and advancement (Wright, 2002). Drawing content from a wide set of disciplinary sources, varying temporally and locationally in their influence, the goals and content base of English-as-Subject can vary greatly (Clark, 2005). These can range from knowledge about language and literature, to acting in, and responding to life, using language (Kantor, 2001). Curriculum goals for school English range from basic literacy skills through personal growth approaches to literary and critical literacy studies (Macken-Horarik,

2014, Sperling and DiPardo, 2008, Christie and Macken-Horarik, 2007, Morrell, 2005, Pike, 2003, Marshall, 2003, Harley, 1991).

Subject English teachers consequently work with wide ranging choices for content and process. Unsurprisingly, research reveals English teachers' pedagogic identities as mobile yet contingent on their contexts and deep epistemologies regarding language, literacy, and learning. Competing forces and values can thus co-exist within teachers' beliefs and practices (Gibbons, 2009, Slonimsky and Brodie, 2006, Xinmin and Adamson, 2003). The task of capturing and understanding the pedagogy of English teachers thus requires attention to multi-faceted dimensions and levels.

Extant research mostly comprises small case studies using either inductively derived categories of analysis or pedagogically normative lenses, often investigating issues within binary categorisations such as communicative versus traditional, or learner- versus teacher- centred (Shaalukeni, 2000 in Weideman, Tesfamariam and Shaalukeni, 2003, Xinmin and Adamson, 2003, Slonimsky and Brodie, 2006). International case studies have investigated philosophies and subject knowledge of English teachers, via interviews (Marshall, 2000, Ellis, 2009). Local case studies have inductively explored English teacher responses to curriculum change and difficulties in engaging learners in literature study (Carminati, 2007, Dyer, 2007). There remains a dearth of research, particularly locally, of pedagogically well theorised descriptions of the practices of English teachers, focusing on the nature of the knowledge base of these practices.

This paper explores the contribution that Legitimation Code Theory (LCT) brings to the task of unpacking how teachers cultivate a literary gaze through their practice. Firstly, I briefly outline the broad project of LCT, and introduce two of its dimensions, Specialisation and Semantics. Thereafter I demonstrate the insights to be gained from a multi-dimensional depth analysis of key moments in one lesson of a KwaZulu-Natal English Home Language teacher, as she teaches Edward Lucie-Smith's poem, *The Lesson,* to her twenty-one Grade 10 learners.

Theoretical contextualisation

Ensor and Hoadley (2004) argue the need for South African classroom based research rooted in pedagogic theory and focusing upon the messages conveyed through the form of disciplinary instruction. Without such theory, much analysis of classroom practice works with assumed normative views of pedagogic best practice lacking "in-depth description of any particular aspect of classroom activities" (p.86). They index the need for non-evaluative, theorised analytic schemes, enabling more precise rendering of types of pedagogy. LCT offers a theoretically rigorous, supple lens that can spotlight pedagogic issues from both epistemological and relational perspectives. Rooted in social realism, LCT addresses issues of social practice, working to articulate the underlying organisational principles of social fields. LCT aims to build a sociology of knowledge, addressing the gap of 'knowledge blindness (Maton, 2014) in educational research. Knowledge is understood as something *real,* with different types of knowledge varying in structure, properties and effects. LCT seeks deeper understanding of how knowledge structures impact upon fields, and of forms of knowledge as a medium of the educational message. That is, it investigates how knowledge practices themselves are structured. Describing the principles and legitimation codes controlling educational arenas is a vital first step to explaining educational practices.

Social practices are underpinned by legitimation codes. These operate as claims for the legitimacy of people's actions, or, "for the organising principles embodied by their actions" (Maton, 2014, p.24). Legitimation codes comprise structuring principles with consequences as their inherent structures vary with differing effects. Additionally, their form moulds the potential of what can be communicated. The concept facilitates focus on both the sociological nature of knowledge practices and the epistemological nature of potentially legitimate knowledge claims and thus both on analyses of 'relations to' knowledge practices and analyses of 'relations within' knowledge practices.

LCT provides a multidimensional set of concepts for the analysis of actors' social practices and dispositions. I shall focus here on two: firstly, Specialisation and subsequently, Semantics. Within the educational arena specialisation codes are made up of knowledge practices embodying both epistemic relations (ER) and social relations (SR). Epistemic relations refer to relations between practices and their objects while social relations refer to

relations between practices and their subjects or originators. These concepts build on Bernstein's notions of classification and framing (1996). Classification refers to the strength of boundary maintenance between contexts or categories. Framing refers to the location of control inside contexts or categories. Stronger framing points to greater control from above. Therefore, stronger epistemic relations refer to practices which place firm boundaries and control around what can legitimately constitute objects of study and what procedures may be used. Stronger social relations refer to the placement of strong boundaries and control around who may be recognised as legitimate knowers (Maton, 2014). Tracking the details of specialisation codes necessitates identifying whether epistemic relations or social relations are more emphasised.

Maton further argues the need to move beyond dichotomising typologies in educational research, and so visualises epistemic relations and social relations as intersecting continua that generate a Cartesian plane. This produces a topological space comprising four specialisation codes – knowledge, élite, knower, relativist, as set out in Figure 1 below:

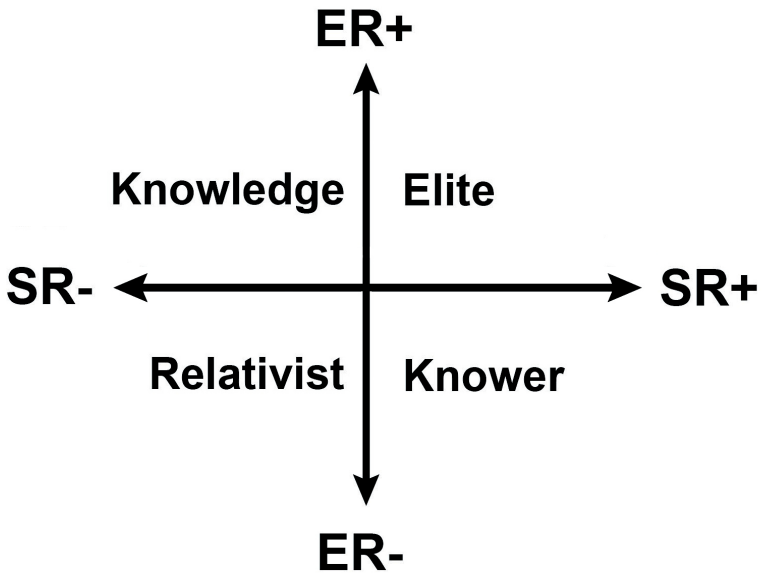

Figure 1: Specialization codes (adapted from Maton, 2014, p.30)

This topological space provides possibilities for separate variations in the strength of epistemic relations and social relations. The mapping of infinite numbers of positions along continua of relative strengths is thus possible, along with tracing shifts of position within quadrants.

Knowledge codes are those which strongly mark off what counts as legitimate objects and/or methods of study. The personal attributes of those who do the studying is less emphasised. This is schematised as ER+, SR–. Physics is an example of a code where specialised knowledge of particular objects of study, using strongly controlled procedures, is stressed. In principle, anyone may participate in doing physics, as long as they master the accepted procedures for knowledge building.

In contrast, knower codes ground assertions of legitimacy in particular kinds of knowers. There is stronger classification and framing of social relations, with *who* makes claims being the most important factor. Differences between knowers are stressed. Wide ranging knowledge assertions, methods and procedures are largely a matter of individual choice. Maton identifies different types of knowers, including social and cultivated. Social knower codes are based on social distinctions such as class, gender and ethnicity and aim to speak the experiences of knowers, with truth being established via the 'voice' (Maton, 2014). Cultivated knower codes result from long immersion in a particular way of knowing, generating a cultivated disposition. School subject English will most typically fall into the ER-, SR+, or knower code quadrant, where social relations predominate in relation to the importance of knowers' responses to language and literary texts (usually through the cultivation of the dispositions of knowers into a range of possible gazes). The topological 'space' thus facilitates fine-grained analyses plotting nuanced variations in such gazes. It can move descriptions of pedagogic practice beyond static tabulations, to accounting for variations within individual teacher's practices and between different teachers and contexts.

The other dimension of LCT deployed here is that of Semantics. This facilitates focus on what constitutes, and promotes, cumulative theorising and learning, as opposed to segmented thinking. Maton asks how educational knowledge can facilitate greater conceptual, integrative hierarchisation, as opposed to segmented learning. He argues that segmentalism [comprising] "a series of discrete ideas or skills, rather than cumulatively building on previously encountered knowledge" (2014, p.107), can limit learners' capacities to abstract and transfer knowledge. Cumulative learning facilitates

transfer of knowledge between contexts and through time, while segmented learning often restricts transfer, leaving learners with knowledge locked within the 'semantic gravity well' of particular contexts. Maton proposes the notions of cumulative learning, semantic gravity and semantic density as key tools to articulate the underlying organising principles enabling understanding of knowledge building processes.

Semantic gravity refers to the degree to which the meaning of practices relates to their contexts. Maton elaborates:

> This semantic gravity may be relatively stronger or weaker along a continuum. When semantic gravity is stronger, meaning is more closely related to its social or symbolic context of acquisition or use; when it is weaker, meaning is less dependent on its context. One can also describe processes of *strengthening* semantic gravity, such as moving from abstract or generalized ideas towards concrete and delimited cases, and *weakening* semantic gravity; such as moving from the concrete particulars of a specific case towards generalizations and abstractions whose meanings are less dependent on that context (2014, p.110).

Broadly, then, semantic gravity equates to degrees of abstraction and concretisation. In close juxtaposition with semantic gravity, Maton proposes the notion of semantic density which

> refers to the degree of condensation of meaning within socio-cultural practices (symbols, terms, concepts, phrases. . .) . . .The stronger the semantic density (SD+), the more meanings are condensed within practices; the weaker the semantic density (SD-) the less meanings are condensed. The strength of semantic density of a practice or symbol relates to the *semantic structure* in which it is located (p.129).

So, within the study of English poetry, the term 'iambic pentameter' is characterised by relatively strong semantic density, condensing information about the stress pattern of English syllables, the pairing of stressed and unstressed syllables in 'feet' and the sequencing of these pairs in groups of five feet. 'Iambic pentameter' is also connected to networked knowledge systems of terms about rhythm and meter in poetry.

Maton again presents the principles of semantic gravity and semantic density as continua, enabling fine plotting of infinite variations in strengths of realisation of each principle through pedagogic processes and products. Combining semantic density and semantic gravity as analytic tools permits the tracking of shifts in the nature and coherence of pedagogic discourse over time, using notions of semantic waves, and degrees of semantic flow which

can be visualised as semantic profiles (Matruglio, Maton and Martin, 2013). However it is important to remain aware that each principle can vary in strength (and be plotted) independently over time.

Contextualisation of the analysed lesson

This lesson occurred in a formerly all-white, fee levying, state school currently serving dominantly middle-class communities.[3] Of the 21 learners, most were African boys, with 3 Indian boys and 7 African girls. This meant that an English Home Language curriculum was being taught to a class with a majority of English Additional Language speakers. The teacher, Mrs Aldridge (a pseudonym) is a white, middle-aged female, with over 15 years teaching experience.

In the next section I firstly present a schematic overview of the lesson, then demonstrate how a Specialisation analysis illuminates the forms of legitimation this teacher deploys in her pedagogic process. Thereafter I explore movements in strengths of semantic gravity and semantic density and how these contribute to the building of a particular literary gaze.

Tracking specialisation in one instance of poetry pedagogy

The focus of this fifty minute lesson is the development of the learners' literary gaze, in terms of practical criticism competencies. The teacher's overall goal is to elicit learner answers to the question 'What was the lesson learned by the poem's protagonist?' The class comprises six phases, summarised below,[4] with the bulk of the time spent on phases four and five:

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3 In 2008, when this lesson was observed and video recorded, the school of 1200 learners was racially integrated, with roughly equal proportions of white, African, Indian and mixed-race learners. This class had no white learners. Informed ethical consent was secured from the Education Department, the school and the teacher.

4 The full transcript of this lesson is available at https:ukzn.academia.edu/FionaJackson

1. Settling in

2. Task Orientation:
   The teacher identifies the lesson as literature, focusing on poetry.

3. Academic administration:
   The teacher instructs learners on the required submission of a prior task

4. a) Task Orientation:
   The teacher initiates a brainstorming exercise in response to the word 'lesson'

   b) Plenary:
   Teacher led discussion on connotations of 'lesson' and 'life lesson' (about 10 minutes)

5. a) Reading poem:
   Learners read the poem in small groups and discuss the life lesson learned by the protagonist (about 15 minutes)

   b) Plenary sharing:
   The teacher leads whole group exploration of the difficulties of interpretation and what textual evidence provides support for inferences about the poem (about 12 minutes)

   c) Learner completion of written questions on poem (about 5 minutes)

6. Conclusion:
   The teacher makes concluding statements about the lesson.

The tightly structured process moves learners from a pre-reading task into close engagement with the poem's meaning. The poem can be located within a knower code, that is, an ER-, SR+ coding, expressing something of the poet's unique disposition and voice. However, in the pedagogic arena, the bases for approaching and relating to the text can vary, shifting along both the epistemic relations and social relations continua. At this point, Maton's distinction between the *focus* and *basis* of pedagogic practice is useful. Epistemic relations and social relations can be used to delineate the focus of knowledge claims, that is, the content of languages of legitimation. While the *focus* of this lesson can be argued to be oriented to social relations, through

the cultivation of a particular kind of literary knower, there are variations in the strengths of legitimation codes forming the *basis* of the pedagogic practice. That is, legitimation codes outline the form of languages of legitimation (2014, p.31). When a poem is approached dominantly as an object containing information to be accurately retrieved and displayed, the specialisation *basis* tends towards stronger epistemic relations. However, approaching a poem, for example, as a personalised, affective meaning making experience for readers, leads towards a stronger *basis* of social relations.

A Specialisation analysis reveals different specialisation code emphases in the teacher's pedagogy within the overarching project of building the learners' literary gaze. It enables a more precise description of the pedagogy, which assists in clarifying and explicating the approach of literary instruction utilised. While the teacher initially foregrounds learners' experiences of 'lessons' and 'life lessons' (experiential brainstorming tasks consistent with a personal growth model of English instruction) to engage and activate in them her preferred frame of reference, thereby strengthening social relations, she subsequently focuses exclusively on the poem itself, independently of the poet, his life context and the life contexts of the learners. The brainstorming is not a prologue to learners exploring links between the poem and potentially similar situations in their own lives. It serves to make visible the most likely schemas to be activated in response to the title "The Lesson". The teacher then directs the learners to 'bracket' these schemas and reorients them to the idea of life lessons. Her main focus is on identifying the core meaning of the poem via close textual analysis of its details. Thus, while the overall focus of the lesson is on socialising the learners into a literary gaze, the basis of the lesson displays aspects characterised by stronger epistemic relations. This is evident through the teacher constructing the poem as an independent artefact and requiring learners to supply accurate textual information. That is, despite obliquely suggesting connections to real world experience, Mrs Aldridge engages the poem as a form of semantico-logical puzzle needing accurate decoding.

Early tasks such as the revision of the concepts 'denotation' and 'connotation' (from a prior lesson) are characterised by stronger epistemic relations These also feature at critical junctures in the teacher's later efforts to ensure accurate decoding of key textual details. The teacher constructs such details as the crucial base for establishing the poem's meaning. An early example of the class's engagement with the poem is initiated by the teacher's questions:

> "What would you say the catalyst is, um, for the speaker in the poem of this lesson? What has happened to him? Um, you know he has learned a lesson from something that has happened to him. What do you see has happened to him?"

Mrs Aldridge is asking for accurate identification of an event implied by the poem. In her ensuing exchanges with the learners, she accepts, validates and extends learners' responses and models elements of a cultivated literary gaze. Thus, in response to a learner responding 'his father has passed away', she focuses on the supporting textual evidence:

> "Have a look at the first line 'your father's gone my bald headmaster said'. Presumably he's in a school context and he was called in by the headmaster to say 'your father's passed away."

The teacher signals the importance of clearly linking interpretive inferences with salient aspects of the text. This suggests brief strengthening of epistemic relations as partial highlighting of what kinds of inference and surmising are legitimate.

Once the learners are working in small groups considering what lesson the poem's protagonist learned, epistemic relations are strengthened, with the teacher reminding learners of the behaviours and strategies required. She directs learners to: "Talk about this because it means that you've got to explore the whole poem to work out what the lesson is" and to make notes. Such comments explicate some discursive criteria that learners must internalise. She also strengthens epistemic relations in her process of heading off problematic misreading, reformulating instructions with procedural and conceptual additions:

> "No, no. . . it's the headmaster who has the bald head and the tobacco jar. . . the poem isn't concerned with what happened to the father because that is just the catalyst for <???> in his life <???>. The focus must be on what he learns – perhaps about himself from his father's passing. So don't allow your selves to go off on a tangent and look at possible causes of the death."

Here epistemic relations are stressed in the sense of implying "this piece of content in the poem does NOT equal 'x'." In exhorting learners not to "go off

on a tangent" she signals boundaries for how to approach the poem, prioritising what the poem itself sets up: "the poem isn't concerned with what happened to the father. . ." This focus on accurate knowledge of the content of the poem is subsequently reinforced as Mrs Aldridge realises many learners are pursuing the tangent. Consequently, addressing the entire class, she indicates how interpretation is limited by accurate reading of the contents of the poem:

> ". . .I've just got to interrupt something and clarify something really important. The father has not died from smoking – can we eradicate that altogether. Um, the poet is not really, the speaker is not really concerned about the causes of death of the father – ah, what you should be focusing on, ah, is perhaps how his father's death has affected him and what he learns about himself. . . A brown tobacco jar is mentioned but that I would presume is the bald headmaster's. . . .When he goes to the office he sees – shh – he sees the headmaster has a shiny dome, which means no hair, and there's a brown tobacco jar next to headmaster, okay. So don't go off on a tangent now."

These comments suggest the importance of accurate understanding of the relationships between the details of the text, such as the jar, the headmaster, the father's death and the protagonist's thoughts in response to it. Sound understanding of such relationships is the critical springboard to the macro meaning of the life lesson. Her interventions again strengthen epistemic relations in stressing the importance of accurate reading of the text as a key element of her cultivated gaze: correct reading of the micro-details of a text followed by identification of plausible links amongst details before finally reading between the lines of such details.

Further strengthening of epistemic relations occurs after the teacher asks: "What does the speaker feel he should be thinking about?" Learner responses strengthen social relations, relieving the pressure of the hard work in establishing the required meaning, e.g., "Freedom!" The teacher's response also strengthens social relations, with low-key, wry acknowledgment of the comment: "Right, that was very unexpected." Responding to further learner offerings she says:

> "Ja, you might have to support the family. But based on what this poem is saying, we don't know anything. All we know is that he

> lost the father. But we don't know anything about the speaker's – the circumstance. So, um, we can't really read into something that is not directly in the text. All we know is that he's lost his father – we don't know about the circumstances."

Here Mrs Aldridge strengthens epistemic relations, presenting some of her limits of inferential possibility, excluding as illegitimate interpretations that cannot be linked to specific textual details. She reinforces these criteria by reiterating what is knowable from the poem (the father gone) and reformulates her questions specifically around this: "What does he feel he should be thinking about that?" This narrowing of the question clarifies her focus for the learners. When a learner says "his father" the teacher finally validates strongly:

> "Absolutely – he should be mourning his father, he should be presumably thinking – and, and this is why he feels selfish."

In the ensuing discussion of whether a ten-year-old should be judged 'selfish' for thinking about the immediate benefit his father's death brings, the teacher strengthens social relations. Her most specific contribution, which she flags as very personal, comes in response to the line: "I still remember how the noise was stilled in school assembly when my grief came in". After eliciting and validating some learner interpretations of the line, she says:

> "I tell you what very personally this phrase made me think of. We usually think of 'when your ship comes in', you know, when your luck comes in. And I thought about it in that context – that his grief, in a sense, has liberated him from the bullies that continually plague him."

Despite her identification of her comment as personal, what she shares is the associative link she makes between the poet's phrase and a conventionalised phrase (if seldom used in current South African English) – "When your ship comes in." This sharpens the view of her literary gaze as tending towards the detached, the cognitively associative and the epistemic. 'Very personally', for her, is a mental link, not an emotional or experiential connection.

Focusing on where epistemic relations are strengthened thus highlights the teacher's orientation to literary analysis as a cognitively motivated act, where continual attention to the ideational network of links between the macro

meaning and the micro-details of the poem are the foundation for legitimate interpretive acts. These relatively stronger epistemic relations are interludes within a lesson characterised mostly by stronger social relations, since the overall thrust is to produce learner-subjects who can identify, experience, and internalise the message of the poem as refined meaning. Social relations are strengthened where the focus is on:

(a) building desired frames of reference in the learners,
(b) creating a bridge between learners' existing experience and the 'world' of the poem,
(c) regulative control of learners,
(d) relieving the pressure of establishing the desired interpretations amongst the learners, and
(e) fostering learners' interpretive activities.

The early brainstorming task, where learners have to "come up with about three or four connotations or personal associations that [lessons] has for you", foregrounds learners' personal experiences. In leading the plenary the teacher strengthens social relations in defending a learner's association: "it's an amount of things". Challenging learners' laughter, the teacher asserts:

> "Nobody must laugh at someone's personal connotation. . . .No one can say your connotation is wrong or right."

This indexes an element of the teacher's grounds for a personal gaze – associations based on individual experiences. Implicitly, this pre-emptively contrasts with the teacher's later comments on the trickiness of interpreting poems.

In shifting focus from connotations of 'lesson' to examples of 'life lessons' the teacher is building a specific, preparatory frame of reference in the learners. Though she has a clear epistemic goal – ensuring learners do not presume 'The Lesson' to be a formal school lesson, the basis of her process of elicitation emphasises stronger social relations. Her responses range from seeking clarification from learners to simply acknowledging the pain of the experience reported. For example, as in:

Learner: "Keep my enemies closer than my friends."
Teacher: "Ah, that's interesting. What – how do you do that? How would you keep your enemies closer than your friends?" and

Learner: "A life lesson I learnt about was <???> a friend <???>. She was constantly running away from home; not going to school and then <???> and giving her parents a hard time. In May I buried my friend."
Teacher: "Wow, there's a lot of pathos there. Ah, thank you."

Social relations are also strengthened at numerous points as a regulation strategy. For example, at the end of an intensive interaction establishing the evidence in the text for the bullying of the protagonist, some learners talk while the teacher is talking. The teacher responds with sarcasm:

> "Gosh, this is an interesting development from someone who said 'I don't understand this poem.' Now *please* [her emphasis] share your thoughts with us, please!" [Learners laugh]. A culpable learner responds with: "I praise Nosipho and her group!" [Louder laughter] The teacher permits this, simply riposting: "She's not happy with that – she'd like individual credit."

Later, at the end of an intensive exchange where the teacher struggled to get learners to see "knowledge which was bitterer than. . ." as identifying an emotion, a similar emphasis of social relations occurs. The teacher has asked:

> "When you lose your father, Savannah, what, what should you be thinking about? Or at least, what does the speaker feel he should be thinking about?"

An unsolicited learner declares: "Freedom!" to which the teacher responds with wry acknowledgment: "Right, that was very unexpected." She quietly 'defuses' the potential escalation of learner affect by strengthening social relations without specifically validating the individual.

