

# Unveiling the South African official primary mathematics teacher pedagogic identity

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*This article is theoretically informed by Bernstein's (2000) notion of pedagogic identity, supplemented by Tyler's (1999) elaboration of Bernstein's theory into an analytical framework that describes four possible identity positions relating to classification and framing properties. The article analyses key primary mathematics curriculum policy documents to investigate the official primary mathematics teacher identity as constructed by both previous and current South African education curricula. The article reveals that the first post-apartheid curriculum, Curriculum 2005 (C2005), projected a 'therapeutic' primary mathematics teacher identity with symbolic pedagogical intentions. The recent South African curriculum policy changes to a common curriculum framework (Curriculum and Assessment Policy, CAPS) and universal primary learner tests (Annual National Assessments, ANA) construct and promote a 'market' (Bernstein 2000) primary mathematics teacher identity.*

**Keywords:** South African primary maths teacher identity, Bernstein, pedagogic identity

## Introduction

In this article, we investigate the type of primary mathematics teacher identity promoted by post-apartheid curriculum reforms and recent changes in South African primary mathematics education, as revealed in curriculum policy documents. To help us explain the construction of primary mathematics teacher identity, we draw upon Bernstein's (2000) model of pedagogic identity, which explains how different modalities of curricular reform construct different such identities. We supplement Bernstein's concept of pedagogic identities with the findings of Tyler's (1999) study, which interprets Bernstein's pedagogic identity positions in terms of knowledge coding properties (that is, classification and framing).

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Bernstein and Tyler used the concept of pedagogic identity to analyse British and Australian educational reforms in the last quarter of the 20th century, which were characterised by a homogeneous national curriculum and the compulsory testing of primary learners in core subjects. In the post-apartheid era, South Africa has also experienced major curriculum reforms: Curriculum 2005 (C2005), Revised National Curriculum Statement (RNCS), National Curriculum Statement (NCS), Curriculum and Assessment Policy Statement (CAPS) and, recently, the introduction of standardised Annual National Assessment (ANA) tests in numeracy and literacy. This development is similar to aspects of the education reforms experienced in the United Kingdom and Australia in the 1990s. The question, therefore, arises as to whether (and in what ways) the South African primary mathematics teacher identities promoted by both the previous and the current South African mathematics education policies relate to Bernstein's model of pedagogic identity and its realisation through classification and framing principles.

To investigate the concept of primary mathematics teacher identity, we analysed key national curriculum documents, focusing mainly on the CAPS and C2005 primary mathematics policy documents. Given that ANA is part of the raft of measures associated with CAPS, we also draw from policy documentation relating to ANA in our discussion of CAPS. Embedded in these curriculum policy documents is an officially sanctioned version of primary mathematics teacher identity (Tyler, 1999; Bernstein & Solomon, 1999). Coupling our theoretical perspective with our document analysis indicates that the educational reforms that gave rise to C2005 promoted a 'therapeutic' primary mathematics teacher identity, whereas the current CAPS curriculum changes project more of a 'market' primary mathematics teacher identity (Bernstein 2000).

## **The South African curriculum context**

In this section, we discuss the basic principles of C2005, from 1997 when C2005 was launched to 2002 when the RNCS was introduced. We analyse the curriculum policy documents for this period and briefly explain the type of mathematics primary teacher identity promoted during this era. We focus only on this five-year period, for we argue that, after 2002, the revised curriculum changed its focus and the teacher identity it promoted. It is beyond the scope of the present article to include discussion of the primary mathematics teacher identity promoted by the RNCS. Thereafter, we focus on education policy changes from the time of the Foundations For Learning Strategy, launched in 2008, until the present day. We analyse the implication of such changes for the resultant primary mathematics teacher identity promoted.

## **Curriculum 2005**

In the wake of the first democratic elections in 1994, South Africa introduced a new curriculum in 1997, called Curriculum 2005. Local education literature and the curriculum policy document reveal that this new curriculum had a clear political

agenda, for it was regarded as the educational route out of apartheid (Tyler & Vinjevold, 1999; Chisholm et al., 2000; Jansen, 2001; DOE, 1997c). The core curriculum design features which underpinned C2005 were constructivism manifested in learner-centredness, integration and outcomes-based education (Chisholm et al., 2000; Chisholm, 2005). Other key principles on which C2005 was based were "... holistic development, relevance, participation and ownership, accountability and transparency, flexibility, critical and creative thinking, progression, anti-biased approach, inclusion of learners with special education needs, quality standards and international comparability" (DOE, 1997a: 2-3; DOE, 1997b: 2-3).<sup>1</sup> These core design features, principles and values of C2005 affected the mathematical knowledge that was to be taught, and how it was to be taught and evaluated at the primary level.

The post-apartheid curriculum's main shift was from a content-based syllabus to an outcomes-based approach (DOE, 1997a; DOE, 1997c). The then Learning Area of Mathematical Literacy, Mathematics and Mathematical Sciences (MLMMS) for Grades 1 to 9 had specific outcomes which outlined the general skills, abilities and values that a learner was expected to demonstrate at the end of the General Education and Training (GET) band (DOE, 1997c). Because C2005 was learner-centred, it emphasised that learners should take "responsibility for their own learning" through co-operative and learner-engaging activities (DOE, 1997b; DOE, 1997c: 29). Teachers no longer bore the responsibility of being 'source[s] and transmitters of knowledge', but were instead designated as 'facilitators of learning' with the freedom to develop their own learning programmes (DOE, 1997a; DOE, 1997c). The outcomes-based approach meant that primary mathematics teachers had to shift from focusing exclusively on mathematical knowledge and include attention to aspects of learning that promoted acceptable societal attitudes, attributes and competences among learners.

C2005 involved the most radical form of integration, across all learning areas, through the pursuit of cross-curricular themes (DOE, 1997b). Because C2005 foregrounded learners' personal experiences and everyday knowledge, learners were mainly evaluated through continuous portfolio-based formative assessment. Teachers awarded learners marks not only for subject knowledge, but also for their creativity and critical thinking (DOE, 1997c). Through C2005's emphasis on integrating mathematics with other learning areas and applying it to real-life situations, conceptual mathematical knowledge was downplayed (Taylor & Vinjevold, 1999; Chisholm et al., 2000; Graven, 2002; Chisholm, 2005; Reeves & Muller, 2005; Fleisch, 2008). Graven (2002) points out that the MLMMS's specific outcomes and its Rationale had political reconstruction aims, and revealed a radical shift in the philosophy of mathematics and the development of mathematics teacher identities. With progression and summative assessment shifted to the background, and integration between learning areas and everyday knowledge emphasised, the subject specific (mathematics) pedagogic identity of the primary teacher was significantly weakened.

## **Curriculum and Assessment Policy Statement**

Curriculum and Assessment Policy Statement (CAPS) makes numerous changes influencing the teaching and learning of primary mathematics. The tone for these changes was, however, set in the Foundations for Learning Campaign, launched by the Minister of Education in 2008. This strategy was motivated by South African learners' poor performance in regional and international tests and aimed at ensuring that 60% of learners achieve 50% and above in literacy and numeracy by 2014 (DOE, 2008). Under the new national monitoring measures, all South African primary learners undergo Annual National Assessments (standardised tests) to monitor and track their literacy and numeracy (mathematics) levels across Grades 1 to 6 and Grade 9. The 2012 ANA national maths mean scores reveal that performance tends to decline as one moves up the grades, with 77.4% of Grade 1 learners achieving over 50% for mathematics, reducing to 10.6% for Grades 6 (DBE, 2012).