There are not many instances of emphasising social relations in the process of engagement with the poem itself. The clearest example occurs when the teacher directs attention to the second stanza and slightly widens inferential possibility:

> ". . .he says 'I was a month past ten when I learnt about this.' Now I think the age is, is quite important – he's only just ten-years-old. Bearing that in mind, would you agree with the speaker that he is being selfish? Would you judge him for not thinking about his father?"

Here social relations are strengthened as she elicits learners' personal opinions on this point, fostering an interpretive gaze involving extrapolation from a piece of text, and using real life knowledge of children, along with personal values about acceptable/unacceptable behaviour for bereaved ten- year-olds. Responding to numerous learners' answers of 'no' the teacher validates answers via her own qualified, interpretive elaborations:

> "Alright, so maybe when you're young you actually, probably – it's probably a very natural sort of reaction" and
>
> "Absolutely. And perhaps that to him is a more immediate reality than his father's death. He's got to go to school every day and get beaten up by someone."

A Specialisation analysis illuminates the interplay between the epistemic relations and social relations in a cultural heritage orientation, unravelling the emphasis on textual meanings in themselves. Attention to the play of both epistemic relations and social relations reveals the teacher's focus upon precision textual decoding as the base for literary interpretation, along with selective strengthening of social relations in order to increasingly orient learners towards literary, rather than personal, interpretations of the text, while offering them fairly detached forms of support in their struggles along this path.

Tracing semantic profiles

Utilising the concepts of semantic gravity (SG) and semantic density (SD) in relation to pedagogic practice helps reveal the movements, through time, between particularities and generalities; and denser, more conceptually integrated knowledge and more discrete, segmented forms of knowledge. Semantic gravity tracks the degrees of contextual specificity versus contextual independence of knowledge practices. Stronger semantic gravity (SG+) refers to knowledge closely tied to its originating contex,t while weaker semantic gravity (SG-) refers to knowledge operating across many specific contexts. Semantic density focuses upon degrees of concentration and distillation of knowledge, with stronger semantic density (SD+) referring to greater condensation of knowledge. Where strengths of semantic gravity and semantic density are inversely related to each other, this can be represented as a semantic wave. The diagram below shows three hypothetical semantic profiles:

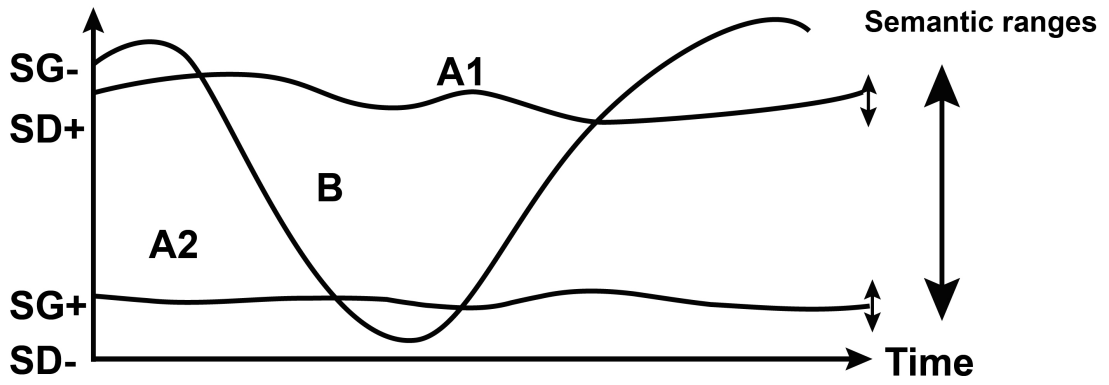


Figure 2: Three semantic profiles (adapted from Maton, 2014, p.143)

For this lesson, the broad semantic profile is represented below in Figure 3:

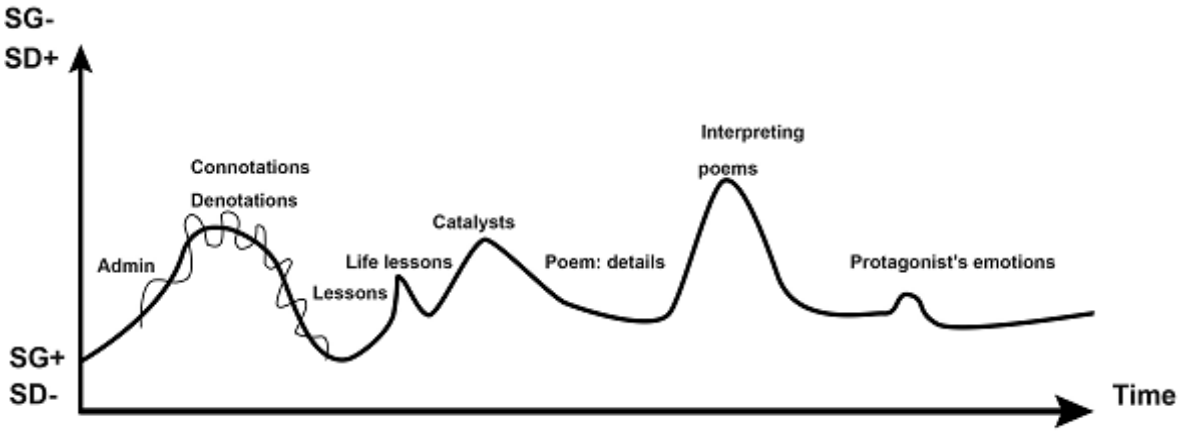


Figure 3:
Semantic profile: *The Lesson*

This profile represents a 'smoothing out' of many small variations in semantic gravity and semantic density. Particularly in Phase 4 of the class, represented in Figure 3 between the 'Connotations/Denotations' and 'Catalysts' peaks, many small shifts in semantic gravity/semantic density occur, generating semantic 'ripples', or 'fractal' waves (Maton, 2013, p.17) within the major wave movement. This is partially represented by the lighter line in Figure 5 above. Two examples of this semantic rippling are explored below.

Initiating phase three of the lesson Mrs Aldridge asks learners to recall a discussion on denotative and connotative meaning from an earlier language lesson. Semantic gravity is weakened and semantic density strengthened

(↓SG↑SD) in her move from providing particular task information to invoking the conceptual categories to be used – abstract terms from the disciplinary field of language studies (semantics). She then strengthens semantic gravity through provision of the specific task focus and procedural directions:

> "So I want you to start off by giving you one word, the word is 'lesson'. [She writes 'lesson' on the board and circles it.]"

She provides precise, locational direction, along with an implicit reason, in telling learners how they will be working diagrammatically with the word. These details strengthen semantic gravity, which is then weakened as the teacher shifts back to conceptual orientation: "But shall we start with denotation first?"

As the class moves into definitional revision of the terms, and their application to the concept of 'lesson', semantic gravity is strengthened through the provision of definitions. In response to the teacher's request for denotative definitions a learner offers: "a lesson that you learn through experience". The teacher's response, as is often the case in subsequent follow up moves, weakens semantic gravity slightly, via slightly more general rephrasing:

> "ok, so *something* [my emphasis] that is learned through experience.

Similarly, after having requested and received a definition of 'connotation': "It's your own opinion", the teacher offers qualified acceptance and proceeds to unpack the idea more grammatically congruently, thus strengthening semantic gravity and weakening semantic density:

> "what you think of when you hear that word".

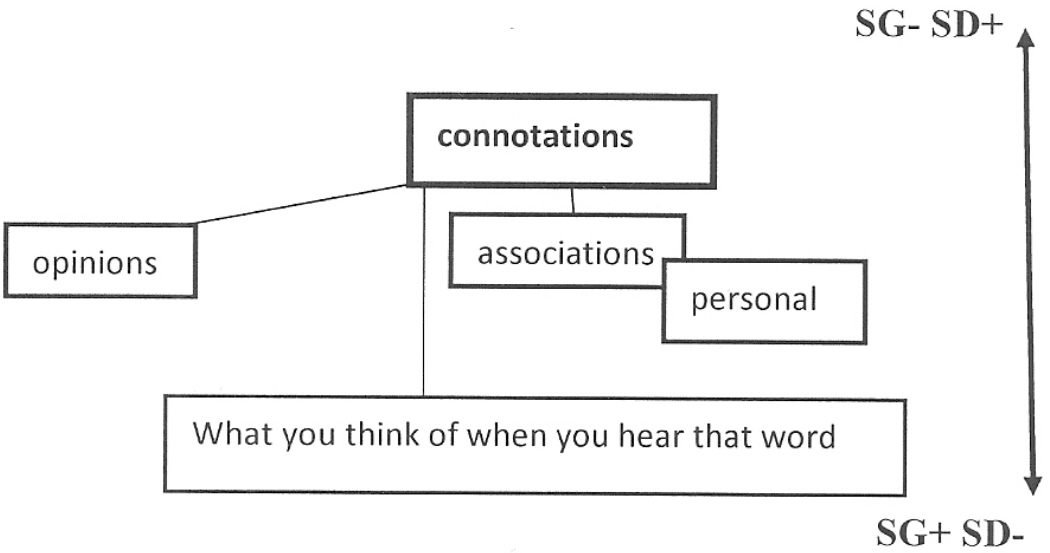
She then immediately weakens semantic gravity a little by adding:

> "the associations that word has for you",

by means of the nominalisation 'associations'. She reinforces this, and elaborates slightly as she then provides specific task instructions for the learners:

> "I'd like you to come up with perhaps about three or four connotations radiating out from the word lesson. Three or four connotations or personal associations that that word has for you."

Mrs Aldridge, in conjunction with the learners, has thus effected small shifts resulting in the unpacking and repacking of the concepts, from more to less abstract. These differing levels can be schematised as:



Figur
e 4: 'Connotations': Ideational Network

Potentially these variations contribute to learners building an ideational network around the concept, and alternative linguistic realisations of its meaning, thus increasing the semantic density of 'connotations' for them.

A further key semantic ripple unfolds as the teacher nudges her learners out of the everyday and towards a literary gaze of insights for life lessons. Semantic gravity is strengthened and semantic density weakened as learners brainstorm, and share personal lessons. Semantic gravity weakens, and semantic density strengthens slightly as the teacher generalises that all the life lessons result from some form of catalyst. The semantic rippling arises from the way the teacher handles learner responses: sometimes she defines terms, triggering a downward ripple; sometimes she nominalises verbs, producing a slight upward ripple. Overall, these semantic ripples generate slightly strengthened semantic density of 'school lesson' and 'life lesson'. She steadily reinforces her key focus – 'life lesson' versus 'school lesson', thus indexing for learners the need to transcend the immediacy of their experiences with school lessons, to more distant and abstract conceptualisations, ultimately weakening semantic gravity.

A significant portion of the section of class identified on the semantic profile as 'Poem: details' entails small group discussion by the learners. The teacher moved between groups, scaffolding learners into fuller ranges of interpretation and capacity to 'wave' semantically themselves. As she moves the class into plenary, she weakens semantic gravity by summarising the processes just undertaken and thus discursively framing what has been, and will be done:

> ". . . so essentially this poem is open to interpretation. And it's quite a difficult process, I think, to interpret a poem. You've got to keep asking yourself questions and once you arrive at one answer that generates the next question. So it's quite a complicated process."

By generalising beyond engagement just with this poem, she has weakened semantic gravity, explicating her understanding that poetry interpretation is a recursive process, requiring a gaze of perpetual inquiry. While there are many more instances of shifts in semantic gravity and semantic density worthy of close attention, space does not permit their exploration here.

Concluding discussion

Applying the LCT dimensions of Specialisation and Semantics to the analysis of this lesson's pedagogy enables nuanced illumination of aspects of its underlying structures and processes. These can be schematised in forms enabling comparision with other lessons, within English and in comparison with other disciplines. (A preliminary schematic overview synthesising both Specialisation and Semantic analysis of Phase 4 of the lesson is provided in Appendix One).

While it is clear the focus of this lesson is the development of the learner's literary gaze, and thus oriented more towards stronger social relations, the analysis reveals complex changes in the strengths of the epistemic relations and social relations. Epistemic relations are strengthened when the poem is approached as a textual source of information to be accurately identified and displayed. Social relations become more strongly emphasised when the 'meaning' of the text is used as a stimulus point to the retrieval and sharing of learner experiences and interpretations. A key pedagogic strategy of the teacher was to strengthen social relations to activate selective frames of

reference in the learners, as springboard to the poem's meaning, rather than using the poem as a prism to refract and explore related learner experiences.

The focus on Semantics clarifies how the teacher moves from the specificities of learner experiences towards the presentation and modelling of potential components of her desired literary gaze. While the lesson begins, and broadly remains at a fairly strong level of semantic gravity, interleaved within this are 'semantic ripples', and some small semantic waves, falling within a fairly narrow range. Semantic gravity typically weakens around the introduction of abstract, nominalised terms then strengthens through learner contributions and weakens or strengthens slightly with the teacher's processes of elaboration, exemplification and reformulation. These potentially offer learners multiple routes into the meanings of words, and the construction of ideational networks of related concepts. The extent and nature of learner uptake of these opportunities is an issue for future research.

Overall the teacher's approach moves learners from an individualised, personalised sharing of their own experiences towards more abstracted personal experiences and finally, increasingly specialised processes of poetry analysis. Conceptually she builds a systematic, structured sequence, beginning with learners' prior knowledge. Along the way she (mostly implicitly) indexes for learners partial components of a poetic literary gaze. At various points she flags behavioural and discursive relations that help create and sustain the pedagogic coherence of the lesson and offer potentially transferable insights to learners on how to 'do' poetic analysis.

Behaviourally she indexes the need for learners to be active note makers, listeners and apprentice-partners co-constructing understanding of the poem with her. Cognitively she makes extensive use of interactive questioning chains – pushing learners towards higher levels of interpretive focus and understanding by rendering the more abstract inferential leaps she requires more concrete through her downward semantic waving.

Both overtly and implicitly, the teacher flags key discursive relations for the learners, articulating her sense of what is needed for poetry analysis. Reinforcement of these is also often provided through her strong validation of learner responses clearly displaying such features of the desired literary gaze. These include:

(a) articulating intra-textual relationships as the interpretive base; and

(b) dominantly focusing on the literary text as a self-contained 'bubble', with minimal projection of external experiences onto the text.

An LCT analysis illuminates her construction of poetry analysis as a probing, logical, reasoning process of interpretive inquiry, cultivating an epistemically oriented, relatively detached, cognitively associative literary gaze. It does so by means of a meta-language that potentially facilitates fruitful comparisons with other analyses of pedagogic practice, both within the field of school English (e.g. Christie and Macken-Horarik, 2007), and across other disciplines. Such analysis offers teachers sharper insight into the nature of their pedagogy and how it is placed in relation to the range of models of subject English available. This awareness may help teachers widen their pedagogic repertoires, feeding into more conscious decisions as to which models of English literary instruction may be most productively drawn on for particular pedagogic purposes to best meet the needs of specific learners (Macken-Horarik, 2014).

Further research is suggested to build an increasingly refined picture of variations in the forms of specialisation and semantic coding within the practice of individual English teachers, and between teachers in varying pedagogic contexts, across different aspects of the subject, and through time. Comparisons of variations in forms of specialisation and semantic coding with other home language subjects taught in South Africa would also be instructive in identifying how different communities of learners are being inducted into key literacy practices.

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Appendix One

Task Orientation - Brainstorming Exercise

(a) Language fusion – revising denotation and connotation
Individual learner (L) brainstorming exercise – 'Lesson'

	[Linking statement – prior lesson]	
SG-	[Transfer – Language focus]	
SG+	[Narrowing – Task focus: Topic]	
SG-	[Content]	
	Procedural directions – locational, rationale (implicit)]	
	[Revising concepts]	ER+
	[Collaborative production – definitions]	
SG-	[Partial Teacher (T) validation][T generalizing]	
	[Procedural instruction: signals importance]	
SG+	[L answer]	
SG+	[Qualified acceptance + elaboration – Grammatically congruent unpacking]	
SG-	[More abstract repacking]	
	[Varied redundancy – multiple processing routes. Building ideational network]	
SG+	[Specific procedural instructions + time limit]	SR+

(b) Plenary – sharing connotations of 'Lesson'

SG+	[Validation of Ls' experiences]	SR++
	[Explication: personal gaze]	
	[Summarizes L contributions]	
SG-	[Redirects L focus]	
SG+-	[Expansion of answers:	
SG+	Defines term; explains concept – link: Lesson focus	
SG-	Reformulation of answer – abstraction	
SG-	Amplification – expansion- cause-effect]	
SG-	[Flags wider issues]	SR+
SG+	[Procedural instructions –task]	
SG-	[Topic abstraction + attributes]	
SG-	[Validation + abstraction: L responses]	
	[Narrowing of topic focus]	
	[Process comment; 'we' shift]	SR+
	[Indexing frame]	ER+

Fiona Jackson
School of Arts
University of KwaZulu-Natal

fjackson@ukzn.ac.za

Skilled reading in isiZulu: what can we learn from it?

Sandra Land

Abstract

Research on reading in African languages is particularly pertinent in South Africa now, in view of the poor reading performance in many South African schools. This paper is based on a study of competent adult readers of isiZulu that analysed what its orthography (the way it is written) requires of readers. As an agglutinative language with a conjoined writing system, isiZulu carries meaning not only in separate words, but also in morphemes that cluster together, forming long complex words. Eye tracking data shows that competent readers of isiZulu move their eyes across text in saccades (shifts of the point of focus) that are short in comparison with the saccades of efficient reading of English. It also shows that readers of isiZulu fixate on points of text for longer periods than do readers of English.

The study links eye movement data to information gained from a stimulated recall process, to discover strategies consciously used by competent readers of isiZulu. Some of these strategies, such as visualisation, are common to efficient readers of all languages, while others might be peculiar to agglutinating and/or tonal languages. These strategies inform suggestions for the development of effective reading skills in isiZulu.

The key argument of the paper is that the orthography of isiZulu has features that require attention by teachers of reading if their learners are to benefit from the advantages that reading in their first language should bring.

Introduction

Many South African children do not develop adequate reading skills in their home language. In KwaZulu-Natal (KZN), where nearly 77% of the province's 10.2 million people are first language speakers of isiZulu (Statistics South Africa, 2011), conditions conducive to the development of effective reading skills in the language most familiar to them appear to exist for few children.

Our education system is beset by a range of debilitating historical, political and practical factors, which frequently combine to impede learning. Where these factors coincide with limited preschool exposure to reading (Pretorius

and Mampuru, 2007) and teachers' orientation towards reading as an oral performance rather than comprehension, noted by Trudell and Schroder (2007), the situation reflected in ANA scores (described below) should surprise no-one. However, a crucial and overlooked weakness in the system is that South African teachers tend to be inadequately trained in the teaching of reading (Pretorius and Mokhwesana, 2009; National Education Development Unit, 2013). Perhaps because there is little research on reading in African languages (Land, 2015), and an abundance on reading in English, available pre- and in-service training in teaching reading is shaped by methods favoured for teaching reading in English, whose structure and orthography differs markedly from that of indigenous African languages. Yet if children who are first language speakers of isiZulu are to benefit from the advantages that reading in their first language should bring, teachers should have a keen understanding of why some features of the orthography of isiZulu require particular attention in the teaching of reading. Effective teachers of reading enable their learners to develop skills in response to these features, and to use these skills to master the mechanical aspects of reading so that their attention can be devoted more readily to accessing the meaning of texts.

Thus the aim of the draft policy entitled Incremental Introduction of African Languages (Department of Basic Education, 2013) of strengthening "the use of African languages at Home Language level" must be applauded. However it is difficult to see how this policy's suggestion of the addition of another language to the curriculum will facilitate this, especially when learners are clearly struggling with reading in their own home languages.

A useful body of research on children's acquisition of reading skills in indigenous South African languages is growing (e.g. Pretorius and Mampuru, 2007; Verbeek, 2010; Van Rooy and Pretorius, 2013; Pretorius, 2014). The study reported on here focuses on the well-developed reading skills of mature readers, so offers a complementary angle, noting adults' eye movement patterns, and describing strategies they use to read isiZulu rapidly and efficiently. It is hoped that identification of these strategies could contribute to the development of pedagogical principles pertinent to the teaching of reading.

Reading processes that educators should understand

Researchers recognise reading as "arguably the most complex cognitive activity in which humans routinely engage" (Reichle, Warren and McConnell, 2009), yet educationalists often underestimate the complexity of the processes that beginners need to master: decoding visual symbols into language while simultaneously constructing a coherent conceptual representation of meanings contained in text.

To decode alphabetic script, readers shift their focus systematically along successive lines of text, registering sufficient features in the text to identify combinations of letters representing successive words or other units of language. To do this, readers match visual patterns in the text with their existing orthographic, phonological and semantic concepts of language (Reichle, Liversedge, Pollatsek and Rayner, 2008). So recognition of a word involves responding to its representation in print by thinking of how it sounds (its phonics) and what it means (its semantics).

To read with understanding, readers must also accumulate information from the text in short term memory. This process is described by Rapp and Van den Broek (2005, p. 277) as:

> . . . developing concepts [that] fluctuate in activation as a function of four sources:
>
> (a) text input in the current cycle,
> (b) residual information from the preceding cycle,
> (c) the memory representation constructed for the text read so far, and
> (d) the reader's prior knowledge.

These fluctuations result in a 'landscape' of activations, with concepts waxing and waning in activation during reading.

This waxing and waning of concepts relates to readers' developing mental representations of the meaning of text as they extract information from print, and anticipate the next words, continually confirming or disconfirming predictions as they progress. This was first described by Kenneth Goodman in his famous definition of reading as 'a psycholinguistic guessing game'

(Goodman, 1967). As this view of reading became widely accepted, it inspired changes in the ways reading was taught, since it focused attention squarely on readers' constructing mental representations of meanings text. An unfortunate consequence was that in many reading programmes, teaching of mechanical decoding skills was abandoned instead of being supplemented by strategies aimed to enhance the construction of meaning.

It is likely that higher order cognitive meaning-making processes are similar for readers of all languages. However, at the more mechanical level of decoding print to words, it is apparent that readers respond differently to different orthographies. Particularly pertinent to this paper are differences between orthographies where letters consistently and reliably represent the same speech sounds (as they do in isiZulu), and orthographies where the relationship between letters and speech sounds is inconsistent. Research shows that readers of languages with transparent and consistent orthographies such as Greek, Finnish, and Italian decode text by matching graphemes (letters, or letter combinations) to phonemes (speech sounds). In contrast, readers of opaque, inconsistent orthographies such as English develop other strategies because letters do not always represent the same sounds (Georgiou, Parrila and Papadopoulos, 2008). Linked to this is the psycholinguistic grain size theory proposed by Ziegler and Goswami (2005). This suggests that the letter groupings relied on by readers of opaque, inconsistent orthographies to reconstruct language are significantly larger than the letter groupings relied on by readers of transparent consistent orthographies. This is because speech sounds are represented more consistently by large grain size units of text in opaque orthographies than small grain size units. In other words, while single letters can represent a range of speech sounds, groups of letters forming syllables tend to represent speech sounds more reliably; for example, none of the letters in the word 'range' can be counted on to represent particular speech sounds in English, so recognition of whole words such as 'range' and 'anger' is necessary.