CAPS was implemented at the primary level across Grades in 2012. This new curriculum took heed of the numerous criticisms levelled against the NCS (Taylor & Vinjevold, 1999; Chisholm et al., 2000; Reeves & Muller, 2005; Fleisch, 2008; Schollar, 2008), and repackaged the NCS into a content-based curriculum organised around knowledge. The restructured CAPS curriculum hopes to result in standardisation of the curriculum requirements across the country (DBE, 2011c) and aims to improve the knowledge and learner performance levels in numeracy and literacy (DBE, 2012). It specifies content knowledge and skills to be taught, with explicit sequencing and pacing (DBE, 2011a; DBE, 2011b). In the area of primary mathematics, the CAPS curriculum emphasises the need for deep conceptual understanding and the acquisition of key numeracy concepts, involving mental mathematics, number sense and word problems (DBE, 2011a).

The new curriculum policy document encourages an active and critical approach to learning in which learners "do, talk, demonstrate and record" their mathematical thinking (DBE, 2011a: 9; DBE, 2011b). The new policy also recommends that evaluation of learners' work include both informal and formal assessments (with ANA tests forming part of the formal assessment tasks), which must be recorded, rated and reported to all stakeholders. The new CAPS document thus projects a primary mathematics teacher, who supports learners, to master fundamental mathematics concepts, and assesses and tests learners' understanding of these.

## **Bernstein and Tyler's pedagogic identities**

In investigating officially projected South African primary mathematics teacher identities, this article draws on Bernstein's (2000) concept of pedagogic identities, which was originally used to analyse contemporary curriculum reforms in Britain in the mid-1980s. Central to Bernstein's pedagogic identity model (Bernstein, 2000; Bernstein & Solomon, 1999) is the argument that the official knowledge and pedagogic modalities of curriculum reforms distributed in educational institutions construct,

embed and project different official pedagogic identities. Bernstein's concept of pedagogic identities generated four distinct pedagogic identity positions, namely Conservative, Neo-Conservative, Therapeutic and Market,<sup>2</sup> which are constructed and projected through changes in the official knowledge brought about by curricular reform. We supplement Bernstein's pedagogic identity model with Tyler's (1999) work, which explains how pedagogic identities and their realisations are constructed by variations in classification and framing relations.

Before discussing Bernstein's four pedagogic identity positions, we briefly explain the concepts of classification and framing, as these are core to Bernstein's (1971) educational knowledge code theory. Classification is concerned with the organisation of knowledge into curriculum. With strong classification, areas of knowledge and subject contents are well insulated into traditional subjects (Sadovnik, 2001; Bernstein, 1971). Weak classification refers to an integrated curriculum with blurred boundaries between contents (Sadovnik, 2001; Bernstein, 1971). The concept of frame "determines the structure of the message system" and refers to the "options available to teacher and taught in the control of what is transmitted and received in the context of the pedagogical relationship" (Bernstein, 1971: 205). Where framing is strong, there is a sharp boundary; where framing is weak, a blurred boundary exists between what may or may not be transmitted, which results in reduced insulation between everyday and educational knowledge (Bernstein, 1971). Bernstein (1971: 214) further elaborated that the "selection, organisation, pacing and timing of knowledge [is] realised in the pedagogical frame". Whilst in his earlier writing, Bernstein (1971) explained pacing, sequencing and progression as critical variables of the frame strength, in his later work he also considers hierarchical and evaluative (criteria) rules as core components of framing (Bernstein, 2003).

Bernstein (2000: 66) classified Conservative Pedagogic Identities as being those teacher positions generated and shaped by national resources or discourses and "grand narratives of the past" that provide exemplars, criteria, belonging and coherence. Conservative teacher identities are "formed by hierarchically ordered, strongly bounded, explicitly stratified and sequenced discourse and practices" (Bernstein, 2000: 67). The resulting identities, according to Tyler (1999: 276), are "inflexible and generalised". In this category of identity, there is tight control over the content of education but not over its outputs. Tyler (1999) explains that, in terms of educational codes, this identity position can be described as having both strong classification and framing properties, as was the case with Britain prior to the 1960s.