Orthographies make up a continuum with consistent, transparent orthographies (where spelling predicts pronunciation) at one extreme, and opaque, inconsistent orthographies (where spelling does not reliably predict pronunciation), at the other. The orthographies of isiZulu and English, in which most people in KwaZulu-Natal must develop reading skills fall at opposite ends of this continuum. This has significant implications for acquiring and exercising reading skills, which should be taken into account in the teaching of reading and the training of reading teachers. Teachers should

be keenly aware of the importance of ensuring that their learners understand the differences in ways in which letters of the alphabet are used in each language. As one example of many differences, 'c' can be involved in four different speech sounds in English, none of which remotely resembles the click consonant it always represents in isiZulu

When learners learn to read in their first language, their existing vocabulary, phonemic knowledge, and understanding of the structure and functioning of the language should aid their prediction and recognition of words. Also, their established confidence in using their mother tongue to give and receive information should facilitate their construction of a conceptual representation of a text's meaning. Yet Van Rooy and Pretorius (2013) found that grade 4 children whose first language is isiZulu read English faster, even when they need English instructions translated into isiZulu in order to understand them. This is in stark contrast to findings relating to European languages with transparent orthographies in which children achieve reading competence far more quickly than English children (Georgiou, Parrila and Papadopoulos, 2008; Seymour, Aro and Erskine, 2003). Reasons for this are unknown but may relate to the textual features described below, and/or point to inadequate training of teachers in terms of how to teach reading, and/or to attitudes toward reading, such as the common sub-Saharan African perception that reading is primarily an oral performance (Trudell and Schroeder, 2007). This may prevent many teachers from emphasising reading for meaning and using silent reading exercises in class. In observed reading lessons in local schools in 2013, the only activity noted was reading aloud (Mather, 2013; Sivnarain, 2014). It would ease the task of teachers to know that short exercises in silent reading, where learners practised the skills of predicting, deducing and concluding, and received immediate feedback, would be a powerful strategy to encourage readers to read for meaning.

Reading and the orthography of isiZulu

It has been suggested (De Vos and Katz, 2013) that symbols representing whole syllables might have been a better writing system for African languages than the Roman alphabet. If settlers from Europe had not colonised Southern Africa and invented writing systems for the languages they found there, the Ethiopic script might have made its way to southern end of the continent and been adopted by speakers of Bantu languages. Ethiopic script, an adaptation

of South Arabian script, represents a syllabary of 182 symbols, each representing a consonant + vowel combination (Comrie, 2003).

Indigenous South African languages have a general Consonant – Vowel syllable pattern, so would be well accommodated by syllabic symbols, especially since only five vowel sounds need to be represented, and the restricted number of permitted syllables would limit the number of symbols needed to represent them. Such a system would have the advantage of reducing the length of words because single symbols would represent speech sounds that require two or more letters in the Roman alphabet, for example, *ngu-* and *ba-*, and even possibly syllables with multiple consonants such as *–ntsha* and *-nywa*. This might have the effect of easing and speeding the process of learning to read, and increasing the reading speed of competent readers. Thus the Roman alphabet might not be the most elegant or appropriate writing system for Southern African languages, and it presents readers with particular challenges. However, with the Roman alphabet now established and in use for indigenous South African languages and their growing body of literature, it is simply too late to change scripts. At least the Roman alphabet carries the benefit of transfer of learning when learning to read in many of the world's currently dominant languages that share its use.

Factors that facilitate reading

With near perfect correlation between letters and sounds[5] isiZulu orthography is transparent and consistent.

Initial acquisition of reading skills is aided by the regular, dependable relationship between letters and speech sounds in shallow orthographies (Trudell and Schroeder, 2007). Children learning to read the transparent, consistent orthographies of Greek, Spanish, Finnish, and Italian, can read unfamiliar words aloud correctly at the end of grade 1 (Ziegler, Bertrand, Tóth, Csépe, Reis, Faísca *et al*., 2010). In contrast, 'deep' orthographies, like that of English, are characterised by irregular relationships between letters and speech sounds where single letters represent a range of speech sounds or

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5 The letters 'n', 'd', 'h', 's', and 'l' are exceptions, representing two phonemes as 'n' does in the English words 'can' and 'ink'.

may be unvoiced. Unsurprisingly, children learning to read English take three times as long to develop the ability to recognise words as children learning to read in transparent, consistent orthographies (Seymour, Aro and Erskine, 2003).

Research has not yet established how long it takes, or should take, for beginner readers of isiZulu to recognise unfamiliar words, and no benchmarks exist for the development of reading skills in isiZulu (Van Rooy and Pretorius, 2013). What is expected of learners at the end of grade 1 ranges widely, from recognition of letters and some single words, to reading short stories (Verbeek, 2010). In stark contrast to the plodding pace of reading development in many South African schools, a startling Reading to Learn[6] DVD shot in September 2014 (Reading to Learn, 2014) shows enthusiastic Grade 1 township children successfully reading a whole story and writing the sentence '*Ugogo uyasixoxela inganekwane*' (Granny tells us a folk tale) directly from dictation. This indicates that with teaching strategies that focus on decoding and meaning, proceed at a stimulating pace, and take advantage of the benefits of a transparent, consistent orthography, progress can be rapid.

Factors that may impede reading development

The orthography of isiZulu poses several challenges for readers

Firstly, its agglutinative structure and conjoined writing system give it unusually long and complex words. To illustrate, the Lix readability formula (Readability Formulas.com, 2014), designed to gauge readability across languages benchmarks easy to read text at a score of 20, average text at 40, and difficult text at 60. Text from newspapers in ten European languages scored between 47 and 65 (Björnsson, 1983), but if the formula is applied to text from the isiZulu newspaper *Isolezwe*, the Lix score is 97.[7]

The complex words of isiZulu are composed of word stems and affixes, and readers must register the meaning of the stem and note its modification by

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6 Reading to Learn is an organisation that promotes a reading teaching method focusing particularly on understanding how parts of sentences and paragraphs relate to each other to create meaning.

7 The comparison is illustrative only of word length, since the validity of the Lix formula for African languages has not been established.

each affix. The logic of psycholinguistic grain size theory (Ziegler and Goswami, 2005) suggests that readers of isiZulu are likely to process small grain size units of text as a sure, quick route to reconstructing language because readers must distinguish between morphemes of usually one to three letters. For example, in the word '*asimthandazele*' (let us pray from him/her) readers must recognise the five morphemes (*a/si/m/thandaz/ele*) – a stem preceded by three affixes and succeeded by another. A change of one letter in one affix changes the meaning, (e.g. *animthandazele* = you (plural) should pray for him/her). This small grain parsing could contribute to the high number of fixations, long fixation duration, and frequent regressions noted among proficient readers of isiZulu (Land, 2015). The implications of this for teachers of reading is that exercises that stimulate and heighten learner readers' rapid perception of shifts in arrangements of morphemes, and the concomitant shifts in meaning are important for the development of effective reading skills. Exercises designed to develop readers' ability to instantly recognise high frequency non-agglutinated short words and high frequency word forms with only two or three morphemes would be equally useful.

Secondly, although tone modifies meaning in spoken isiZulu, there are no tone markers in written isiZulu. For example, *-nga-* can have a negating effect in a low tone, but indicate potential in a high tone. So '*Lomntwana angajovwa*' if *nga-* is low toned means 'This child must not be vaccinated', but, if *nga-* is high toned means "This child may be vaccinated". Therefore readers must either hold alternate meanings in mind where there is ambiguity until they confirm meaning from contextual cues, or reread phrases to decide on their meaning. This could contribute to the high rate of regressions among competent readers of isiZulu (Land, 2015). The implication for educators here is that teaching readers to find contextual cues would help them discern appropriate tone in spite of the absence of tonal markers.

Finally, especially in comparison with English, isiZulu has a low number of permissible letter combinations, partly because of the CV syllable structure, and partly because there are no contiguous vowels or double consonants. Short letter strings such as *zi, ku, ka,* or *nga*, recur frequently, either as distinct morphemes or parts of larger morphemes, with different meanings in different contexts. In a comparison of texts of approximately 25 000 characters each from isiZulu and English newspapers (*Isolezwe* and *The Mercury*) 18 three letter strings recurred more than 100 times, and 3 four letter strings recurred more than 100 times in the isiZulu text. In comparison, only 5 three letter strings (*the, ing, and, ent* and *her*) and no four letter strings recurred more than

100 times in the English text. The effect of this is that words are not as visually distinct from one another in isiZulu as they are in English. Since new readers take longer to learn to distinguish between visually similar words than obviously dissimilar ones (Abadzi, 2011), this feature could have implications for the progress of learner readers, and possibly requires the relatively short saccades and long duration of fixations noted among proficient readers of isiZulu (Land, 2015).

Indications from preliminary eye movement data about readers' responses to this orthography

In all eye movement reading research, data are measures of:

- fixations: points in the visual field focused on, and clearly seen; competent readers demonstrate a pattern of consecutive fixations along each line of text. Fixations are measured in terms of frequency, position and duration;

- saccades: the movement of the point of focus between fixations; in reading, saccades are measured in terms of letters between fixations;

- regressions: registered if a reader looks backward in the text, shifting the point of focus to the left; regressions are measured in terms of frequency and length.

Linguistic and cognitive processes affect eye movements (Reichle *et al*., 2008; White, 2008), and studies in different languages show that saccade length and the duration of fixations vary across orthographies (Osaka, 1992; Reichle, Rayner and Pollatsek, 2003; Liversedge and Findlay, 2000). Since fixations are linked to attention (Paulson, 2005; Miellet, O'Donnel and Seren, 2009) eye movement patterns can yield information about how readers respond to particular textual features, and their reading strategies.

Eye movement data on competent readers of isiZulu, discussed in detail in another paper (Land, 2015), suggest that when reading isiZulu text, they:

- skip 1% of words, apparently recognising them in parafoveal vision since they register their meaning; these words tend to be frequently used, short non-agglutinated words (e.g. *uma, nje*).

- read 25% of words in a single fixation, thus apparently automatically recognising them; these words are mainly short non-agglutinated words or high frequency words with not more than two morphemes (e.g. *kodwa, zakhe, umuntu*).

- require a relatively long period to process the text perceived in each fixation compared with readers of other alphabetic languages for which data is available; the average duration of fixations of readers in this study was .3 seconds.

- appear to process small grain size units of text as they read, since their average saccade length was 4.05 characters.

- make regressions as frequently as readers of other alphabetic languages in terms of time, making 1 regression every 1.89 seconds, and with 16% of fixations being regressions; however, in terms of regressions over spans of text they regress more, at 1 regression every 24 characters.

IsiZulu orthography is relatively time consuming to read in comparison with other alphabetic languages for which data is available; reading rates of participants in this study, all of whom demonstrated high competency, ranged from 621–1283 characters per minute (cpm). The average speed of the fastest ten in the sample was 1021cpm.

These figures suggest that adept readers of isiZulu use decoding strategies that differ from those of their counterparts in English, since in efficient reading of English:

- most words are instantly recognised during reading of continuous text, with 25% – 30% skipped (White, 2008; Rayner, 2009) and others recognised in one quick fixation;

- words of up to 9 letters (i.e. the majority of English words (Norvig, 2009)) are read in a single fixation, suggesting automatic recognition (New, Ferrand, Pallier and Brysbaert., 2006);

- fixations are short, usually .2 – .25 seconds (Reichle *et al*., 2003 p. 446; Rayner, 2009; Hutzler, Ziegler, Perry, Wimmer and Zorzi, 2004); this suggests that readers can quickly glean the information they need from the text perceived in each fixation;

- saccades tend to be 7 – 9 characters, but can be up to 20 characters (Rayner, 2009; New *et al*., 2006; Miellet *et al.,* 2009), indicating that competent readers of English process large grain size units of text;

- roughly 10 – 15% of fixations are regressions, made about once in two seconds Reichle *et al*., 2003, p.348; Rayner, 2009; Liversedge and Findlay, 2000), and approximately once every 50 characters.[8]

- at 300 words per minute (wpm), competent English readers are reading about 1380 characters per minute (cpm), which is notably faster than the cpm rates recorded by readers of isiZulu in this study (above).

These figures suggest that although English and isiZulu both use the alphabet, there are important differences in what readers must do.

The most salient of these differences appears to be that English is most efficiently read by seeking cues for word recognition in considerably larger letter groupings than is optimal for efficient reading of isiZulu. This is in line with the logic of psycholinguistic grain size theory noted above.
A corollary of this might be that while automatic recognition of words occurs in efficient reading of both languages, isiZulu orthography militates against it while English orthography facilitates it.

It might be logical to suggest that synthetic methods of teaching reading such as the syllabic method, which works well with isiZulu, possibly encourage readers to process small grain size units of text. However, processing small grain size units of text may be inevitably slower than processing larger grain size units of text. The outcome of this may be that reading in orthographies that lead readers to rely on large grain size processing, such as English and French, is potentially faster than reading in orthographies where large grain size processing is not necessary.

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8 With 300 wpm considered competent in English (Rayner and Pollatsek, 1989) and an average word length of 4.6 letters (Björnsson, 1983), competent readers process 1380 letters per minute. So once in two seconds = 1380/30 = once for 46 letters.

Do competent readers of isiZulu consciously and effectively use particular decoding strategies?

This paper seeks to answer this question by relating details in eye movements mapped onto text to what readers remembered of those particular moments as they read.

Sample

Since there are as yet no standardised measures of reading proficiency for isiZulu (Van Rooy and Pretorius, 2013), an invitation to readers who saw themselves as proficient, and were interested in participating in research was circulated in Pietermaritzburg, and sent to people who regularly read isiZulu text in their work, including publishers of isiZulu texts, journalists, and lecturers of isiZulu. Approximately 150 respondents underwent a timed silent reading test (Appendix 1). On the basis of their speed and accuracy, the most efficient 25% of respondents (38 of them) were selected, and their eye movements recorded as they silently read four texts described below.

The recordings of 5 participants were technically flawed, and excluded. The remaining 33 included:

- 15 women and 18 men
- 24 professionals (11 of whom were part time post graduate students), 5 full time university students and 4 high school students.

The group ranged in age from 16 to 61, with 4 under 20, and 4 over 50, and 25 between 20 and 50.

Instruments

Instruments used were texts and the Swedish-built Visagraph eye movement recording system, with Reading Plus software. The Reading Plus organisation in the United States created an isiZulu language package specifically for this research, which mapped participants' eye movements directly onto electronic versions of the texts described below.

The four 100 word texts (Appendix 2) were extracted from novels written in isiZulu. Since there is no authorised grading system for isiZulu texts (personal email communication 2013/04/12 from Sabelo Zulu, Shuter and Shooter Educational Publishers, SA's largest publishers of isiZulu texts), a focus group was run to select texts for this study. Three lecturers in Education at UKZN, all first language isiZulu speakers, participated, judging a number of texts. They found the four texts used to be representative of isiZulu literature, with two texts considered easy to read, and two considered difficult to read. Although they relied on 'gut feel', their assessment matched measures of textual complexity. The 'easy to read' texts had 19 sentences (averaging 1.4 clauses per sentence), and 15 sentences (averaging 1.8 clauses per sentence) respectively. The 'difficult to read' texts, had 10 sentences (averaging 2.7 clauses per sentence), and 6 sentences (averaging 4.2 clauses per sentence) respectively.

They judged the vocabulary of the easier texts to match isiZulu spoken in urban areas, and noted that the more difficult texts contained terms and idioms from 'deep' isiZulu, spoken in rural areas, and used in formal academic isiZulu studies.

Word length is a key factor in readability formulae for text in European languages, (e.g. SMOG index, Flesch–Kincaid formula, Gunning Fog index, LIX), but average word length differed by less than 1 letter across these four texts, at 7.65, 7.47, 8.31, 7.49 letters in Texts 1, 2, 3, and 4 respectively.[5]

The texts were adapted in font type, point size, and line spacing to suit the Visagraph equipment, which uses infrared differential reflectivity and has a sampling speed of 60 Hz (Compevo, 2013). Recording systems with higher sampling speeds are available, but the Visagraph system was appropriate for this study because it records eye movement during natural silent reading of continuous texts, since:

- a flexible 2.4m cable connects the mask to a computer, allowing readers free head movement and natural reading positions not possible in systems where readers rest their faces in a frame;
- the system works in natural light;

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5 This is comparable to text in the isiZulu newspaper Isolezwe, calculated to be 7.17 in a corpus of 5055 words from articles published in November 2013 from http://www.iol.co.za/isolezwe

- eye movement detectors are in the mask, allowing texts to be read from paper, and not computer screens.

Methodology

Readers' eye movements were recorded as they silently read the four texts referred to above. The Reading Plus package allows the replay of the recorded movement of a reader's point of focus (represented by a moving cursor) mapped onto an electronic copy of the text. Thus eye movements such as saccades, regressions and pauses, can be examined in relation to the points in the text where they occurred.

Immediately after reading each text, with the reading experience fresh in mind, each reader recounted what they remembered of the text in order to check their comprehension, and then participated with the researcher in examining the reading experience through a stimulated recall process. This involved following the recorded eye movements and relating features within it to what they remembered of particular moments in their reading experience. Information about strategies they used was gleaned from their recollections.

Strategies commonly used by proficient readers

Underlying all the readers' descriptions of their strategies was that they found these strategies helpful in their primary aim of discovering what texts were saying.

Automatic recognition of high frequency words

Predictably, readers are far more conscious of what they do when they do not automatically recognise a word than when they do. Eye movement data showed that these readers recognised approximately 25% of the words instantly, and that there was a significant correlation (r = .743) between faster reading rates and longer saccade lengths. This indicates that although it appears that readers of isiZulu rely on small grain size units of text, swifter, more competent readers have a higher rate of automatic recognition of combinations of small units of text than slower readers do. This enables readers to focus attention on the information in text rather than on the process of reconstructing language from print, thus enabling them to read more effectively than readers with a low automatic recognition rate.

Reconstruction of speech sounds as a small grain size processing strategy for complex words
An extract from the transcripts of the stimulated recall process illustrates this process:

SL And how do you manage . . . here [referring to the word *kwakungowokuphatha* [it was to do with child minding] there are one, two three four five six morphemes in that word. How do you do it in your head?

NN I think I read it slowly like *kwa-ku-ngo-wo-ku-phatha* – then I wanted to understand it.

SL You made the reading voice that goes in your head. . .

NN Yes I say the word.

SL . . . and went back to check if you saw it right?

NN Yes.

SL And you listen to it again in your head?

NN Yes. Exactly. That's what I did.

It is noteworthy that this research participant, a journalist on an isiZulu newspaper and one of the swiftest and most accurate readers in the group, is conscious of using this strategy to read this unusual construction. Her use of it suggests that it is the optimal strategy for decoding the multiple morphemes of complex agglutinated words – and indeed it is difficult to imagine what another strategy could be.

Looking for morphemes that modify meaning
Closely linked to the decoding strategy described above is attentiveness to features at morpheme level that modify meaning:

SL Then you said *wazibula ngamawele*? [gave birth to twins]

TM Oh yes that …when I read the word *zibula* I was a bit hesitant. I was not sure whether she or he killed himself, and then I saw that they mean *wazibula*. . .

SL Oh – so you thought of '*wazibulala*' [she killed herself] and *–bulala* is a more common word.

In this instance the eye movement record shows that the reader regressed to the word *wazibula* when her initial assumption of what the stem was (the much more commonly encountered stem *-bulala*) seemed odd to her. As miscues indicate incorrect prediction in reading aloud, regressions can point to incorrect prediction in silent reading.

Pausing and trying out different tonal options
Pauses reflected in eye movement records show where the reader has paused in the text, but not the reason for the pause. In the instance below the reader paused to consider alternate tonal options, for which the print carries no cue.

MG When I see the *unga-* and I'm reading it but I'm not hearing – I must think 'Am I saying *unga-* (high tone) or am I saying *unga-* (low tone)?' so I go back and make sure that it's *unga-* (low tone)

The difference in tone that this reader engages with here is vital in her construction of the meaning in the text. She is referring to the word *ungakhathazeki* (you should not worry) where the morpheme *–nga-* would be spoken in a low tone. Spoken in a high tone in the same position in an agglutinated word it indicates positive potential. Here the reader clearly used contextual cues to decide which tonal variant of '*nga-*' is intended.

Pausing to integrate elements of decoded meaning
Among these readers a common reason for pausing was taking a moment to consciously integrate elements of text they had decoded into a construction of the meaning of the text read so far. One said he 'landed in a safe place to think'.

In another instance:

SL But you stopped there for quite a long time on this common word *kumnandi* (it is pleasant) . . .

NN I was thinking about this whole article . . . I think I did not understand it very well. While I was reading I was trying to understand the meaning so I found myself stopping somewhere.

This suggests a relatively high degree of ambiguities that readers must resolve in isiZulu orthography, and/or that its features compel readers to engage in a relatively long integrative process as they reconstruct the meaning in the text.

Rereading to make sense of text

In contrast to pausing, with the point of focus still for a moment, readers often shift their focus to the left in the text and reread some text. In this study, the most commonly expressed reason for rereading was to confirm or disconfirm the accuracy of an initial impression, or to resolve confusion. Instances were:

SL . . .then you went back to *indaba yami* (my story) and again you went twice to *yami*. Can you remember why?

KZ I think I was trying to figure out the meaning.

SL . . .then you went back to *okuvuthiwe*. Do you remember that?

NN I was trying to understand the word.

SL Because it's not normal to talk about *umuzi ovuthiwe*? (a baked or ripe house)

NN Yes . . . I was confused, and the word was long.

Visualisation of images

Readers' sustained focus on the meaning of text was evident from their descriptions of building mental representations of meaning in the texts as they read. Without prompting, the strongest readers talked about details of clear visual images that came to mind as they read.

SL And which schools were those?

ML It was a Cola Primary School, Khalipha Primary School, Isipingo Primary School, Umbelebele High School . . . all my schools . . . In Durban, all of them are built of red bricks. So if I read something of red bricks, it brings back the long block with a veranda. If you say two

verandas, it will be a veranda this side and other side – that how I got this idea.

ML Yes. The picture that was in my mind is this rural place, it is some rondavels painted white at the top and the bottom mud with top soil or black mud – *udaka*. And there are cattle, perhaps a few goats and few chicken all in a small place because I think this place belongs to a farmer. And usually farmers allocate some place to their workers. . . where they can live and plant a few vegetables and then they can keep some animals. So that was going on in my mind as I was reading this.

SL So you were constructing the picture as you read?

ML Yes.

Linking to previous knowledge

The source of information used by readers in the process of constructing meaning is obviously their own experience, or what they have learned from others, or from reading or media. Where the information gained from text is consistent with background knowledge, readers can progress steadily through text, but where it is not, readers tend to pause, and/or reread the text. This was evident in this study at points where eye movement records showed readers stopping momentarily, or rereading words or pieces of text, sometimes even three times. Excerpts from transcripts reveal their thinking as they did this:

TM I was not sure about the sentence because, really I never heard anything about the *impi* (war) between *amaNgisi namaBhunu* (the English and the Afrikaners). I only know the war between Blacks and Boers so I said to myself Mmh? Okay then, to me it is a something new.

TM . . . Then I went back again on Duda because I was not sure *umfowabo* (their brother) uDuda or uDudu so, I was asking myself if this is a male how do they call him uDudu because that is a female name.

SL Oh you thought of Dudu because it is a common name?

TM Yes, but I never heard the name of Duda.

SL So you were making sure?

TM Yes.

SL But it is very clear that is a male?

TM Yes because immediately they said *umfowabo*

SL So all that previous knowledge of red bricks about the school, it brings it right back so that it actually shapes your understanding of the text. Isn't that an amazing example?

ML Yes it is, and it makes me keep jumping like this, forward and you want to go back a little bit just to confirm - what you are thinking is true or not.

Implications for educators

Some of the strategies described by these readers are known to be effective in reading across languages; in fact they exemplify some of the reading activities recommended by the Department of Education in its National Curriculum Statement: Curriculum and Assessment Policy Statement (Department of Education, 2011). These include:

- pausing to check comprehension,
- comparing content to expectations,
- visualising what is being read,
- relating what is read to background knowledge, and reflecting on what is read.

Other strategies that might apply more particularly to the orthography of isiZulu are:

- consciously reconstructing speech sounds as a small grain size processing strategy for complex words, in a process that could be seen as a high speed internal version of 'sounding out',
- being alert to morphemes that modify meaning in agglutinated words, and
- using contextual cues to select the most appropriate among different tonal options of words read.

Analysis of the orthography of isiZulu leads to further considerations that might be helpful to educators.

One is that while the common use of the alphabet by isiZulu and English allows for transfer of learning in reading these languages, there are complications in this common usage. Because of the opacity of English orthography, and the transparency of isiZulu orthography, many letters perform differently in these languages. For example, it would benefit learner readers to know that 'a' represents just one speech sound in isiZulu, but can stand for several different vowel sounds in English, that 'p' signifies both an aspirated or unaspirated consonant in English (a feature generally below the awareness level of first language English speakers), but must be followed by an 'h' to represent the aspirated consonant in isiZulu, that 'th' represents completely different sounds in English and isiZulu, and that 'c' can be involved in at least four different speech sounds in English, none of which is remotely similar to the click consonant it represents in isiZulu. It would save new readers of English and isiZulu a great deal of bewilderment if teachers were trained to make the differences between use of letters in English and isiZulu explicitly clear. This is mentioned in a handbook for teachers (Department of Education, 2008), but usually it is simply assumed that the differences will be automatically understood by new readers.

Another basic consideration relates to automatic word recognition. As noted above, there is a strong correlation between saccade length and reading rate, implying that automatic recognition is associated with reading proficiency. Sustained practice in recognising high frequency non-agglutinated short words, and high frequency word forms with only two or three morphemes would help learners to gain automatic recognition of high frequency words. Practice could be through the use of flash cards, or scanning newspaper text for target words such as 'uma' (if/when) or common morpheme combinations such as 'abaka-' (they have not yet). Linked to this could be exercises in spotting shifts in meaning encoded in shifts in morphemes, perhaps by pairing constructions with subtle differences and encouraging learners to spot one with a particular meaning as quickly as possible. An example of this might be:

> *owayekuthanda* vs *owayengathanda* (who used to like you/it) vs (who did not like to. . .)
>
> *ungakhathazeki vs ungakhathazi* (don't worry) vs (don't cause trouble)

Another useful strategy for readers of isiZulu to learn would be to cope with homographs and lack of tonal markers by looking for contextual cues.

For example, the meaning of *Lezi zincwadi zingatshelekwa emtapweni wolwazi.* depends on the tonal pattern: These books can be borrowed from the library OR: These books must not be borrowed from the library).

This necessitates attending to the meaning in surrounding text, and looking for contextual cues, which few teachers appear to be trained to enable their learners to do; observations in local schools and adult classes indicate that while teachers do attempt to ensure that their readers understand the meanings of individual words, they tend not to direct the attention of their learners to the meaning of whole paragraphs, or the overall meaning of a text (Mather, 2013; Sivnarain, 2014). They are by no means alone in the assumption that once readers decode words, their understanding of text will automatically follow; a draft reading development course developed by an internationally recognised reading researcher stops at word recognition (Abadzi, 2014).

Where teachers do attend to the overall meaning, they can take advantage of children's proficiency in their mother tongue, and their familiarity with language features such as concords in identifying referents and inferring information in text.

Conclusion

Data from this study indicates that competent readers of isiZulu do consciously and effectively use particular decoding strategies. These strategies could be incorporated into reading programmes and brought to the awareness of reading teachers, and several considerations might be helpful to teachers working to develop their learners' reading skills.

One is ensuring that readers who are developing reading skills in both English and isiZulu have a full understanding of the differences in the ways that letters of the alphabet are used in the two languages.

Another relates to the strong correlation between automaticity and reading proficiency. Learner readers would benefit from exercises designed to

develop their ability to recognise high frequency non-agglutinated short words and high frequency word forms in the instant that they are seen.

Equally useful would be exercises that stimulated and strengthened learner readers' awareness of shifts in arrangements of morphemes, and the concomitant shifts in meaning.

Finally, coaching readers to find contextual cues would help them to resolve ambiguities and cope with the absence of markers of tone that modify meaning in speech.

In closing, it is useful to note that an unintended consequence of describing useful reading strategies such as those defined above is that diligent educators may forget or not understand that their use is not as ends in themselves, but in reaching the central objective of reading, which is to access the meaning of texts. All the readers who contributed to the compilation of the strategies listed above were very clear that they used these strategies not as ends in themselves but because they had found that their use increased their ability to effectively access the meaning of texts.

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Appendix 1a:

Invitation to participate in the study, including a self test of reading rate

UYAMENYWA UKUBA UZIMBANDAKANYE NOMSEBENZI WOCWANINGO LOKUFUNDA ISIZULU.

Ungakwazi ukufunda lokhu ebhokisini ngaphansi komzuzu owodwa? Zikalele ngewashi: Uma ungafunda kulelibhokisi isikhathi esingaphansi komzuzu owodwa , kungenzeka

> Sidinga ukusebenza ngokushesha ukuthuthukisa izilimi zase Africa enyuvesi yethu. Ukuthuthukiswa kwezilimi zase Africa njengezilimi esiphathelene nemfundo ephakeme kubalulekile. Sonke sidinga ukuzinikela kuzona. Akusiyena uhulumeni kuphela okungafanele abone ukuthi lezilimi zase Africa zisetshenziswa endaweni efanele emphakathini wethu. Ngokweqiniso lokhu kungumsebenzi wethu sonke. Ezikhungweni eziphezulu zemfundo, abathuthukisi bezilimi, kanye nomphakathi wonkana kufanele baqiniseke ukuthi izilimi zase Africa ziqinisekiswe.
>
> Izilimi zase Africa zibalulekile kulelizwe. Zisivezele ukuthi singobani, futhi sifuna ukuba ngobani, kanye nendlela esifisa ukwakha ngayo i South Africa.
>
> Ukuthuthukiswa kwezilimi zase Africa kwimfundo, nakwezemfundo ephakeme, kusemthethweni sisekelo. Uthi umthethosisekelo, bhekisisani ukushabalala kwesisindo sezilimi zabantu bakithi kuleli, uhulumeni kumele athathe izinyathelo ezinqala zokuphakamisa isisindo nenqubo yokusetshenziswa kwezilimi zethu. Masingavumeli ukuthi izilimi zakulelizwe zishabalale. Kodwa masiziqinisekise.

uthande ukuba ingxenye yocwaningo lomsebenzi wokufunda imibhalo yesiZulu. Indlela okubhalwa ngayo isiZulu kuhluke kakhulu endleleni okubhalwa ngayo isiNgisi. Kanye namakhono okufundwa kwesiZulu awakaqondisiseki namanje.

Ngidinga abantu abakwazi ukufunda isiZulu ngokushesha futhi okulula kubona ukufunda, abangaba nothando lokuvolontiya. Ngidinga ukuqopha indlela amehlo abo anyakaza ngayo uma befunda. Inhloso yami eyokuhlola amakhono okufunda incwadi yesiZulu.

Uma uzinikezela kulomsebenzi ungsiza entuthukisweni yolimi lwesiZulu njengolimi olufundwayo. Bonke abazozinikela kulolucwaningo bayothola ulwazi mayelana namakhono okufunda kwabo.

Ayikho imali ezotholakala ngokwenza lomsebenzi.

Sandra Land Centre for Adult Education University of KwaZulu-Natal

Appendix 1b:

English version of the invitation in Appendix 1a
(not used in the study, but included here for clarification)

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT ON READING IN ISIZULU.

Can you read the text in this box in under a minute? Time yourself:

If you can read the text in the box in less than 1 minute, you might be interested in taking part in a research project by having your own reading of Zulu text analysed. The way Zulu is written is very different from the way English is written, and the skills needed to read Zulu text well are not yet well understood.

> We need to move speedily in making the development of African languages a reality at our universities. The development of African languages as languages of scholarship is an imperative that we all need to commit ourselves to. It is not for government alone to see to it that African languages get their rightful place in our society, but indeed this is the responsibility for all of us. Academic institutions, language practitioners and broader society should all come on board to ensure that African languages are strengthened at universities and in society as a whole.
>
> African languages constitutes one of our most important [forms of] heritage, about who we are and about who we want to be and the kind of South Africa we wish to build, including the manner which we use our languages.
>
> The development of African languages in education in general and higher education in particular is mandated by the Constitution ... [which] states that, "recognising the historically diminished use and status of the indigenous languages of our people, the state must take practical and positive measures to elevate the status and advance the use of these languages" We should not allow our languages to die, but strengthen them If we are not seeking to develop our languages as practitioners in higher education, then who will?

I am looking for people who read Zulu fast and easily and who would be interested in volunteering to have their eye movements recorded as they read short excerpts from Zulu novels. The purpose of this recording is to discover whether particular patterns of eye movement are common among competent readers of Zulu text.

Participants in this project will be making a significant contribution to research in the development of Zulu as a language of reading and learning, and each participant will receive a summary analysis of their reading skills. **However please note that there will be no payment for participation in the project.**

Sandra Land Centre for Adult Education University of KwaZulu-Natal

Appendix 2:

Texts used in this study (though not in this format)

1. Memela, N. (1992). *Sengikhulile*. Durban: New Readers Publishers.

UNomadashimane igama lami. Sengikhulile! Awu! Akukho okudlula lokhu. Ikhulu leminyaka akusiyo into encane. Phela ngazalwa ngempi yamaNgisi namaBhunu. Abanye babewabiza ngokuthi amaDashimane amaBhunu. Igama elithi Nomadashi lasukela lapho. Ubaba wayesebenza epulazini endaweni yase-Bulwer. Kwathi ngokusuka kwempi wathi umlungu kubaba, "Ngiya empini. Hleze ngingabuyi, ngifele khona. Uma ngingabuyanga, ungakhathazeki. Ngiwenzile onke amalungiselelo okuthi umesisi anibheke nezingane zakho." Umama ngalesosikhathi wayekhulelwe. Wazibula ngamawele, umfana nentombazana. Bathi kuzelwe amakhosi. Bangiqamba igama elithi nginguNomkhosi. Kepha ngenxa yokuthi ngazalwa ngempi kwaduma elokuthi nginguNomadashi. Ngakhula-ke sihlezi epulazini. Sasilima, sisenga izinkomo, kudliwa amasi. Kwakujwayelekile ukuthi ingane ekhulele epulazini iwuqale isencane umsebenzi. Ngaqala ukusebenza ngingakalihlanganisi ishumi leminyaka. Umsebenzi wami kwakungowokuphatha izingane zomlungu. Ngaze ngakhula impela ngisebenza kuye lomlungu.

2. Nyembezi, S. (1953). *Ubudoda abukhulelwa*. Pietermaritzburg: Shuter and Shooter Pty Ltd, p.15.

Lapha kwaMsezane kwakwakhiwe ngempela. Kwakungumuzi ovuthiwe. Indlu yayakhiwe ngesitini esibomvu, esishisiwe. Yayinovulande ezinhlangothini ezimbili. Indlu yayinamakamelo ayisishiyagalolunye. Kwakukhona indlu yokuphola, neyokudlela, nalapho ayesebenzela khona uMsezane nalapho ayegcina khona izincwadi zakhe. Phela kwakungumfo owayekuthanda ukufunda. Kunamakamelo amathathu okulala. Bese-ke kuba yikhishi nendlu lapho kubekwa khona ukudla. Uma ungena endlini yokuhlala, wawukhangwa upiyane olukhulu, luzisho nje ukuthi olwemali. Kwakukhona futhi endlini izihlalo ezithofozelayo, ayethi umuntu uma ehlala kuzo ashone phansi avele ngezindlebe. Phakathi nendawo kukhona itafulana elincane kubekwe phezu kwalo isitsha esinezimbali. Phansi lapha amapulangwe ayembozwe ngocansi lwabeLungu. Kwakuyiloluhlobo othi uma uhamba phezu kwalo nezigi zife, umuntu athashazise okukamangobe. Ezindongeni

kwakulenga izithombe ezimbalwa. Zonke izinto ezazikulomuzi zazikhuluma ngokusobala zithi kukwamnumzane lapha.

3. Mkhize, M. T. (1983). Amahlaya alala insila. Pretoria: De Jager-HAUM Publishers, p.1

Umuzi wakubo kaChithimpi Zondi umfo kaNkalimba wawunezindlu ezimangaqhugwana amathathu wakhiwe ngaphansi kwegquma. Iminyango yezindlu yayibheke ngaseNyakatho ukugwema iziphepho ezazivamise ukuqhamuka ngaseNingizimu. NgaseMpumalanga yomuzi kwakunomhoshana okwakwehla kuwo umchachazwana wamanzi owawuze uyongenela emfuleni uMzimayi. Ntambama kwakuye kuheleze umoya obandayo owawuye ungene ngezi-khadlana zezicabha kwaZondi. Lamahelehelana ayeqala ngokuphola kamnandi kodwa agcine esebanda ngokumangalisayo lapho sekuphakathi kwamabili ebusuku ikakhulukazi uma kusebusika. Ngalelilanga kunguMgqibelo ntambama iwona lamahelehelana ayesiza ekupholiseni kwaZondi. Phela lapha emzini kaNkalimba ngalelilanga kwakusindwe ngobethole kutatazela omakoti kunjeyaya. Okungamakhehla nezalukazi kwakulokhu kubonakala kuphuma kuthi tshobe ngemva kwezindlu kuchitha lawomanzi ayengasadingeki emizimbeni yawo. Kulobuhholohholo bomsindo wabonakala uDuda umfowabo omncane kaNkalimba engena endlini nezimbuzi ezimbili ayezibambe ngezimpondo eyokuma ngasemsamo. Esemsamo uDuda wabatshela abasendlini ukuthi lezimbuzi kwabe kungezani.

4. Zama, J. M. (1967). Ingwe idla ngamabala. Pietermaritzburg: Shuter and Shooter, p.1

Kwakungenye intambama lapho selibantubahle; kusentwasahlobo iminduze seyiqalile ukuqhakaza, mhla ngiqalayo ukuyizwa inguquko empilweni yami ngoba ngakhanyelwa kusukela ngaleyo ntambama ukuthi akukho lutho oluzenzekelayo nje ngokwalo. Yonke into emhlabeni inembangela nenhloso ethile kulowo nalowo muntu. Leyontambama engiyisusela kuyo lendaba yami ngayiphawula ngoba ubaba, uNqakamatshe, wafikisana kanye nathi esangweni lomuzi wakwethu, kwazise ukuthi sasingaveli ndawonye nobaba. Ubaba wayebuya embizweni eyayibizwe nguGazi iNkosi yethu thina baThembu. Thina sobathathu madodana akhe sasiqhamuka kokumba iziphunzi esikhaleni esasisivule ezinsukwini ezingaphambiyana ngokugawula izihlahla ekupheleni kwehlathi elaligudla insimu kamame omkhulu, uMaButhelezi. Umame omkhulu wayebike kubaba ukuthi isife ayesilima

minyaka yonke sase sinciphile ububanzi baso ngenxa yokucinaniswa yimixhantela yezihlahlana ezazimila ezimpandeni zemithi eyayisephethelweni lalelohlathi. Thina sasivela kulowo msebenzi.

Sandra Land
Durban University of Technology

sandral@dut.ac.za

Consequences of the progression law in the FET phase: a case study

Angela Elisabeth Stott, Hercules Dreyer and Peet Venter

Abstract

The progression law, which restricts grade repetition to once within each of the four phases of basic education, has only been enforced in the Further Education and Training (FET) phase since 2013. The first cohort of progressed learners reached grade 12 in 2014. We investigate the extent of progression in 2014 in various school quintiles and the observed and speculated future consequences of the progression law in the FET phase. Our mainly quantitative data includes numbers and pass rates for the entire Free State (FS) province, with a focus on the Motheo district. We also draw on some qualitative data in the forms of questionnaires and reports from teachers and mentors working in 22 low quintile schools in Motheo. Our findings show marked differences in extents and impacts of progression between the school quintiles, with low quintile schools acutely impacted and with difficulties likely to escalate in the next few years.

Introduction

Both promotion and progression refer to the movement of a learner to a higher grade. In the case of promotion this is due to the learner having attained the minimum pass requirements stipulated for the grade by the education authority. In the case of progression this is despite not having attained these minimum requirements. The term repetition, in contrast, refers to a learner remaining in a grade instead of moving on with his/her peers. The term retention is sometimes used as a synonym to repetition, but we have chosen DBE (2008)'s use of retention as the antonym of dropout. The terms social and automatic promotion are taken as synonyms in this paper, and refer to the practise of learners of a particular age cohort progressing through school at the same rate as one another, with their progression determined by their age rather than their academic performance (Brophy, 2006). In this paper we use the term social promotion loosely to allow for limited repetition, as is the case in the South African (SA) context.

In 1998 the SA Department of Education (DoE), now called the Department of Basic Education (DBE), adopted a policy which limited grade repetition to once within a phase (DoE, 1998). We refer to this as *the progression law*. The progression law legislates social promotion until grade 9 and again from grades 10 to 12. It is common knowledge that there has been general compliance with the progression law in the General Education and Training (GET) phases for a number of years. However, it seems that the progression law has only been implemented *en masse* in the FET phase since 2012, in response to a circular issued by the Minister of Basic Education (DBE, 2012).

According to DoE (2007b), learners who achieved certain rather stringent requirements in grade 9 would be awarded a GET certificate and then exit formal schooling or enter the FET phase. The FET phase would be comprised of an academic stream, i.e. grades 10–12, offered by high schools (DBE, 2011; DoE, 2004), and the vocational national curriculum, NC(V), a more practical stream, as offered by TVET (Technical and Vocational Colleges) (DoE, 2007a). Only learners who were promoted (i.e. achieved the stipulated promotion criteria), condoned (according to lesser criteria, given in the policy document), or had achieved qualifications equivalent to the GET certificate, were to be admitted into the FET phase. For the NC(V) stream, additional provision was made for recognition of prior learning (RPL). It is unclear what the intention was for the remainder of the learners which, in our experience in the low quintile schools in which we work, is the majority.

Despite a massive reconceptualisation of and financial boost to TVET colleges from 2005 to 2009 considerable challenges remain regarding enrolments and throughput rates for these institutions as well as the image employers have about graduates from such institutions (Cosser, Kraak, and Winnaar, 2011). Perhaps because of these, the promised GET school leaving certificate has never been implemented and a large-scale transfer of learners from an academic to a practical stream in the TVET colleges, or into the job market, at the end of grade 9, has not happened (Branson, Hofmeyr, and Lam, 2014), with multiple consequences. These include the problem of what to do with learners who have not passed grade 9 according to the stipulated criteria, and yet who are unwilling or unable to enter an education stream alternative to the FET phase of schooling.

It appears that the response of the DBE, as well as many schools acting independently, has been to disregard the policies' stipulation that a learner may only be enrolled in grade 10 if he/she had met the promotion

requirements of grade 9. Consequently, progression (Lekalakala, 2013), or upward manipulation of grade 9 marks to mask progression as promotion or condonation (see, for example Padayachee, 2014), of learners from grades 9 to 10 has followed. This has resulted in a large number of learners currently being enrolled in the academic stream of the FET phase without having been promoted to this point through their own academic achievement. Further, since the start of implementation of the progression law in the FET phase, these learners may only fail once within the FET phase, and otherwise must be progressed automatically. The first cohort of progressed learners reached grade 12 in 2014. It seems probable that this contributed to the decrease (of 2,6%) in pass rate in 2014 compared to 2013 (Motshekga, 2015).

In this article we explore the extent of progression in 2014 and consequences of the progression law, in the FET phase, as we draw on data from all FS schools, with a focus on a subset of 22 low-quintile schools (i.e. schools serving learners from low socioeconomic homes) in the Motheo district, to answer the following questions: (1) What was the extent of progression to grade 12 in schools of various quintiles in the FS in 2014? (2) How has the progression law in the FET phase impacted pass rates and teaching conditions in schools of various quintiles? (3) How can the progression law be expected to impact learner profiles, pass rates and teaching conditions in low quintile schools in the next few years?

Literature review

The debate about the relative costs and benefits of repetition is hot and polarised. Surveys suggest that most educational practitioners, as well as the general public, frown on social promotion (Alexander, Entwisle, and Dauber, 2003). However, in the academic world, proponents of social promotion coupled with remediation, abound (e.g. Holmes and Matthews, 1984; Jimerson, 2001; Smith and Shepard, 1987). We examine both sides of the argument and the contexts in which they are made relative to the SA context, as a framework for interpreting the findings of this study.

The social promotion debate

Proponents of social promotion cite studies which show that repetition has social and academic costs and few if any long-term benefits. Holmes and Matthews (1984) conclude their meta-analysis of the repetition of elementary and junior high students by stating that: "Those who continue to retain pupils at grade level do so in spite of cumulative research evidence showing the potential for negative effects consistently outweighs positive outcomes" (p.17). These negative effects include an increased likelihood of dropping out of school before graduation (Jimerson, 2001) and behavioural problems, including truancy (Jimerson, Carlson, Rotert, Egeland, and Sroufe, 1997). The economic costs of repetition are also high (Alexander *et al*., 2003). These include not only the costs of having additional learners in the system, but also the lower earning-potential such learners will have once they drop out of, rather than graduate from, school. Smith and Shepard (1987) state that repetition and ability grouping "[help] advantaged groups, [create] further barriers for the disadvantaged, and [promote] segregation and stratification" (p.133). This is possibly worsened by the somewhat arbitrary nature of promotion, progression and repetition decisions, particularly in developing countries (Brophy, 2006). Proponents of social promotion admit that learners may show an initial improvement in academic performance relative to matched controls on the short term, but point out that this benefit disappears in the long term (Manacorda, 2012).

Opponents of social promotion may argue that promotion on merit, as defined by school curricula, serves all children's interests by channelling learners into areas most suitable for their ability. Alexander *et al*. (2003) refute this argument by stating that ability is not static and school assessment not infallible, and so potential to succeed cannot necessarily be determined by performance in school assessments at a particular time. Teachers are the main opponents to social promotion. Their concerns are sometimes belittled by researchers as being only informed by practical knowledge of the short-term benefits of repetition, rather than by rigorous research of both short- and long-term effects of repetition (Brophy, 2006; Haidary, 2013). The problems teachers associate with progression are well summarised in this frequently quoted statement by the American Federation of Teachers (1997, p.5):

> Social promotion is an insidious practice that hides school failure and creates problems for everybody – for kids, who are deluded into thinking they have learned the skills to be successful or get the message that achievement doesn't count; for teachers who must face

> students who know that teachers wield no credible authority to demand hard work; for the business community and colleges that must spend millions of dollars on remediation; and for society that must deal with a growing proportion of uneducated citizens, unprepared to contribute productively to the economic and civic life of the nation.