Neo-Conservative Pedagogic Identities are "formed by recontextualising selected (and appropriate) features from the past to stabilise" and facilitate "engaging with contemporary change" (Bernstein, 2000: 68). This externally-oriented fusion of identity emphasises performance and thus requires the state to control education inputs and outputs (Bernstein, 2000: 76; Tyler, 1999). Because of its dual desire to stabilise the past and engage with change by creating appropriate attitudes towards it, this teacher identity category exhibits strong framing typical of the Conservative

position, yet its disregard for traditional disciplinary boundaries and academic identities leads to weak knowledge classification (Bernstein, 2000; Tyler, 1999). In other words, Neo-Conservative pedagogic identities are sustained in official education arenas whose curriculum is strongly framed and weakly classified.

Therapeutic pedagogic identities are “produced by complex theories of personal, cognitive and social development, often labelled progressive” (Bernstein, 2000: 68) or “child centred” (Bernstein, 2003: 63). The Therapeutic position projects autonomous, sense-making, integrated modes of knowing and adaptable co-operative social practices that create internal coherence. Bernstein cautions that such pedagogic identities are costly to produce with outputs that are not easily measurable. The transmission which produces this identity rebels against specialised categories of discourse and prefers weak knowledge boundaries (Bernstein, 2000). Tyler (1999: 276) describes the Therapeutic position as “weakly classified and framed since it exhibits low specialisation and localised, adaptable practices”. Bernstein (2000) explains that in the educational reforms introduced by the National Curriculum in the United Kingdom in the late 1980s, the Therapeutic identity was ‘projected weakly if at all’. In this article we discuss how this identity position was promoted by means of C2005, launched in South Africa in the late 1990s.

Lastly, Bernstein (2000: 71) identified the Market position, which integrates “a de-centralised device of management (for example in evaluation) embedded in a curriculum emphasising national enterprise (cultural, economic and political)”. The Market teacher identity category is characterised by autonomy, with a focus on producing competitive output-products (students) with an exchange value in a market and constructing an outwardly responsive identity driven by external contingencies. This identity is also oriented towards the intrinsic value of the discourse responsible for the serial ordering of subjects in the curriculum, and has to contend with the possible tension between enhancing learners’ test performance and teaching disciplinary knowledge. This pedagogic position has “strong knowledge boundaries but contingent and personalised practices” (Tyler, 1999: 276). This implies that, according to Tyler’s (1999) theoretical scheme, the Market identity is weakly framed but strongly classified.

Tyler (1999: 270) notes that there are similarities between this identity category and “visible market pedagogy”, notably, according to Bernstein (2003: 213), in terms of “explicit rules of selection, sequence, pace and criteria”. The explicit rules of selection, sequence, pace and criteria have two different implications.

First, according to Bernstein (2003: 213), they “readily translate[s] into performance indicators of schools’ staff and pupils”. In this instance, the strong pacing and sequencing rules of the market position serve as performance measures of the education system’s effectiveness and distribution procedures for homogenising acquisition (Bernstein, 2003). Secondly, the explicit rules of selection, sequencing and criteria can also be read as measures to strengthen the frame of educational knowledge (Bernstein, 1971). These two propositions resonate and contradict

Tyler's (1999) theoretical scheme, especially on how the market pedagogic identity category is realised through strong classification and weak framing. This article will explain how this position is reflected in current changes in the South African primary mathematics education. Figure 1, adopted from Tyler (1999: 276), presents Bernstein's four pedagogic identity positions in relation to framing and classification principles.