One of the concerns mentioned above is that if learners know that they will be automatically progressed they will not be motivated to work hard due to the loss of the threat effect of grade repetition. Proponents of social promotion deny the efficacy of the threat effect of grade repetition in improving learner performance since they consider the assumptions that it is based upon to be faulty. These assumptions are that learners who fail are underachievers who do not apply themselves, rather than low achievers who already work hard, and that the threat of failure is motivating, rather than demotivating (Brophy, 2006). Belot and Vandenberghe (2014) found empirical support for this renouncement of the threat effect of repetition amongst French-speaking Belgian grade 10 learners. These learners showed no difference in performance for those who knew they would be socially progressed, relative to those who had the possibility of failing their grade.

The South African context

Whether such findings are generalisable to SA learners is not known. Most of the available studies on repetition have been conducted in developed countries (Brophy, 2006) and so their findings may not be applicable to the SA context. For example, the social and psychological consequences of repetition are likely to be reduced in situations where a large portion of a class repeats the grade relative to where the repeating learner is more likely to be isolated and marginalised due to the majority of his/her peers having been promoted. Additionally, the likelihood of a learner dropping out of school because of having repeated a grade some time in their schooling history is reduced in contexts of poverty if the school offers shelter and food which would otherwise not be available. Factors such as these clearly contribute to the fact that black schools in South Africa exhibit high enrolment and retention rates despite having high repetition rates (Branson *et al*., 2014; Lam, Ardington, and Leibbrandt, 2011).

Countries which practise social promotion include those listed by the SA Minister of Basic Education, Angie Motshekga, in her speech regarding the 2014 matric results (Motshekga, 2015). These (Finland, Sweden, Denmark, Japan, Korea and the United Kingdom) are all developed countries who have

strong remediation systems in place and who perform very well in international comparative tests. They exhibit very different classroom conditions to those experienced in typical low quintile SA schools. Motshekga admitted that SA's education system lacks the necessary remediation required for social promotion to be successful when she pointed out that "we need to strengthen our support programme for [progressed] learners" (Motshekga, 2015, p.4). It is well established that in typical low quintile SA schools the undue emphasis on grade 12 has the effect of reducing the occurrence of remediation in lower grades and is detrimental to normal school functioning. See, for example Clark and Linder (2006). The United States, which does experience pockets of problems similar to low quintile SA schools, has experienced a popular move away from social promotion in recent years (National Science Teachers Association, 2003), but still exhibits low rates of repetition in general, although repetition rates of minority groups in certain areas are high (Brophy, 2006).

Brophy (2006) lists grade repetition rates for various countries and regions throughout the world, with 22% per year, recorded for sub-Saharan African countries, being the highest. However, Branson *et al*. (2014), report that as many as 80% of 2008 grade 10 learners in the lowest quintile schools in South Africa had not reached grade 12 by 2010. Their data show dramatic increases in repetition and drop-out rates between grades 10 and 11 and grades 11 and 12. This is unsurprising since the progression law was not yet being implemented in these grades at the time their data were collected. It is known that not all of this repetition was legitimate, but was rather part of a practise referred to as gatekeeping (DBE, 2012). Gatekeeping in this context means preventing learners from being promoted to grade 12 despite having met the promotion requirements, albeit poorly, if they are likely to fail the final examination, and so lower the pass rates of the school in the national grade 12 examination. It is understandable that gatekeeping was a common practise (Chisholm and Wildeman, 2013) before implementation of the progression law in the FET phase since there is considerable emotional, financial and political pressure to ensure that pass rates are competitive. In situations where educational pathways alternative to grade 12 are not present, gatekeeping, as well as repeated failure to meet the promotion requirements, can result in learners dropping out from the education system with low skills and therefore low levels of employability.

Methodology

Sample and data collection

To answer the first research question we used quantitative data from all the 2014 grade 12 candidates in the FS province. These data were obtained from the DBE, and are used with permission. Quantitative and qualitative data were collected from 22 low quintile schools within the Motheo district to answer the second research question. We refer to these schools as *the project schools*. Qualitative data comprised open-ended questionnaires and daily and quarterly reports. The reports, dating from January 2014 to May 2015, were provided by 15 highly experienced and qualified master teachers who work as mentors, visiting classes and supporting teachers, in these schools most days of the school term. The questionnaires were administered in June 2014 to all mathematics, physical sciences and accounting teachers at these schools, although only 33 responses out of 95 (35%) were returned to us. Additionally, the quantitative data used for the first research question informed the answer to the second research question. To answer the third research question we collected quantitative data about enrolment and progression numbers in the FET phase from the project schools. We also used quantitative data about numbers of overage learners per grade, for the entire Motheo district. This data were also obtained from the DBE and used with permission.

Data analysis

Quantitative data analysis involved simple statistical procedures as guided by each research question. For example, in answer to the first and second research questions, data analysis involved calculating and graphing numbers and percentages of learners who had been progressed, compared to promoted, to grade 12 in 2014, and the grade 12 final examination pass rates for each school quintile. Qualitative analysis involved forming coding categories which were grounded in the questionnaire and mentor report data, followed by coding and summarising the relevant entries according to these categories.

Results

Extent of learner progression

Of the 26 439 grade 12 candidates in the FS in 2014, 3 919 (14,8%) had been progressed to grade 12 from grade 11 at the end of 2013. We refer to these learners as *progressed learners*. Figure 1 shows that of the 79 Motheo schools who had grade 12 candidates in 2014, 28 had no progressed learners while for 17 schools more than 30% of their candidates were progressed, to as much as 58,5%.

As shown in Table 1, higher quintile (wealthier) schools have a significantly lower occurrence of progression. There are only 17 quintile 5 schools in the Motheo district and 64 of the 109 progressed learners in these schools were within only two of these schools. If these two schools are disregarded, the fraction of progressed learners in quintile 5 schools in Motheo drops to a mere 2%, in stark contrast to 27,7% in quintile 1 and 2 schools.

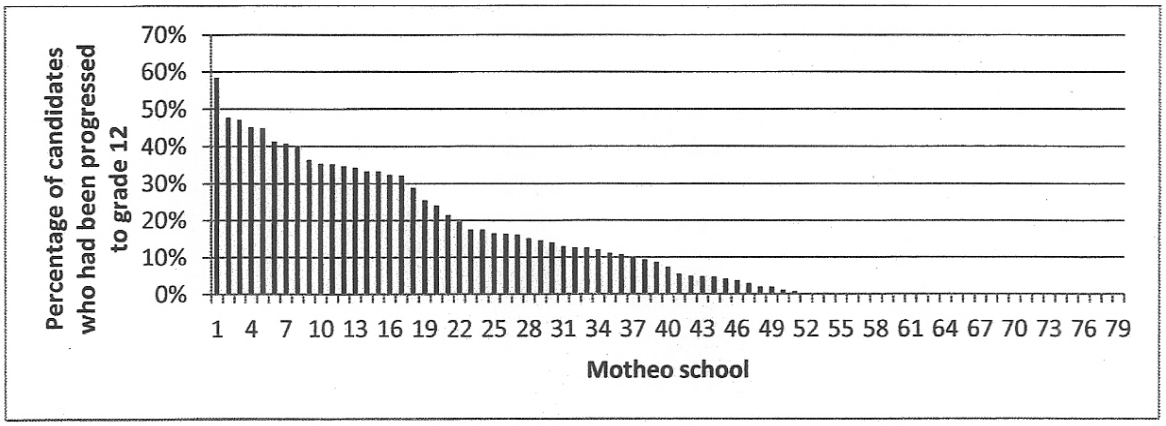

Figure 1: Extent of learner progression to grade 12 in 2014 in the Motheo district per school

Table 1: Number and percentage of progressed learners in Motheo district per quintile

Quintile	No. of learners	No. of progressed learners	% progressed learners
1 & 2	2967	822	27.7
3	1963	347	17.7
4	1033	80	7.7
5	2605	109	4.2

Effects of learner progression

As shown in Figure 2, the FS promoted learners' pass rate was relatively high, at 88,7% (n = 22 520), with little variation between the districts. However, since only 49% (1 934 out of 3 919) of the progressed learners passed, the overall (n = 26 439) pass rate was depressed by 5,9 percentage points to only 82,8%. This is 4,6 percentage points lower than the 87,4% the FS achieved in

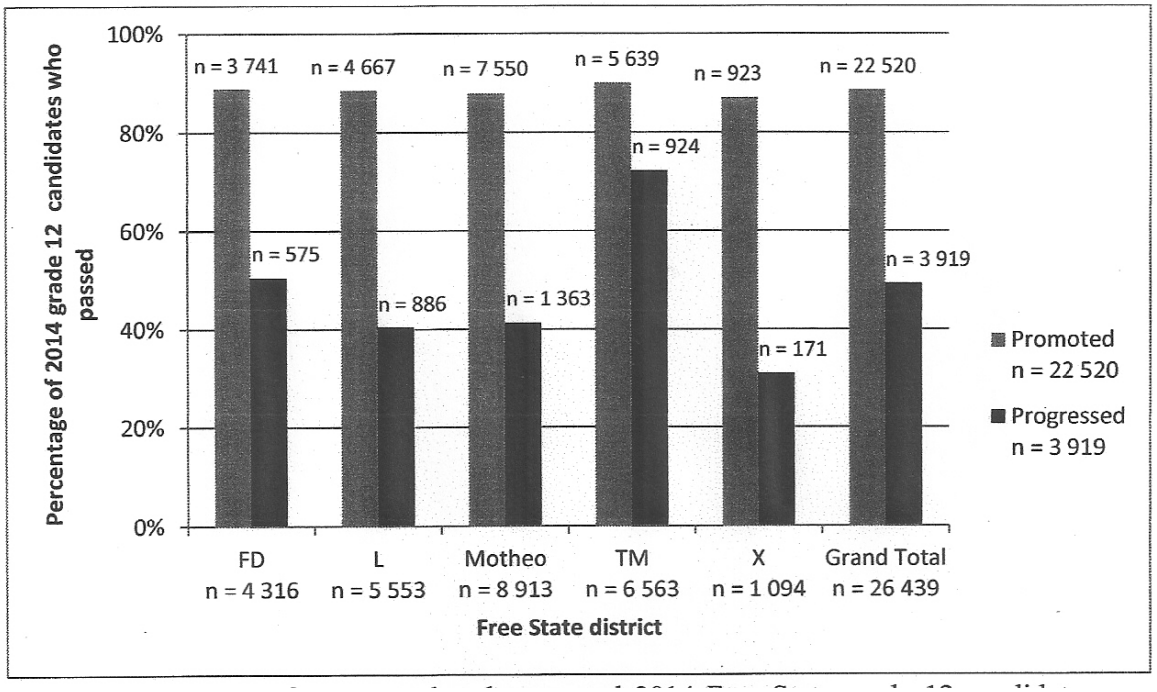

Figure 2: Pass rates of progressed and promoted 2014 Free State grade 12 candidates, per district, according to whether progressed or promoted.

2013. The progressed learners' pass rates vary noticeably between the districts from 31% (53 out of 171) for Xhariep to 72% (668 out of 924) for

Thabo Mofutsanyana. Of the 51 Motheo schools which had progressed learners, 27 had pass rates below 30% for their progressed learners. As shown in Table 2, the pass rate depression caused by the progressed learners was significantly lower for schools of higher quintile.

Table 2: Pass rate in the Motheo schools according to quintile

Quintile	Pass rate of promoted learners	Pass rate of progressed learners	Pass rate of all learners	Effect of progressed learners
1 & 2	82.4	31.4	68.0	-14.4
3	85.6	51.3	79.5	-6.1
4	89.3	58.8	86.9	-2.4
5	94.4	73.4	93.5	-0.9

Two of the 33 teachers who completed the questionnaire (out of 95 teachers to whom the questionnaires were given) were from a school which was not yet complying with the progression law. The remainder all expounded on the difficulties they experienced due to progression. The recurring themes in their open-ended responses include that the progressed learners are slow, making it difficult for the teacher to keep up with the pace setter, unmotivated, disinterested, ill-equipped, ill-disciplined, unable to cope, often truant from class and extra classes and do not do their class- and home-work. These claims were verified by all of the mentors who identified additional themes which include: Shortages of resources such as desks, chairs and text books due to increased class sizes; Burn-out among teachers due to having to give extra classes in the afternoons and weekends; Demoralisation among the teachers due to the poor performance of the progressed learners and pressure from the DBE to get these learners to perform better; Reports of teachers resigning (9 teachers), threatening to resign (3) or refusing to teach classes containing progressed learners (2) as a result of the difficulties caused by the progression law. An example from these reports, referring to an exemplary grade 12 mathematics teacher, is given below:

> She is demotivated due to the meeting she had with the committee from the department yesterday. They wanted an explanation why four of her matrics failed last year. They have failed since grade 10 and were promoted to grade 12.

Another recurrent theme in the mentors' reports was the focus on grade 12 at the expense of lower grades, particularly in the third quarter, when a number

of camps and extra lessons were arranged for grade 12 learners. These took grade 12 teachers out of their other classes. Examples include: "The grade 12s started with marathon sessions again this week. The grade 12 educators must leave their other classes again and concentrate on the grade 12s"; "Educator couldn't teach grade 10 and 11 last week, he had to teach grade 12s. Grade 11s are about three weeks behind schedule." "The grade 8 and 9 learners are left on their own, the teachers use the periods for teaching grade 11 and 12."

Projected effects of learner progression

Figure 3 shows the numbers of learners and percentages of over-aged learners per grade for the FS for 2015. There is a sharp increase in both numbers and percentage of overaged learners from grade 9 to grade 10. Over 20% of learners in each grade of the FET phase are overage (more than two years older than grade age). Each of the ten low quintile project schools shown in Table 3 has considerably higher fractions of progressed learners in 2015 than in 2014, with a total increase of 18 percentage points. One school has an increase of over 150%, from 34,7% to 88,8%.

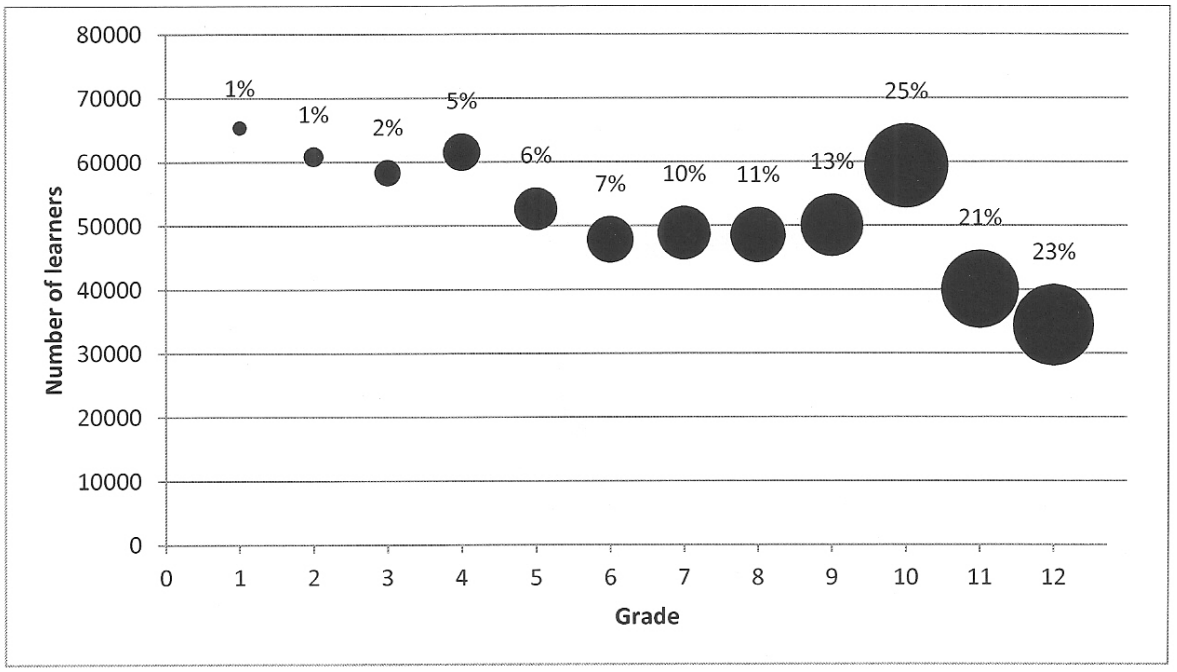

Figure 3: Numbers of learners, per grade, for Free State schools, 2015. Bubble sizes and values show percentages of overage learners in each grade.

Table 3: Numbers and percentages of learners promoted / progressed to grade 12 in 2015, compared to 2014, for ten low quintile schools in the Motheo district

Botshabelo				
School	**Progressed 2014**	**Progressed 2015**	**% Progressed 2014**	**% Progressed 2015**
B1	70	259	47.7	71.7
B2	15	34	17.6	27.4
B3	53	242	33.3	64.5
B4	107	98	58.5	48.0
B5	70	171	35.4	53.3
Botshabelo project schools	315	804	41.2	58.1
ThabaNchu				
School	**Progressed 2014**	**Progressed 2015**	**% Progressed 2014**	**% Progressed 2015**
T1	15	46	33.3	48.9
T2	46	150	34.7	88.8
T3	0	23	0.0	11.9
T4	73	89	40.8	44.7
T5	69	31	35.3	40.8
ThabaNchu project schools	203	339	29.2	46.9
TOTAL	518	1 045	36	54.0

Discussion

Extent of learner progression

The extent of learner progression amongst the candidates who sat the grade 12 examination in the FS varies greatly between schools, with some schools displaying little to no evidence of progression, and others displaying moderate to high levels of progression. In the Motheo district 35% of the schools (n = 79) had no progressed learners in 2014 and 28% had more than the average

number. In some cases this is due to noncompliance with the progression law in 2013. The percentage of progressed learners increases with a decrease in quintile. In Motheo this ranges from 27,7% in quintile 1 and 2 schools to 4,2% in quintile 5 schools. What is not clear from this data is whether high quintile schools implement selection or repetition policies which account for the observed data. By definition, high quintile schools draw learners from higher socio-economic homes. Such learners tend to have enjoyed better educational support at home throughout their lives, and therefore should be expected to be less likely to have the educational backlogs common in poorer communities (Timæus, Simelane, and Letsoalo, 2013). It is also well established that higher quintile schools employ teachers with better content knowledge and pedagogical skill, and perform administrative functions more effectively, than do lower quintile schools (Shalem and Hoadley, 2009; Stott, 2013). It is therefore to be expected that great differences in the need to progress learners exists between schools which serve the SA middle class and those which serve poorer communities.

Effects of learner progression

It should be noted that the data used here have already been adjusted by the regulatory body, Umalusi. It is likely that this would mainly have applied to upward adjustment of the poorer performing candidates, i.e. the progressed learners. Nevertheless, it is clear from Figure 2 and Table 2 that pass rates for the progressed learners were dramatically lower than pass rates for promoted learners from the same district and from the same school, and that the pass rate depression caused by the presence of the progressed learners was more marked for lower quintile schools. In quintile 1 and 2 schools in Motheo the pass rate of the progressed learners is 31,4%, (n = 822) compared to 73,4% (n = 109) in the quintile 5 schools. The low pass rate combined with the high percentage of progressed learners had a devastating effect on the overall pass rate in quintile 1 and 2 schools, depressing the pass rate of promoted learners of 82,4% by 14,4 percentage points to 68%. In quintile 5 schools the depression is only 0,9%, due to the higher pass rate and lower proportion of progressed learners. It appears obvious, therefore, that the decrease in pass rates of the FS province from 2013 to 2014 can largely be attributed to the implementation of the progression law in the FET phase. The pass rate of the promoted learners, alone, would have been 88,7%, which is 1,3 percentage points higher than the 87,4% of 2013.

Few if any of the progressed learners would have sat the grade 12 examination in 2014 had it not been for the introduction of progression law compliance. However, just under half of these learners did pass, with nearly three quarters passing in Thabo Mofutsanyana. Factors which may have contributed to progressed learners managing to pass include: Mark adjustment by Umalusi, which may be devoid of implication to enhanced quality; Extensive focus on the education of grade 12 learners; Grade 11 pass standards being unreliable predictors of grade 12 success.

The difficulties which the teachers and mentors reported are typical of the problems which teachers report regarding social promotion in developed countries (e.g. National Science Teachers Association, 2003) and developing countries (e.g. Haidary, 2013), and correspond to findings from studies performed in other provinces of South Africa (e.g. Lekalakala, 2013). The counterargument which proponents of social promotion generally apply to such reports is that they are based on practical knowledge of the short-term effects of social promotion rather than on rigorous research which includes evaluation of long-term effects. These criticisms are applicable here too. However, the extent of the problem in the low quintile schools we have focussed on is clearly so acute as to make teaching an unpleasant and almost impossibly frustrating and exhausting task. Further, the long-term benefits reported on in the literature have been documented in developed countries, and may not apply to developing countries. Therefore it seems reasonable to question whether the speculated long term benefits could be worth the observed short term costs in the SA context.

It seems reasonable to assume that the progression law would have made schools even more likely to focus on grade 12 learners to the detriment of lower grades than before. It is ironic that this attempt at a short-term solution to the problem of underperformance and progression may very well be contributing to the fact that learners learn poorly in the lower grades, decreasing performance throughout and making progression necessary in order to comply with the progression law. A greater neglect of lower grades, in the name of supporting grade 12 learners, in lower quintile schools relative to higher quintile schools (Clark and Linder, 2006), may contribute to the reason why progression has to occur to such great extents in lower quintile schools, but is virtually unnecessary in high quintile schools.

Projected effects of learner progression

The high numbers of over-age learners present in grades 10-12 suggests that there are a large number of learners within the FET phase who have repeated previous grades and will shortly be progressed to grade 12. Therefore, for the next four years we can expect particularly high numbers of progressed learners to reach grade 12 and impact grade 12 pass rates. Three reasons for this are: (1) Some schools only began implementing the progression law in 2015. (2) Since it appears the law was only implemented from 2013 onwards, the 2014 grade 12s had probably only been progressed once (i.e. from grade 11 to grade 12). However, from 2015 onwards, grade 12 candidates will include learners who will have been progressed twice or more. (3) Since it appears that progression from grade 9 to grade 10 occurs to a large extent, from 2016 onward we can expect learners to reach grade 12 who have never passed a grade throughout their school careers.

Conclusion

In summary of the results and discussion given above, we propose the following assertions in response to the research questions of this study:

- Approximately 14,8% of the candidates (n = 26 439) who wrote grade 12 in the FS in 2014 had been progressed from grade 11. There is a relationship between quintile and extent of progression, with a range from 4,2% for quintile 5 schools to 27,7% for quintile 1 and 2 schools.

- The progressed learners depressed the FS province's 2014 pass rate by 5,9 percentage points. There is a relationship between quintile and extent of pass rate depression by the progressed learners, with a range from a depression of 0,9 percentage points for quintile 5 schools to 14,4 percentage points for quintile 1 and 2 schools.

- The presence of large numbers of unmotivated, ill-disciplined and ill-prepared progressed learners places an immense emotional burden and increased work-load on teachers who are working in the already difficult context of low quintile SA schools.

- The impact of the progression law, as observed in 2014, can be expected to intensify over the next few years as the proportion of progressed learners, including those progressed multiple times, increases.

Implications, limitations and suggestions for further investigation

In this paper we have highlighted a dire situation which in all likelihood will worsen with time, particularly over the next few years. Therefore we caution a general refrain from setting unrealistic targets for grade 12 pass rates for the next few years. For example, the FS DBE had announced a 90% grade 12 pass rate target for 2014 (SABC, 2014). The following reasoning shows that this was an unrealistic target: If it is assumed that 50% of the progressed learners could pass, the promoted learners would have had to have achieved a 97% pass rate for the province as a whole to reach the 90% target. This would have required nearly 10 percentage points increase from the FS's 2013 pass rate, which had placed it the highest performer among the provinces.

The DBE has proposed a number of strategies of dealing with the challenges associated with progression, and has invested much effort and money into remediation programs for the 2015 progressed grade 12 learners. See for example FSDBE (2015) and DBE (2008). We wish to highlight two strategies we consider particularly important:

- Implementation of a campaign to ensure that teachers provide quality teaching and sufficient contact time to lower grades throughout the year. This should help decrease the need for progression since more learners should be able to be promoted on merit.

- Provision and promotion of alternative pathways to the academic stream of the FET phase, in the forms of TVET colleges offering vocational courses, so that it is reasonable for less academically gifted learners to exit school at the end of grade 9 so as to continue their education in a vocational stream. This corresponds to the February 2013 launch of the Decade of the Artisan by the South African minister of Higher Education and Training, Blade Nzimande.

It is true that this study necessarily only reports some of the short-term effects of the progression law in the FET phase, whereas most of the literature-claims

in favour of social promotion refer to long-term effects. Consequently, this study has the limitation of reporting effects which can be expected to show bias towards the problems associated with social promotion. This study was also necessarily limited in its scope. Qualitative data were only collected from lower quintile township schools. Also, findings for the FS province are not necessarily generalisable to the rest of the country, particularly provinces such as Gauteng and the Western Cape which may have been more successful in promoting pathways alternative to the academic FET stream. The percentage of 2015 grade 12s who are progressed learners is only 9% (n = 55 893) for the Western Cape, opposed to the Free State's 28% (n = 35 496). Only 7% (n = 294 052) of grade 11 and 12 learners in Gauteng are progressed learners in 2015. This is according to data available on the DBE website. Unfortunately comparable statistics are not available for the other provinces.

Further investigation could attempt to bridge the gaps created by the limitations to our study. This could include surveying teachers, and observing practises, particularly regarding teaching quality for, and time spent on teaching, lower grades, and admission and repetition policies which may influence whether progression is necessary or not. As time passes, studies on the long-term effects of the progression law will be possible. Assuming that Umalusi does not adjust future grade 12 results to the extent that our predictions cannot be valid, it will be interesting to observe whether the prediction we have made that grade 12 results should decline over the next few years does occur. We hope that instead of this happening, however, SA is able to provide solutions to the problems created by the progression law.

Acknowledgements

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Angela Stott
Hercules Dreyer
Peet Venter
School Partnership Project
University of the Free State

stottae@ufs.ac.za
dreyerha@ufs.ac.za
venterpa@ufs.ac.za

Teacher salary differentials using Purchasing Power Parity (PPP): a South African perspective as both a 'source' and 'destination' country

Gavin George and Bruce Rhodes

Abstract

Teacher migration is a problem for developing countries as it impacts on delivery of quality education. The potential to earn higher incomes remains the most common factor driving teacher migration. This study seeks to investigate how the South African teacher salary structure compares with the equivalent salary structure in six prominent migrating countries whilst highlighting the economic appeal of South Africa from a Zimbabwean teacher perspective. Using a representative basket of commonly bought goods (including food, entertainment, fuel and utilities), a purchasing power parity (PPP) ratio is used to equalise the international price of buying that basket. Our study makes comparisons, using a PPP index, and allows the identification of real differences in salaries for our selected countries (South Africa, United States, United Kingdom, Canada, Australia, New Zealand, Japan and Zimbabwe) for selected teaching categories. Even when controlling for differences in the cost of living, the incentive for a South African teacher to seek work overseas remains strong and increases with career experience. A worrying conclusion for South Africa concerned with keeping its experienced teachers is that as more human capital is gained by experience, the greater the incentive to emigrate.

Background

All countries seek to ensure they provide a suitable standard of education as part of their developmental goals. Importantly, possessing an adequate supply of teachers is instrumental in ensuring the provision of quality education (Mugano, 2010). Maintaining an adequate supply of quality teachers is thus paramount, but can be a challenge for some developing countries. Increased globalisation has resulted in the movement of skilled labour, including teachers, from developing to developed or economically stronger countries. It is these emigrating teachers which hamper the 'source' countries' ability to provide quality education, thus compromising their own developmental goals (South African Council for Educators (SACE), 2011).

Skilled labour is enticed from these 'source' countries for socio-economic and career gains. Skilled professionals are migrating from developing countries to fill the gaps in the labour market in developed countries. Research has suggested that this phenomenon is particularly damaging to the economic growth of those developing countries affected by migration (Asmal, 2001; Louw, 2001a, b).

In many developed countries the pool of teachers is ageing due to an inability to attract young people into the profession. Teacher shortages peaked in the late 1990s and early 2000s in many developed countries, including the United Kingdom (UK), United States (US), Canada, Australia and Netherlands (Van Leeuwan, 2001). These shortages were as a result of the ageing teaching workforce and, as was the case in the UK, the relative decline of salaries and working conditions of teachers, which resulted in inadequate recruitment and diminishing retention rates (Smithers and Robinson, 2001). Conservative estimates revealed that there was a national shortage of 40,000 teachers in the UK (Ochs, 2003). Such shortages lead governments to actively recruit foreign teachers (Naidu, 2001). These recruitment drives were undertaken by agencies and targeted developing countries where English was an official language (Manik, Maharaj and Sookrajh, 2006). Research suggests that the more qualified and more experienced teachers were targeted by recruitment efforts (Ochs, 2003). Whilst this practice peaked in the late 1990s and early 2000s, teachers will continue to be lured to countries where a financial benefit can be accrued.

Teaching in South Africa

Appleton, Sives and Morgan (2006a) argue that the demand and supply of teachers is determined by government policies. Migration in South Africa (SA) was provided impetus by the perception in the 1990s that there was an oversupply of teachers in the country. In 1997 SA introduced a moratorium which lasted until 2000, restricting newly qualified teachers to temporary positions within the education department. These conditions created fertile ground for those countries experiencing shortages in the supply of educators, to take advantage and lure SA teachers abroad (Appleton, Sives and Morgan, 2006a). Teacher attrition, fuelled by teacher migration to pursue socio-economic and career opportunities abroad (Bertram, Appleton, Muthukrishna and Wedekind, 2006; Manik, Maharaj and Sookrajh, 2006), was exacerbated

by high incidences of HIV/AIDS and subsequent teacher mortality (Shisana, Peltzer, Zungu-Dirwayi and Louw, 2005).

This emerging teacher crisis was illustrated by numerous studies with Morgan, Sives and Appleton (2006) estimating that the total teacher population in South Africa was approximately 400,000 in 2006 and that South Africa needed to recruit 17,000 to 20,000 teachers per year if learner-to-educator ratios of 40:1 for primary schools and 35:1 for secondary schools were to be maintained. Despite this warning, teacher training output was only around 9,000 newly qualified teachers per year. Low production rates of teachers were compounded by high attrition rates with the Education Minister concluding in 2004 that each year in South Africa 17,000 teachers were leaving the teaching profession (Mkhize, 2004). A study in 2005 showed that 27.4% of final-year South African student teachers were planning to teach abroad (Bertram *et al*., 2006).

In recognition of the increased prevalence of teacher migration, especially to the UK, the South African government's response in 2001 was to call for the regulation of teacher recruitment (Gilbey, 2001). In the absence of any regulatory force this had little effect. In September 2004, amidst broader concerns about teacher recruitment from developing countries within the Commonwealth, the SA Minister of Education and 22 Commonwealth states signed a protocol on teacher recruitment. This was to provide an ethical guideline for the recruitment of teachers at an international level (Manik, Maharaj and Sookrajh, 2006).

In an attempt to counter outward migration SA sought to recruit teachers from abroad to fill vacant posts, especially in the fields of Mathematics and Science, and especially in the rural areas (Ranga, 2015). SA actively recruited teachers from India, Zimbabwe, Singapore, Malaysia and Uganda (De Villiers, 2004). Zimbabwean teachers were identified as an under-utilised resource with Forde (2007) estimating that approximately 10,000 Zimbabwean trained teachers were living in SA in 2006, with 4,000 qualified Mathematics and Science teachers among them. A further study (SACE, 2011) suggested there remained an increasing number of teachers from other African countries (e.g., Lesotho, Zimbabwe, Zambia, etc.) immigrating into South Africa due to the country's relative economic prosperity, political stability and promise of better working conditions and income.

Despite the availability of this teaching resource a policy of restriction was implemented through the use of a system of work and residence permits (Wentzel and Tlabela, 2006). Furthermore, a foreign qualified teacher was required to be professionally registered for teaching in SA, resulted in an additional barrier. According to the Commonwealth Secretariat (2010), thousands of teachers from Zimbabwe are unable to work as teachers as their qualifications are not recognised by South African qualifications agencies. However, 2012 PERSAL data indicates that there are 6214 foreign teachers teaching in public schools within South Africa, constituting 2% of the total teaching workforce in public schools. Zimbabwean teachers make up 68% of the total foreign teaching workforce (Department of Basic Education (DBE), 2013).

Teacher migration

The 'Big Five' destination countries for SA teachers include the US, UK, Australia, New Zealand and Canada (*Sunday Times*, 08–12–2002). In the late 1990s Statistics South Africa estimated that on average 1,000 skilled people were leaving SA every month (Harichunder, 2001). A study of emigration to the UK, US, New Zealand, Canada and Australia suggested that close to a quarter of a million South Africans have settled in these countries between 1989 and 1997 (Louw, 2001).There are seemingly no reliable figures on exactly how many teachers are leaving South Africa, or for how long they are staying abroad. However, figures from the British Department of Home Affairs illustrate the stark rise in teacher migration. Only 20 work permits were issued in 1997–1998 for South African teachers to teach in the UK (Jansen, 2002), but between 2001 and 2003 4,702 work permits were approved by the UK for SA teachers (Caravatti, Lederer, Lupico and Meter, 2014). Africans constitute the majority of foreign teachers in the United Kingdom (Appleton *et al*. 2006a; Manik, Maharaj and Sookrajh, 2006) with South Africa listed as the largest foreign provider of teaching staff in the United Kingdom (Kok, Gelderblom, Oucho and Van Zyl, 2006; Morgan, Sives and Appleton, 2006; Caravatti *et al.,* 2014). Appleton, Sives and Morgan (2006a) suggest that between 0.5–4% of all South African trained teachers work abroad. Of concern is that the research further suggests that 48% of practicing teachers in South Africa intended to migrate and 27% of student teachers were considering migrating upon graduation.

Reasons for teacher migration

The SA education system has been blamed for the disenchantment SA teachers have with the profession. Arends and Phurutse (2009) suggest the problem lies with the lack of formal structures, policies and strategies for teacher retention. A growing desire from teachers to leave the profession is further aggravated by low morale, low levels of job satisfaction, unpleasant working conditions (Shalem and Hoadley, 2009) and high levels of job stress correlated with time pressures, educational changes, administrative problems, educational systems, professional distress and pupil misbehaviour (Peltzer, Shisana, Zuma,Van Wyk and Zungu-Dirwayi, 2009).

Manik, Maharaj and Sookrajh (2006) unpack the problems with the educational policies further, and suggests that the implementation of outcomes-based education (OBE) along with the application of the post-provisioning norm (PPN) or teacher-pupil ratio in schools to determine additional teachers, and the instability faced by unprotected temporary educators (UTEs) have played a big role in unsettling teachers resulting in many exploring the option of teaching abroad. Further to these changes, teachers were concerned about their limited career mobility, poor management and increased workloads (Manik, Maharaj and Sookrajh 2006).

Given the systemic problems described above, the option of migrating must appear inviting. International migration becomes desirable when teachers consider the large wage differentials between potential earnings abroad and domestic wage offerings (Appleton, Morgan and Sives, 2006b). For example, Morgan, Sives and Appleton (2006) observed that South Africans were able to earn three to four times more by teaching in the UK than by staying in their own country.

Further studies have confirmed that the dominating motivator for migration was the opportunity to earn a higher salary and to travel, followed by professional development (Rasool, Botha and Bisschoff , 2012). These ‘pull’ factors (i.e., the lure of the destination countries) appeared to play a stronger role than the ‘push’ factors (i.e., the negative aspects of teaching in SA), including career progression opportunities, the high crime rate and bad working conditions (Ochs, 2003; De Villiers, 2004; Appleton, Sives and Morgan, 2006a).

Indeed all teachers' salaries are relative, and South Africa benefits from the fact that its salaries are higher relative to those offered by its neighbouring countries. South Africa has long been attracting teachers from the rest of the African continent and projections point towards the continuation of such a pattern of migration as long as South Africa remains economically dominant and attractive in Africa (Wentzel, Viljoen and Kok, 2006). In the financial year of 2009/2010, the South African Council for Educators (SACE) registered 28,723 new educators, and foreign educators registered made up approximately 28% of registered educators; however, the registration of foreign teachers was on a provisional annually renewable basis (SACE, 2010).

The movement of Zimbabwean teachers into South Africa has been attributed, in part, to the political instability in their country of origin. While politics may be a reason, research shows that economic reasons are more likely to serve as an impetus, primarily because Zimbabwean teachers who come to South Africa continue to send remittances to their families back home and commute back and forth between Zimbabwe and South Africa (Makina, 2007; Mosala, 2008).

This study seeks to investigate how the South African school teacher wage structure compares with the equivalent wage structure in six prominent migrating countries whilst highlighting the economic appeal of South Africa from a Zimbabwean teacher perspective. Careful attention is made to differences in the cost of living between countries using standard purchasing power parity (PPP) indices.

Methods

The extant literature has only examined actual salaries for teachers offered in selected, popular emigrant countries. For more informed comparisons on earnings, we require a purchasing power parity (PPP) index. Using a representative basket of commonly bought goods (including food, entertainment, fuel and utilities), the PPP is an exchange rate between two currencies that equalises the international price of buying that basket.

Foreign salaries expressed in national currency units were converted to the rand equivalent using purchasing power parity ratios published by the

International Monetary Fund (IMF). The PPP is essentially an exchange rate between two countries that equalises the cost of living. It is founded on the principle of an international dollar. This is a purely hypothetical currency where one international dollar (earned in another country) has the same purchasing power as one US dollar earned and spent in the US. The PPP for the US is set at 1.0 and acts as a baseline to compare all other countries. Examining the cost-of-living adjusted salaries for each of our selected countries allows the identification of financial incentives to emigrate within a given teacher category.

The international dollar PPP salaries are presented relative to South Africa and are shown in Table 2. Whilst a useful comparator, the PPP methodology does have the problem of finding a basket of goods that is wholly comparable across selected countries where availability and indeed quality are not constant. In general this is not a strong enough concern to warrant an alternative methodology. Income tax rates can also make salary comparisons problematic yet comparing gross with net earnings across countries made little or no difference to the pattern of results reported below. As such the PPP comparisons remain valid.

Selected teacher categories and countries

Three categories of state employed teachers – a newly qualified teacher (NQT), a teacher with five years' experience, and a teacher with 10 years' experience – were chosen for the international salary comparisons. Country choice was based on historical migration patterns where South African teachers tend to target countries such as the UK, Australia, New Zealand, Canada, Japan and the United States. Zimbabwe teacher salaries are also reviewed due to the high percentage of Zimbabwean teachers which constitute the foreign teaching workforce in SA.

Teacher definitions

The defining point for the NQT category is that the worker has a formally recognised teaching qualification. A teacher with five years' experience requires a teaching qualification and five years' experience whilst the final category of teacher requires a teaching qualification and 10 years' teaching

experience. These definitions are easily recognised internationally and this affords for more accurate comparisons.

The data

Table 1 reports 2014/2015 salaries in national currency units for South Africa and selected foreign countries for typical high school teachers in publically funded, state schools. The chosen starting point for each country salary is a newly qualified teacher (NQT) who has obtained a four-year Bachelor of Education Degree or a three-year degree plus a post-graduate diploma. From this point of job entry in either 2014 or 2015 each country has its own salary scale and rules for progression as well as mechanisms to go beyond the basic scale, so potentially a teacher can take advantage of financial rewards through taking on more responsibilities. Only the basic scale progression is reported unless otherwise stated.

To map how a NQT might progress up a given salary scale during a typical teaching career, two other salary points are reported, which include the salary after five years and lastly the salary after 10 or more years. These were deemed appropriate markers to gain insightful monetary comparisons as a teacher gains career experience. Some countries reach the upper end of a given salary scale after 10 years, some take considerably longer.

Zimbabwe aside, all selected countries have the basic structure of one notch increment per year assuming performance is satisfactory. Countries began to diverge with regards to the requirements and speed by which a teacher can advance on higher pay scales that represent specialisation, expertise and other additional responsibilities. Salient points of such advancements and other salary scale details pertinent to each country are reported below under the relevant country heading.

Table 1: Basic annual salaries for newly qualified through to experienced teachers for selected countries in their own national currency units (2014/2015)

Country	NQT[1]	5 years[2]	10+ years[2]
SA[3]	R212,811	R223,674	R235,077
UK[4]	£25,623/£27,543	£35,823/£37,119	£41,247/£45,905
US[5]	$35,870/54,310	$59,150	$69,425
Australia[6]	$55,155	$76,318	$91,751
Canada[7]	$44,204/$53,657	$54,896/$64,254	$67,556/$77,092
NZ[8]	$40 000/$50 000	$63,054	$68,591
Japan[9]	¥3,360,000	¥3,479,955	¥4,525,740
Zimbabwe[10]	US$4800	–	–

[1] NQT starter salary beginning in 2015.

[2] Typically a teacher moves up one salary scale notch per year.

[3] NAPTOSA (2015)

[4] NASUWT (2015)

[5] Sdea, Monet (2015)

[6] AEU (2015)

[7] BCTF (2015)

[8] Educationworld.net (2015)

[9] Payscale.com (2015)

[10] All Africa (2015). Salaries reported in US dollar.

Some figures are pairs rather than single entries. This is designed to capture the significant variation across regions or states. This is discussed further under the country headings below, but as an example, the UK offers higher salaries inside London compared to elsewhere in the UK. This gap was deemed wide enough to be of interest. Those countries that have single figures denote little variation.

1.1 South Africa

The basic requirement for someone to practice teaching in South Africa is to have a four-year Bachelor of Education Degree or a three-year degree plus an Advanced Diploma in Education (ADE) or a Postgraduate Certificate in Education (PGCE). The South African salary scale system is built on a series of over 200 notches. In Table 1 the minimum value is taken as the starting

salary for a NQT (notch 85) and after 20 years, that same teacher should be on notch 105 at least, possibly higher depending upon additional responsibilities. Each notch upgrade represents a 1% increase in salary and usually occurs annually although there are other chances for more accelerated progressions (National Professional Teachers' Organization of South Africa (NAPTOSA), 2011). Over their teaching career, educators can move from minimum to maximum notches in the salary range for their post, or can be promoted and move to another post to enable further movement beyond the maximum (Education Labour Relations Council (ELRC), 2011). Unlike other countries reported, most South African provinces do follow the same scale although there is some evidence to show that identically qualified and experienced teachers are not on the same notch (ELRC, 2011). Table 1 shows the relevant notch amount as if each province were identical.

1.2 UK

Newly qualified teachers in England and Wales (outside London) start on the first tier of the main pay scale at £25,623 (NASUWT, 2015). The highest starter salary is found in the inner London area at £27,543; outer London is slightly lower (NASUWT, 2015). Once on the main pay scale with satisfactory performance, a teacher can progress to level 6 (after five years) earning £35,823 and £37,119 for outside and inner London respectively (NASUWT, 2015). There is considerable scope to go beyond the basic main pay scale and this is defined by teacher competence and the adoption of specific responsibilities (including line management of other staff) as defined in the job description. This will shift them to the upper pay scale and after 10–20 years a classroom teacher could earn in the region of £41,247 or £45,905 for outside and inner London respectively (NASUWT, 2015).

1.3 US

Much variation is found across states (Teacher Portal, 2012; United States Department of Labor (US DOL), 2012). The highest salaries are generally found in California, New York, New Jersey, Alaska, Connecticut and Illinois; the lowest include Dakota, Montana and Wisconsin (Teacher Portal, 2012; US DOL, 2012). The nation's lowest and highest average salaries are found in South Dakota and California, respectively (Educationworld, 2015). Some districts in the US pay higher salaries over the first 5–10 years in an attempt to attract and retain staff. Others offer incentives such as relocation costs, housing benefits, or a signing bonus (Teacher Portal, 2012). The two figures reported in table 1 for a NQT are South Dakota and California, respectively and for higher experience, only California (Sdea, 2015; Monet, 2015).

1.4 Australia

The starter salary packages for newly qualified teachers in Australia varies significantly from state to state. The highest earnings are typically reported in the Northern Territory with the lowest in Queensland. Those teachers trained abroad require their qualifications and experience validated by the relevant state body to establish the relevant starting point according to whether they are classed as 'graduate, accomplished or an expert' (Australian Education Union (AEU), 2015).

1.5 Canada

Teacher salaries vary significantly across the different districts that make up Canada (British Columbia Teachers' Federation (BCTF), 2015). As of 2015, a NQT would earn $44,204 in the majority of the districts. With a relatively large increase to $47,816 in Fort Nelson, $49,239 in Haida Gwaii and $53,657 in Stikine. Across the same range; a teacher with 5 years' experience would earn $54,896 in the majority of the districts. With another relatively large increase to $59,412 in Fort Nelson, $59,244 in Haida Gwaii and $64,254 in Stikine. Teachers with 10 years' experience would earn $67,556 in the majority of the districts. With yet another relatively large increase to $71,348 in Fort Nelson, $71,326 in Haida Gwaii and $77,092 in Stikine (BCTF, 2015).

1.6 New Zealand

The average salary for both primary and secondary teachers in New Zealand is approximately NZ$40 000 to $50 000 dependent upon qualifications and experience with a number of allowances that recognise additional management and other role-specific responsibilities (Educationworld.net, 2015). On average, allowances can add about $4,000 to a teacher's base salary (TeachNZ, 2015).

1.7 Japan

Japanese teaching salaries reported in Table 1 refer to remuneration for K-12 teachers, that is teachers that teach for grade 1 through to 12 or better known as the summation of primary and secondary education (Payscale.com, 2015). A NQT will earn ¥3,360,000 whilst a teacher with 5 years' experience will earn ¥3,479,955 (Payscale.com 2015). The highest salary found was for a K-12 teacher with over 10 years of experience, receiving ¥4,525,740 (Payscale.com,2015).

1.8 Zimbabwe

Exact estimates are difficult to obtain, but Zimbabwean teachers earn around US$400 per month, which ranks them among the lowest paid civil servants in the country (AllAfrica, 2015). Despite being rated highly across the region for their contribution to the country's high literacy rate, Zimbabwean teachers in government institutions are still among the lowly-paid in the region.

Results

The main results are based on the PPP international dollar comparisons across the selected countries (Table 2). The home salaries are presented as national currency units (NCUs) thereby allowing for easy comparisons. All PPP ratios use consumer based data collected by the IMF (IMF, 2015).

Table 2: Teacher salaries of selected countries at US dollar market rates and PPP equivalent for three levels of teacher experience

		SA	UK	US	AUS	CAN	NZ	JAP	ZIM
NQT	**NCU**[1]	212,811	25,623 27,543	35,870 54,310	55,155	44,204 53,657	40,000 50,000	3,360,000	4800
	RAND[2]	212,811	468,043 503,115	423,148 640,680	520,207	430,840 522,975	349,748 437,185	335,101	56,624
	US ($)[3]	18,040	39,807 42,970	35,870 54,310	44,305	36,535 44,349	29,754 37,193	28,413	4800
	PPP($)[4]	37,799	36,552 39,291	35,870 54,310	38,814	35,967 43,659	26,596 33,245	32,497	2381
	% PPP ($) ***gap over SA***		*-3.30* *3.95*	*-5.10* *43.68*	*-2.69*	*-4.85* *15.50*	*-29.64* *-12.05*	*-14.03*	*-93.70*
5 yrs	**NCU**	223,674	35,823 37,119	59,150	76,318	54,896 64,254	63,054	3,479,955	4800
	RAND	223,674	654,362 678,036	697,776	719,811	535,051 626,260	551,325	347,064	56,624
	US ($)	18,961	55,653 57,667	59,150	61,305	45,373 53,107	46,903	29,427	4800
	PPP ($)	39,729	51,103 52.951	59,150	53,707	44,667 52,282	41,924	33,658	2381
	% PPP ($) ***gap over SA***		*28.63* *33.28*	*48.90*	*35.18*	*12.43* *31.60*	*5.52*	*-15.28*	*-94.01*
10+ yrs	**NCU**	235,077	41,247 45,905	69,425	91,751	67,556 77,092	68,591	4,525,740	4800[5]
	RAND	235,077	753,440 838,525	818,985	865,371	658,443 751,387	599,739	451,363	56,624
	US ($)	19,927	64,080 71,316	69,425	73,703	55,836 63,718	51,022	38,271	4800
	PPP ($)	41,754	58,840 65,485	69,425	64,568	54,968 62,727	45,606	43,772	2381
	% PPP ($) ***gap over SA***		*40.92* *56.84*	*66.27*	*54.64*	*31.65* *50.23*	*9.23*	*4.83*	*-94.30*

[1] Salary in own national currency unit.

[2] Author calculations. South African rands, IMF (2015) (average annual market rates Sept 2014–August 2015).

[3] Author calculations. US dollars, x-rates.com (2015), (average annual market rates Sept 2014–August 2015). Zimbabwe remains unchanged since paid in US dollars.

[4] Author calculations. International dollar (purchasing power parity, PPP) (IMF, 2015).

[5] Little or no difference in earnings is expected for more experienced Zimbabwean teachers having more than 5 years of experience.

When South African teachers, at any level of experience, use market rates of exchange to compare foreign earnings, differences emerge ranging from one-and-a-half to approximately three times the South African salary equivalent (Table 2); Australians potentially being the highest payers. If the rand depreciates further against our selected country currencies, these salary differentials will only increase. These large differences reported in rand and US dollars could act as a strong pull factor for South African teachers to emigrate to any of the selected countries except Zimbabwe.

However, salary comparisons using market exchange rates are misleading especially when examining from the South African perspective. Agreeing with theories that exchange rates should move towards their respective PPP benchmarks, the South African rand could be seen as heavily undervalued (The Big Mac index, 2015). Recent years have seen considerable turbulence with the SA rand showing no consistent trend that might lead to significant appreciation against some of the 'harder' currencies in Table 2. As such, comparing any salaries using the rand market exchange rate will nearly always depress the rand equivalent.

The PPP adjusts for living costs and provides the appropriate comparison especially when potential migrants are comparing standards of living across countries. Salaries are converted to US PPP equivalent, i.e., international dollars, essentially to equalise the cost of living (Table 2, PPP $). Overall results show the gap between selected country earnings and South Africa increase with experience.

Comparing newly qualified teachers' (NQTs) PPP earnings across countries gives mixed results. Compared to South Africa, some foreign NQTs can earn less, particularly those from New Zealand and Japan. However the UK, US and Canada vary according to the lower or upper salary chosen with the US providing the highest potential NQT earnings at US$54,310 (over 40% higher than that earned in SA).

At five years of experience the results are clear. All country salaries increase but the destination salaries rise considerably faster as shown by the large positive percentage increases in PPP dollars over South Africa; the highest is for the UK at 48.90%. This trend continues at the highest level of experience of 10 years or more. Even given some of the large upper and lower bounds of some overseas teacher earnings, it is shown that by the time an NQT becomes a teacher with 10 or more years of experience, all selected overseas teachers

earn between approximately 4% to 66% more international dollars than their rand-earning South African counterparts, with the UK, US, Canada and Australia offering the highest.

In terms of international dollar earnings, Zimbabwe is showing the opposite trend. Whilst not varying with experience, Zimbabweans can potentially double their income-earning potential at all levels of reported experience by working in South Africa.

Discussion

The purpose of this study was to examine whether incomes in destination countries would act as a pull factor for those teachers looking to further their profession abroad. This study illustrates that when adjusting for cost of living differences, the PPP incomes differ less across countries compared to those same differentials calculated using market exchange rates.

Teachers' general salaries were compared by experience rather than by subject. Whilst there is little evidence that salaries are subject dependent it must be acknowledged that STEM (science, technology, engineering and maths) teachers are in particularly high demand globally and most countries face significant shortfalls in this vital area of teaching including South Africa (National Council on Teaching Quality (NCTQ), 2010; Lecher, 2013; Centre for Development and Enerprise (CDE), 2011). This is being addressed by some education departments but not necessarily through salary incentives (West, 2013; Coughlan, 2015; Gov.UK, 2015). The problem of long term retention for STEM teachers is arguably more acute relative to teachers of other subjects since STEM related skills are also in high demand outside of the teaching sector (West, 2013). Whether this can be mitigated by offering higher salaries is a point for future research. One small US district in Colorado used a more market-based approach where maths and science teachers were paid between 10–20% more than their non-science counterparts. (Lecher, 2013). This is believed to be an isolated case and in a strongly unionised labour force, especially that experienced in South Africa, an initiative which will struggle to gain traction.

We should reiterate that potential income gains were not the only motives for international teacher mobility. Studies have consistently reported other

reasons for working abroad, notably professional development and the opportunity for travel (Appleton, Morgan and Sives, 2006b).

Similarly the Teacher Incentive Study (2006) found that teachers value the environment in the school along with teacher salaries. That means, when attempting to reduce the numbers of teachers leaving the profession, the environment has to be conducive to help retain them. Among the groups of teachers who are most likely to leave are the more skilled and more experienced teachers. Our research supports that of Armstrong (2009) who points out that the longer workers remain in the teaching profession, the worse off they are relative to their non-teaching counterparts. It therefore becomes increasingly unattractive for teachers to remain in the profession as they gain more experience, and the financial incentives for talented teachers to remain in the teaching force become gradually smaller. Up until the age of 28, the monthly earnings of teachers are greater than those of non-teachers in the labour market, indicating that young labour market entrants (graduates, in this case) may, on average, fare better in the teaching profession than in non-teaching professions (Armstrong, 2009).

Armstrong (2009) concludes that teaching is likely to be an attractive profession for workers at the lower end of the skills distribution curve and unattractive at the higher end. The wage structure of teachers in the South African labour market is therefore not conducive to retaining workers who may be considered to be endowed with above-average productive characteristics. Salary structures giving advantage to those entering a profession but not competitively increasing with experience, will result in teachers electing to migrate or leave the profession. The study conducted by the Mobile Task Team (MTT) (2005) affirms this by showing that most resignations were around the 30–39 age group.

The Occupational Specific Dispensation (OSD) agreement, set out in 2007, was an attempt at addressing these problems. The OSD set out to reward teachers who remained in the profession by increasing their salary bands and providing alternative career paths for teachers (ELRC, 2008).

Migration, however, should not be viewed as an absolute loss of teachers. A study conducted by Bertram *et al.* (2006) found that whilst 27% of respondents indicated that they were planning to teach abroad, the vast majority (89%) said that they would be returning to South Africa. One

conclusion from this study is that, rather than perceiving international teacher mobility as part of some permanent 'brain drain', it may be better to define it as something that is often transitional. A further study, conducted among teachers from developing countries teaching in England, found that only 38% wanted to settle permanently.

Manik, Maharaj and Sookrajh (2006) go further and group migrant teachers into the following categories:

(a) 'Goal achievers' who exited SA on a temporary basis to achieve particular socioeconomic goals;

(b) 'Lifestyle emigrants' who exited permanently for a better quality of life with a view to starting life afresh in a new country; and,

(c) 'Transients', those with no intention of permanently settling abroad or in SA and were at ease crossing national boundaries.

Whilst the retention of teachers remains a priority, the impact of migration has been viewed qualitatively rather than quantitatively, suggesting that international teacher mobility may not impede the attainment of goals in terms of the quantity of education provided, but it may somewhat erode the quality. This affirms the notion that teacher migration may not be creating quantitative shortages of teachers, but rather results in the loss of teachers who were particularly effective. It is therefore paramount to ensure teacher quality over an absolute increase in numbers. Teacher quality is understood to depend on numerous factors, which include who is attracted to the teaching force, the incentives put in place for these individuals to perform well, and whether the best-performing teachers remain in the teaching force (Hernani-Limarino 2005).

The recruitment, performance and retention of teachers is dependent on the 'opportunity cost' of being a teacher, and the most important aspect of this opportunity cost is the wage differential between teachers and non-teachers (Hernani-Limarino, 2005). A pressing question in the economics-of-education literature is whether the remuneration offered to teachers is sufficient to guarantee acceptable teacher quality by attracting, recruiting and retaining the most 'attractive' individuals, in terms of productive characteristics.

Conclusion

Migration peaked in the late 1990s and early 2000s due to a number of factors including government policy and the prospect of a higher income abroad. Demand for foreign teachers has been falling as improvements in pay have increased the inflow of native teachers whilst regulations imposed on foreigners have made working abroad more difficult.

It has been argued that international migration has not led to harmful shortages of teachers in South Africa, but rather 'creamed off' the more skilled and experienced teachers. Research has supported this notion and suggested that SA teachers receive much smaller returns on additional years of education, experience or tenure, which may serve as a disincentive to invest further in their own human capital, or to stay in the teaching profession. This research has stated that entry-level teachers are at the top end of the earnings distribution, whereas the more skilled and experienced teachers are relatively underpaid in relation to their foreign counterparts. This compression of wages could mean that teachers with the most favourable sets of labour market characteristics will be more inclined to leave the teaching profession, whereas those with the least favourable endowments will find it attractive to stay (Van der Berg and Burger, 2010). It is the more experienced and skilled teachers in particular that policy makers need to pay careful attention to, and attempt to create an attractive, healthy and supportive environment for local teachers or run the risk of losing them to international recruitment agencies offering lucrative salaries. Failing this, one can conclude that the international mobility of teachers may not adversely affect the provision of education in the country but rather the quality of education provided as the more experienced teachers are lured abroad or out of the profession.

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Gavin George
HEARD – Health Economics and HIV and AIDS Division (HEAD)
University of KwaZulu-Natal
Durban

georgeg@ukzn.ac.za

Bruce Rhodes
School of Accounting, Economics and Finance
University of KwaZulu-Natal
Durban, South Africa.

rhodesb@ukzn.ac.za

Principals' perspectives on key factors that contribute to sustainable quality education

Jan Heystek and Lorinda Minnaar

Abstract

This article reports on the perspectives of principals about factors, which have an influence on their work to provide quality education for all children. Principals in the Western Cape were asked to rate key factors that contribute to sustainable quality education in their schools. An online survey was implemented as the data collection instrument and the FREQ procedure was followed to analyse the raw data statistically. The results showed that dedicated and well-qualified teachers who teach disciplined learners in a safe environment should receive priority in any action principals and Departments of Education take to improve and sustain the quality of education in the Western Cape and possibly in all South African schools.

Introduction

The delivery of sustainable quality education for all continues to be an ideal aspired to and pursued by many countries including South Africa. Since South Africa's first democratic election in 1994, government has focused on transforming education and has concentrated its efforts on achieving equitable and sustainable quality education in schools, largely through the introduction of new curricula and amendments to education legislation and policy. Government has also introduced and implemented various programmes, guidelines and action plans in its commitment to both improving and ensuring sustainable quality education. Among these are: the new Sector Plan, which encapsulates government's response to the priorities, targets and programmes articulated in the National Development Plan – 2030 (2015, p.50), the National Policy on Whole School Evaluation (2001, p.3), the Delivery Agreement for the Basic Education Sector, Outcome 1 – Improved Quality of Basic Education (2010, pp.1–4) and the Guidelines Relating to Planning for Public School Infrastructure (2012).

In the Basic Education Budget Vote Speech for the 2015/16 financial year delivered by the Minister of Basic Education at the National Assembly in

Cape Town on 06 May 2015, Mrs A M Motshekga reiterated the important role that quality basic education plays in a nation's current and future prosperity, development and growth. She also articulated government's intention to improve the overall quality of education in South African schools:

> Our focus is to reposition the Sector to deliver on the mandate for quality and efficient schooling in the 2015/2016 financial year. We remain resolute in our quest to improve quality and efficiency throughout the schooling Sector, with a renewed emphasis on curriculum coverage, improving assessment and strengthening quality, efficiency and accountability in our schools, districts and provinces, as well as in our administrative departments and sectoral partnerships (Motshekga, 2015).

Sustaining quality education, particularly in under-resourced schools, may present a challenge that leaves education officials and policy writers overwhelmed by the many competing priorities and pressing educational needs that simultaneously demand their urgent attention. We acknowledge the existence of a multiplicity of contextual factors that could improve and contribute to sustainable quality education and we argue that it is important for role-players in education to reach consensus on which of these needs (factors) merit urgent attention and ought to be prioritised for budget allocations.

In the South African school system, public schools are divided into five quintiles depending on the poverty of the community around the school, as well as on certain infrastructural factors. Quintile 1, 2 and 3 schools do not charge school fees, are termed 'no-fee' schools and appear to be located in poorer socio-economic contexts, while Quintile 4 and 5 schools charge school fees and appear to be located more within middle-class to affluent contexts (Western Cape Education Department, 2013). Our research assumption was that we would obtain different data from respondents from the five quintiles. Our assumption was, amongst other, supported by information gleaned from Table 14 of the National Senior Certificate Technical Report (2013, p.72), which indicates that Quintile, 1, 2 and 3 schools appear to struggle to meet the same standards of academic quality as Quintile 4 and 5 schools do, particularly in regard to Grade 12 (Matric) results.

This article reports on quality education, one of seven themes, which comprised a large-scale, exploratory, quantitative, online survey with the title 'School Governance and Leadership for Sustainable Education for All', which we undertook in public schools in the Western Cape. In the online survey, we

explored the ability of principals and parent members of school governing bodies to fulfil their various roles and functions as governors. For the purposes of this article, we discuss only 11 factors, which we selected for our study specifically because our area of interest is school governance and management and these factors are governed and managed by principals and school governing bodies. The aim of this article is to show which of the factors school principals perceive as key to sustaining quality education in their schools and to explore if there are any differences in the perspectives of principals from different quintile schools about the factors, which contribute to sustainable quality education. We are of the opinion that school principals are well placed to offer useful insights into these key factors and although we did not include leadership as a key factor, we acknowledge that leadership is important because we specifically gathered data concerning the key factors from principals, who are school leaders.

The conceptual challenge: defining 'quality education'

A problem with which some scholars and role-players in education may grapple is "How do we define quality education?" Tikly (2011, p.3) asserts that the difficulties in developing a sense of what quality education encompasses are compounded by the fact that there is no universally accepted definition of education quality. Consequently, we deduce that the main hindrance to defining quality education is that notions of, discourses on and approaches to quality are embedded in the multidimensional education systems of developed and developing countries globally. Nevertheless, literature alludes to factors, which seem to contribute to quality education in most, if not all countries and contexts.

In 2000, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) organised the World Education Forum in Dakar, Senegal to identify six measurable goals that would comprise the Dakar Framework for Action and Millennium Development Goals. Goal 6 of the Dakar Framework for Action explicitly aimed at improving the quality of education globally, particularly the quality of literacy, numeracy and life skills. Its expanded definition of quality set out desirable characteristics such as healthy, motivated students, processes such as competent teachers using active pedagogies, content in terms of relevant curricula and systems such as good governance and equitable resource allocation (Education for All Global

Monitoring Report, Chapter 1, 2005, p.29). The report (2005) also makes a strong case for safety and support of learners as a quality imperative within a human rights approach to quality education. School effectiveness studies conducted in industrialised countries identified strong educational leadership, the acquisition of basic skills, an orderly and secure teaching and learning environment, high learner expectations and regular assessment of learners' work as salient factors that contribute to quality education.

Introducing of key factors

The key factors, which we selected for our study included dedicated teachers, well-qualified teachers, disciplined learners, safe schools, a relevant curriculum, involved parents, sufficient teaching and learning resources, small classes, well-maintained facilities and good infrastructure, sufficient furniture for learners and a comprehensive extra-mural programme.

Miller (2012, p.36) asserts that the six essential affective characteristics of dedicated teachers are enthusiasm, encouragement, humour, interest, mental health and availability. In South Africa, a dedicated teacher ought to fit the profile of a professional person outlined in the Code of Professional Ethics of the South African Council of Educators (SACE) (2000). The Code of Professional Ethics calls educators to acknowledge the noble calling of their profession and to acknowledge that the attitude, dedication, self-discipline, ideals, training and conduct of the teaching profession determine the quality of education in this country (2000, p.1).

In regard to teacher qualifications, findings that emerged from a comparative study conducted by Carnoy, Chisholm and Chilisa (2012, p.151) of Grade 6 Mathematics teachers in Botswana and North-West Province of South Africa, showed that learners' poor performance and low scores in Mathematics tests were related directly to inadequately qualified teachers. In South Africa, teachers' lack of appropriate qualifications seriously threatens the delivery of sustainable quality education in many schools. In response to a Democratic Alliance (DA) parliamentary probe by Annette Lovemore (SA Breaking News, 2014), a spokesperson for the Department of Basic Education (DBE) admitted that there were approximately 10 725 unqualified or under-qualified teachers in public schools in 2013. The implication is that unqualified or under-qualified teachers may negatively affect learners' learning and lives

with the implication that a significant number of learners are not receiving quality education. Further, the Executive Summary published by the Centre for Development and Enterprise (2015, p.4) shows that in South Africa there is a severe shortage of teachers who are qualified to teach in the Foundation Phase. There is also a significant shortage of teachers qualified to teach languages in all phases, Mathematics in the Intermediate and Senior phases, and Mathematical Literacy in the Further Education and Training (FET) Phase, all of which has a negative effect on the delivery of sustainable quality education.

Ming Chiu and Wing Yin Chow (2011, p.517) advance the notion that variables such as the economic and cultural contexts of different countries, characteristics of schools and family values potentially shape learners' discipline and their relationships with teachers and one another. It follows that teachers have the ability to enhance the quality of education provided by their schools by maintaining a balance between their teaching and classroom management strategies. This will be possible if they reduce disruptive behaviour and distractions in the classroom on the one hand and challenge their learners academically by keeping them focused on and engaged in interesting learning activities, on the other.

In South Africa, some schools experience "violence that often leaves educators battling to cope with increasing demands for learner performance in the midst of an inherited culture of violence and intimidation that spills over into the classroom" (Bester and Du Plessis, 2010, p.203). Mestry and Khumalo (2012, p.102) provide evidence that many schools are not adopting and enforcing codes of conduct owing to the limited knowledge, skills and experience of legislation of many parents serving on governing bodies. Despite the introduction of numerous legal measures to ensure learner safety at schools, the culture of violence afflicting many communities in South Africa appears to make it extremely difficult for teachers to meet the increasing demands on them to ensure that learners perform well (Bester and Du Plessis 2010, p.203).

In respect of the importance of having a relevant curriculum, UNESCO's General Education Quality Analysis/Diagnosis Framework (GEQAF) (2015) states:

> A good curriculum plays an important role in forging life-long learning competencies, as well as social attitudes and skills, such as tolerance and respect, constructive management of

> diversity, peaceful conflict management, promotion and respect of Human Rights, gender equality, justice and inclusiveness. At the same time, curriculum contributes to the development of thinking skills and the acquisition of relevant knowledge that learners need to apply in the context of their studies, daily life and careers.

It is important, therefore, that developing countries design their own relevant curricula that cater for and respond to the needs and priorities of learners, their families and communities optimally (Education for All Global Monitoring Report, 2005, p.31). According to the EdQual Policy Brief No. 10 (2010, p.3), "Coherence in aims and content within and between phases of the curriculum is key." In South Africa, a single, comprehensive Curriculum and Assessment Policy document (CAPS) (2011) was developed for each subject offered at schools (Available online: http://www.education.gov.za/Curriculum/NCSGradesR12/tabid/419/Default.aspx). The National Curriculum Statement Grades R–12 lists the knowledge, skills and values worth learning in South African schools and aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives. It can therefore be said that the curriculum promotes knowledge in local contexts while being sensitive to global imperatives (National Curriculum Statement, 2011, p.4).

Findings that emanated from Jeynes's (2005) meta-analysis, which examined the relationship between parental involvement and the academic achievement of urban elementary school children indicate that parental involvement enjoys an influence that largely transcends differences in socio-economic status, race and other factors. This is supported in the parental involvement data for racial minorities and by gender, which is encouraging in that any group can experience the advantages of parental involvement. However, one of the findings that emerged from a study undertaken by Motala and Luxomo (2014, p.95) evidences the fact that although South African policy favours parental involvement, parents of learners attending poor urban and rural schools in Gauteng and the Eastern Cape hesitate to become involved in the education of their children owing to their lack of self-efficacy.

There is no certainty about the actual direct influence of small classes on academic outcomes although there is a perception that small classes are advantageous to children's school results. Some scholars anticipate the economic ramifications by raising questions regarding the cost effectiveness of small classes while others argue that small classes need to be considered a key feature of educational policy (Blatchford, Bassett and Brown, 2011,

p.715). Similarly, Ehrenberg, Brewer, Gamoran and Willms (2001, p.1) contend that the number of learners in a class can potentially affect the quantity and quality of time a teacher is able to devote to learners' individual needs, the quantity and quality of content that a learner learns in class and their level of social engagement and interaction.

Xaba (2012, p.215) asserts that the significance of facilities maintenance to school functionality is recognised worldwide to the extent that international studies report numerous education departments have organisational structures or units specifically dedicated to managing and maintaining school facilities. In terms of Section 20(1)(g) of the South African Schools Act, No 84 of 1996, the school governing body must "Administer and control the school's property, buildings and grounds occupied by the school, including school hostels, if applicable." In South Africa, school governing bodies are responsible for maintaining school facilities and for providing a good infrastructure within which quality teaching, learning and extra-mural activities can occur.

Hassell (2011, p.18) asserts classroom space and furniture needs to be flexible to enable teaching and learning by means of teacher-directed instruction, self-study, group work, oral presentations, peer instruction and interaction and class discussions. It is disconcerting that in many South African schools, particularly in the rural areas of the poorer provinces, such as in the Eastern Cape, schools lack adequate desks and chairs for learners. John's report in the *Mail and Guardian* (2012) relates how "Eastern Cape learners sit on empty mealiemeal sacks, beer crates or bricks, bending over double as they attempt to write in their exercise books. Yet they are the lucky ones – some pupils have to sit on bare floors."

In most South African schools, dedicated teachers take on additional responsibilities emanating from their schools' extra-mural programme. Many learners, in addition to their core learning activities, participate in a wide range of extra-mural activities as part of their school day. Shulruf (2010, p.594) however, points out that numerous scholars, particularly in the United States, have undertaken studies concerning various aspects of extra-mural activities but none have established empirically a causal effect between extra-mural activities and educational outcomes. Dimech and Seiler (2011, p.348) view learners' participation in extra-mural activities from a social learning theory perspective and claim, "Participation in organised sport, particularly in team sport, may play an important role in a child's social development."

Research methodology

Paradigmatic approach

For this study, we used a positivistic paradigm to understand the social phenomenon of quality education from the perspective of principals. To achieve our primary objective, we implemented a quantitative paradigmatic approach. According to Ivankova, Cresswell and Plano Clark (2007, p.255), the goal of quantitative research is to explain the trends or relationships between variables. By quantifying principals' responses to questions, which we posed in an online survey on quality education, we were able to identify trends in the principals' professional perspectives concerning the factors that contribute to sustainable quality education in their schools. Although the issues under investigation are difficult to quantify and as concepts, principals hold their own interpretation of the broad issues, the objective was to obtain an indication of the importance of the specific factors linked to quality education.

Population and sample selection

In light of our research assumption, we required access to the total population of school principals across the five quintiles in the Western Cape. Therefore, our sample can be described as large and purposive because it comprised principals of all the public primary and secondary schools in the Western Cape, a total of 1 433 respondents. According to Grinnell and Unrau (2008); Monette, Sullivan and De Jong (2005), the sample was purposive because it comprised elements, namely school principals, that contained the most characteristic, representative or typical attributes of the population.

Data collection instrument: an online survey

An online survey was used to collect data, as described and discussed previously by Minnaar and Heystek (2013). In the specific question on quality education on which this article reports, all respondents, namely school principals from no-fee and fee charging schools within the five quintiles received the same question. They were asked to rate, on a 4-point scale, to what extent they strongly disagreed, agreed or strongly agreed that selected

factors contribute to the provision of sustained quality education in their schools.

Although there are advantages to using online surveys, for example, as Evans and Mathur (2005, p.196) mention that online surveys are able to reach participants who have Internet access throughout the world, that large samples can be reached and with the Internet these surveys can be managed in a time efficient manner, there was a very low return rate. Even after it was established that all schools in the Western Cape were supposed to have functional e-mail addresses, the return of 181 questionnaires was acceptable, yet very low.

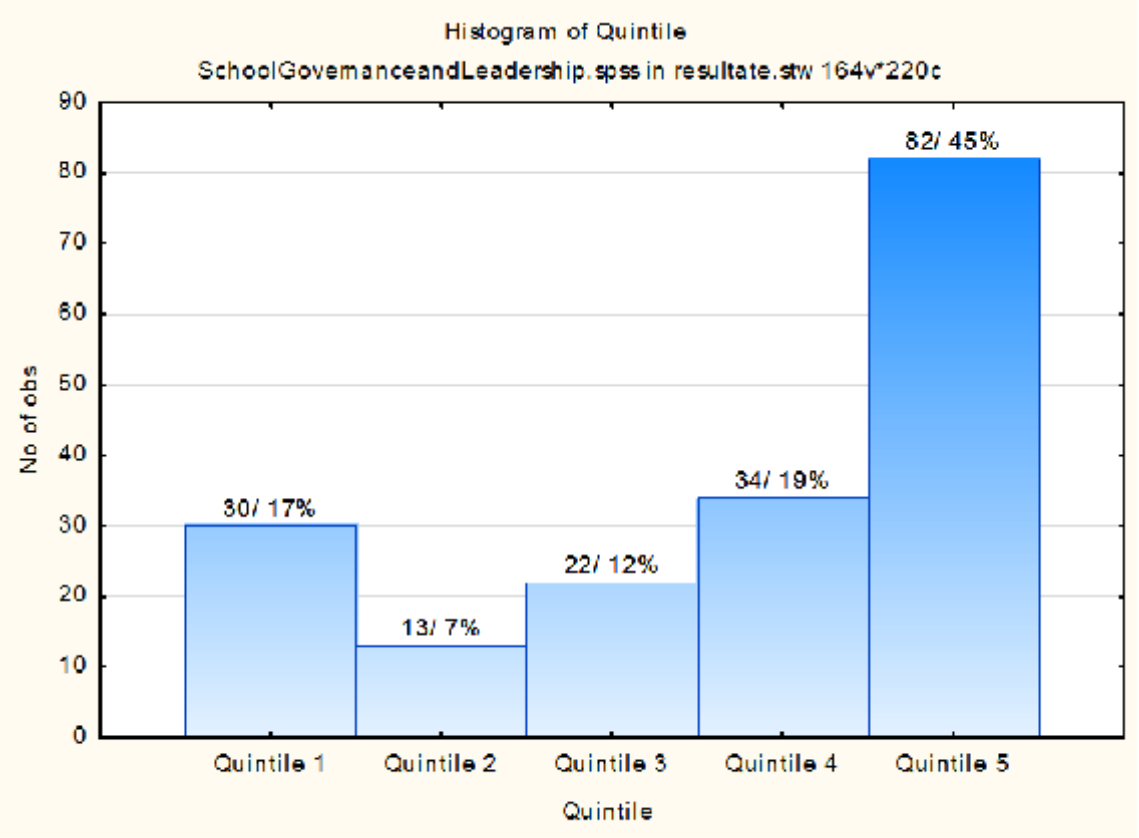

Figure 1: Principals' responses per quintile

Even with a specific effort to get more responses from Quintile 1, 2 and 3 schools, they still had the lowest response rate. The total number of these schools, namely 65 (36%) may provide us with some indications on how these principals experience the factors which provide quality education.

Quantitative data analysis

The statistician conducted a quantitative analysis of all the collected raw data by means of the FREQ procedure. According to SAS/STAT® Version 9.1 User's Guide (2004, p.1431) the FREQ procedure provides easy access to statistics for testing contingency tables. For the purposes of the survey question on which this article reports, the frequency with which the school principals responded to the eleven factors that contribute to sustainable quality education by clicking the 'strongly agree' rating option, was calculated statistically as a response percentage. Only the 'strongly agree' responses were calculated and used for this article because they obtained the highest response percentages and were therefore statistically significant.

Validity and reliability

According to Babbie and Mouton (2009, p.122), "validity refers to the extent to which and empirical measure adequately reflects the real meaning of the concept under consideration." Further, Babbie and Mouton (2009, p.119) explain reliability as "a matter of whether a particular technique, applied repeatedly to the same object, would yield the same result each time." The validity and reliability of the rating scale question, which we posed to school principals to generate data was established by means of the Cronbach Coefficient Alpha. Cronbach's coefficient alpha estimates the reliability of a scale by determining the internal consistency of the test or the average correlation of items within the test (Cronbach, 1951). The rating scale question scored $\alpha = 0.920035$, an indication of excellent internal consistency.

Ethical considerations

We applied to Stellenbosch University's Ethics Committee for ethical clearance for the study, which was granted subsequent to the submission of required documentation. The Western Cape Education Department's (WCED) Research Directorate approved the study and granted us consent to conduct the study.

Results

Table 1 (below) shows the principals' 'Strongly Agree' responses to factors that contribute to sustainable quality education per quintile.

Table 1: Principals' 'Strongly Agree' responses to factors that contribute to sustainable quality education per quintile

Factors for quality education	Quintiles as %				
	1	2	3	4	5
Dedicated teachers	79	85	82	97	93
Well-qualified teachers	79	92	77	91	82
Disciplined learners	69	84	77	91	84
A safe school	72	92	80	82	82
A relevant curriculum	72	85	64	91	84
Involved parents	69	85	77	94	76
Sufficient teaching and learning resources	76	62	68	86	78
Small classes	66	69	55	76	77
Well-maintained facilities and good infrastructure	66	69	73	76	70
Sufficient furniture for learners	66	62	59	76	62
A comprehensive extra-mural programme	62	54	62	74	54
Average % per quintile	71	76	70	85	77

There does not appear to be significant differences between the opinions of the principals from the different quintiles. Principals from the poorer quintiles feel less strongly about these factors, but do not differ much from the Quintile 5 school principals. This survey does not make provision to explain the differences, but the potential implications thereof will be discussed.

In Figure 2 (below), we present all the principals' 'strongly agree' response percentages to the eleven key factors that contribute to sustainable quality education. The response percentages have been arranged graphically in columns from the factor that achieved the highest response percentage to the factor that obtained the lowest response percentage.

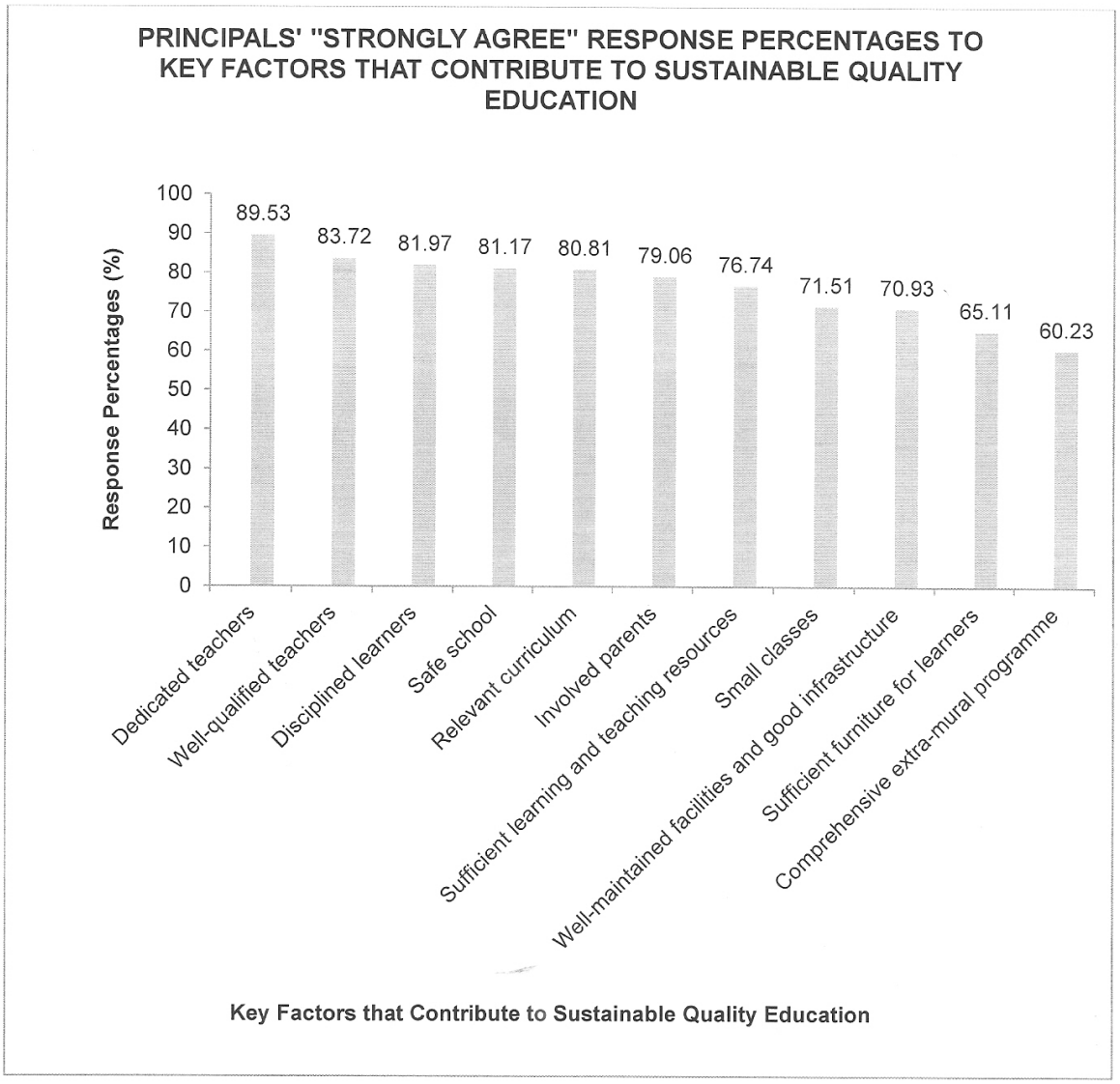

Figure 2: Principals' 'strongly agree' response percentages to key factors that contribute to sustainable quality education

Overall, there is a 'Strong Agreement' about all the factors. The importance of the data is therefore, to obtain an indication, which is possibly more important, although all the factors are important to provide quality education. Individual schools or departments of education may use the data to prioritise their actions to improve the quality of education. The three key factors, which obtained the highest response percentages, see people as key factors contributing to sustainable quality education, whereas the factors that obtained the five lowest response percentages focus on structural aspects.

Principals clearly indicated that dedicated as well as well-qualified teachers are the two factors that most contribute to sustainable quality education in

their schools. The EdQual Policy Brief No. 10 (2010, p.3) states that suitably trained and motivated teachers are a "quality input" of quality education. Similarly, Mart (2013, p.437) asserts:

> Passion matters in that it motivates and inspires the teachers. Passion is a motivational factor that affects teacher performance. It drives the teachers for a better student accomplishment. Passionate teachers create an effective learning environment and increase learning potential of students. Passion leads to creativity; therefore, passionate teachers have the ability to think and produce new notions in an easy way. Passionate teachers are committed and dedicated to their schools and a good education achievement is an outcome of this commitment and dedication.

Therefore, dedicated teachers are more motivated to develop themselves, which has a more direct and positive effect on the quality of education. Findings that emerged from a study by Heystek and Terhoven (2015, p.13–p.14) show that dedicated teachers are passionate about teaching and are motivated intrinsically to participate in professional development programmes, thereby empowering themselves and developing their personal and professional knowledge and skills that will benefit not only themselves, but more importantly their learners, schools and communities. Although Quintile 5 schools perhaps are able to provide more professional development opportunities for their teachers because they are situated in wealthier areas than schools in the lower quintiles, all the principals strongly agreed that it is important to have well-qualified teachers.

Principals' 'strongly agree' responses to disciplined learners and safe schools confirm the importance of an orderly and harmonious teaching and learning environment. This finding is supported in literature by the findings of Luiselli,Putnam, Handler and Feinberg (2005, p.185), who assert, "when teachers are able to increase, strengthen, and maintain high levels of student academic engagement, there is a corresponding improvement in academic performance and achievement." Le Roux and Mokhele (2011) collated findings that reveal that violence in schools is brought about by dysfunctional family structures, the presence of gangs and weapons and the distribution of harmful substances, such as alcohol and drugs, all of which affect learner performance adversely. However, even the most conservative code of conduct will not contribute to a safe school if it is not enforced consistently. Mestry and Khumalo (2012) provide evidence that many schools are not adopting and enforcing codes of conduct because of the limited knowledge, skills and experience of legislation of many parents on the governing bodies.

A relevant curriculum can be linked positively to dedicated and well-qualified teachers as well as to disciplined learners because such teachers can make the curriculum relevant, which will in turn ensure learners become better disciplined when they realise the importance of the curriculum and of their education. Lumadi (2014, p.15) avers, "The efforts to create good schools will depend entirely on the quality of our curriculum, for a quality curriculum responds to the needs of the learners and the country in large." Lumadi (2014, p.14) also refers to the important role played by dedicated and well-qualified teachers by maintaining that, "If schools worldwide are to meet the challenge of educating increased numbers of children with diverse needs, teachers must embrace instruction and curricula that engage and encourage all students."

Although involved parents are a people-orientated factor, it surprisingly obtained only the sixth response percentage of the eleven key factors. Despite the findings of Fan and Chen (2001), which point to a strong relationship between parental involvement and academic outcomes, the results indicate that principals in this sample regard involved parents somewhat less important than dedicated teachers, well-qualified teachers and disciplined learners as contributors to sustainable quality education in their schools. One explanation for this finding may be that involved parents is an 'out-of-school' factor, whereas dedicated teachers, well-qualified teachers and disciplined learners are school-based factors and principals may have more control over these last mentioned factors.

The last five factors can be linked to structural factors. Although the Western Cape Education Department indicated the need to build more schools and that there are numerous problems with infra-structure and facilities, specifically in Quintile 1, 2 and 3 schools, these principals still rate the human factor, that is teachers, as the more important factor in the provision of quality education. This could be an important issue for departments of education because they may prioritise more funds to develop teachers rather than to provide state-of-the-art facilities for all schools.

Sufficient teaching and learning resources was the factor that obtained the seventh response percentage. One would expect this factor to have obtained a higher response percentage considering the consternation in the South African media surrounding the delivery, and at times non-delivery, of stationery and textbooks evokes at the beginning of each new school year since the notorious 'Text-Book Saga' in 2012 (Veriava, 2013). However, it should be borne in mind that 45% of the respondents who responded to our rating scale question

on factors that contribute to sustainable quality education were principals of Quintile 5 schools. Quintile 5 schools do not appear to struggle with non-delivery of teaching and learning resources as some Quintile 1, Quintile 2 and Quintile 3 schools that are located in poor urban and rural areas do.

Small classes was the factor that obtained the eighth response percentage, indicating that although principals may be well aware of the academic benefits of small classes as espoused in literature, such as the assertions of Finn and Suriani (2007), they accord more importance to the contributions of people to the delivery of sustainable quality education in their schools. Their line of reasoning may be that teaching a large class of well-disciplined learners will not present an insurmountable challenge to a teacher who is both well-qualified and dedicated in a school where there are sufficient teaching and learning resources.

The response percentage for well-maintained facilities and good infrastructure placed this factor in ninth position overall. It appears that although principals acknowledged that having well-maintained school facilities with a good infrastructure is important, it is not absolutely essential for the delivery of sustainable quality education.

Principals' response percentages placed sufficient furniture for learners in the tenth position. This low position was surprising, particularly in terms of the poorer Quintile 1, 2 and 3 schools because there have been court cases between parents of various schools and the Eastern Cape Province (High Court of South Africa, Eastern Cape Local Division, Mthatha, Case no. 2144/2012) over failure to provide essential school furniture. From this result, it appears that insufficient furniture for learners does not warrant urgent attention in Western Cape schools, as in certain other provinces of South Africa.

A comprehensive extra-mural programme was the last placed factor in the eleventh position. This result was also unanticipated, this time in terms of Quintile 5 school principals who contributed the largest percentage of responses. It would appear that Quintile 5 principals attach little, if any significance to a comprehensive extra-mural programme as a factor, which contributes to sustainable quality education. Yet, findings that emerged from a study by Minnaar (2009) in schools previously categorised as 'Model C' schools, many of which now fall within the Quintile 5 category, showed that schools expect high commitment from teachers in terms of extra-mural

programmes and that teachers spend a very high average of their time on extra-mural activities. The reasons provided by the participants for expecting high commitment from teachers in respect of extra-mural programmes was based on their desire for teachers to get to know learners in a context other than the academic context in the classroom.

Conclusion

It does not seem as if the socio-economic context of the schools affects principals' perspectives of the importance of specific factors, which may influence their own or their schools' performance. Structural factors undoubtedly contribute to sustainable quality education, but it seems as if factors relating to people are more important. Although there is a rank order of these factors, they are all important and they will affect the quality of education. Each school and district can determine which of these factors may be the most important for urgent attention to improve the quality at the local context.

Clearly though, dedicated and well-qualified teachers who teach disciplined learners in a safe environment should receive priority in any action principals and Departments of Education take to improve and sustain the quality of education in the Western Cape and possibly in all schools in all the provinces of South Africa.

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Jan Heystek
School for Education Studies
North-West University
Potchefstroom

jan.heystek@nwu.ac.za

Linda Minnaar
Private Education Practitioner

lorinmin@gmail.com

What is SAERA?

The South African Education Research Association (SAERA) was established at a launch conference at Bela Bela in the Limpopo Province at the end of January 2013. SAERA's launch represents a historic attempt to bring together education academics and researchers from all over South Africa into a unified educational research organisation. SAERA's main aim is to professionalise, cohere and improve educational research and academic work in South Africa. SAERA's establishment follows three years of extensive consultation between a broad range of educational academic organisations with the intent of bringing together academics from different organisations, with their roots in the racialised academic traditions of the pre-democracy period.

The establishment of SAERA provides an opportunity for an umbrella body to bring together different research traditions in the country.

SAERA has the following aims:

- To promote research and academic collaboration, link research policy, theory and practice, encourage the promotion of research quality, and help develop the next generation of researchers.

- To establish a cohesive, coherent and inclusive education academic and research identity. The aim is to establish vigorous and responsive epistemic communities and provide us with a vehicle to continue vigorous intellectual and research collaboration.

- To promote interaction with national and provincial education departments, research organisations such as policy units and the National Research Foundation.

- To establish links with international educational research organisations and similar organisations in Southern Africa and the African content.

SAERA is open to all scholars of education. Its activities will include an annual conference, establishing special interest groups (SIGS) in education which focus on capacity development, and providing publishing opportunities through the *Journal of Education*.

For more information and to become a member, go to www.saera.co.za

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Unsolicited papers are welcome for consideration and should be addressed to the Editor of the *Journal of Education*. Submitting authors should note that a fee of R3 000 per article 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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Each author will receive a copy of the journal in which the paper appears.

Educators or publishers outside South Africa wishing to reproduce articles in publications or compilations of readings should contact the Editor.

Referencing style

Journal of Education style of referencing is a requirement. References in the text should appear as follows:

> No country in the world can afford the schooling its people want (Reimer, 1971) and it has been argued that "of all 'false utilities', school is the most insidious" (Illich, 1971, p.60).

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 person interviewed, Initial(s). Year. Interviewed by initial(s) and surname of interviewer. Place where interview occurred, further details of date (day and month). Details of location of transcript, if available.

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> As for works above but with the addition of the format in square brackets at the end of the reference, e.g. [Microfilm] or [Videotape] or [CD-ROM], etc.

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Correspondence should be addressed to:

The Editor
Journal of Education
School of Education
University of KwaZulu-Natal
Private Bag X01
Scottsville 3209

Telephone: +27 033 – 260 6091/6206
Fax: +27 033 – 260 5080
E-mail: JoE@ukzn.ac.za

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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 SAERA Special Edition).

Most journals now have a per article 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 R3 000 per article 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?
Yes. The electronic version of the article should be sent as an email attachment.

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 subheadings should be clear. 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?

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The following statistics for 2013 and 2014 provide an indication of the pattern of acceptance/non acceptance:

Year	Accepted with no or minor revisions	Accepted after revisions	Not accepted
2013	0	8	34
2014	0	14	38

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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.

Recent non-acceptances include a high proportion of undeveloped research reports, summaries of dissertations, and even sound but small-scale case studies that are purely context specific and unconnected with broader issues, literature or theory. Similarly, even a successful conference paper is usually in need of further development before it merits publication.