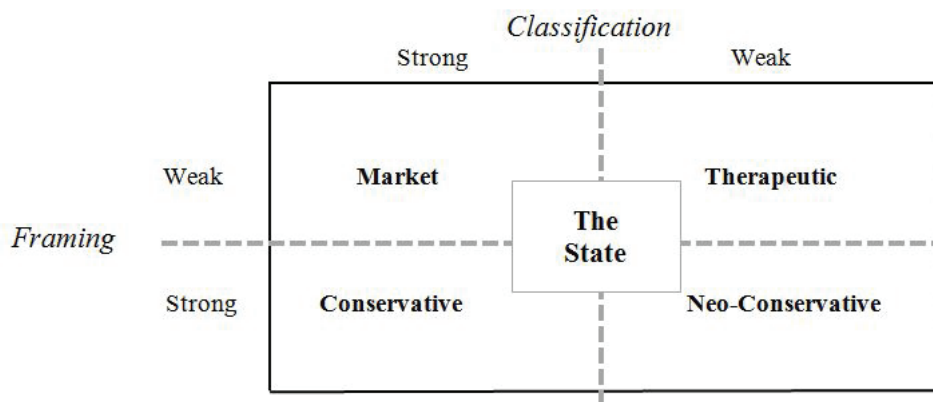


Figure 1: Bernstein's pedagogic identity classes repositioned according to classification and framing properties

## Research method

The data collection technique used for this study is based on document, or content analysis (Best & Kahn, 2006). The primary official sources of data were the official curriculum policy documents. We scrutinised and analysed the coverage of mathematics for the Foundation and Intermediate Phases in C2005 and CAPS, the Foundations for Learning Campaign policy document and an ANA report. These official documents project teacher professional identities and practices as intended by the national government.

A theory-driven deductive data analysis approach was used to synthesise data obtained from curriculum policy documents (Best & Kahn, 2006). The coding and exploration of data was guided mainly by Bernstein's model of pedagogic identity, supplemented by Tyler's interpretation of Bernstein's work. Bernstein's concept of pedagogic identity provides an analytic tool to analyse positions of South African primary mathematics teachers in the context of education reform. Bernstein and Tyler's typology of pedagogic identity also provides the language to describe and explain the official projected primary mathematics teachers' positions during the process of curriculum change. The unit of analysis for this study is Primary mathematics teacher identity. This collectively refers to both Foundation-Phase teachers (who teach across the curriculum and thus not only mathematics) and Intermediate-Phase teachers (some of whom teach only maths within this phase).

## **Discussion - South African primary mathematics teacher identities**

In this section, we discuss the primary mathematics teacher identities projected by the focal South African curriculum reforms. First, we explain how C2005's reforms promoted a Therapeutic primary mathematics teacher identity in relation to classification and framing. Secondly, and paramount for this article, we explain how recent curriculum changes project a shift towards a Market primary mathematics teacher identity, interpreted within classification and framing theory.

### **C2005's Therapeutic primary mathematics teacher identity**

The key purpose of post-apartheid education was to make a significant shift from apartheid's fundamental pedagogics, which had "perpetuated race, class, gender and ethnic divisions", to C2005, that was "restructured to reflect the values and principles of our new democratic society" (DOE, 1997a: 1). Both Taylor and Vinjenvold (1999) and Jansen (2001) agree that C2005 was a politically symbolic pedagogical route out of the legacy of apartheid education, with the new curriculum promoting knowledge, globally transferable skills and social justice values for all citizens. Bernstein (2000: 73) states that the Therapeutic identity "is a truly symbolic construction" probably meant, in the case of South Africa, to serve a political mandate and inculcate democratic and social values. The primary mathematics teacher's role could not evade the key macro-political responsibilities that characterised the new South African pedagogical order.

Constructivism underpinned C2005, manifesting itself in learner-centredness (Chisholm, 2005). Curriculum policy documents outlined the characteristics of the learner as an "active, participating learner", thriving in a "co-operative learning environment". Children would take "responsibility for their own learning". Bernstein (2000: 68) notes that the Therapeutic identity "is produced by complex theories of personal, cognitive and social development often labelled progressive". Constructivism is one such modern progressive social cognitive theory. The learner as characterised by C2005 moreover accords with Bernstein's Therapeutic pedagogic category's production of a "participating, co-operative modality of social relations" which is oriented to "autonomous ... flexible thinking and socially to team work as an active participant" (Bernstein, 2000: 68). The Therapeutic teacher identity thus foregrounds facilitation of a particular kind of learner and learning through cooperative social approaches, thus resonating strongly with C2005's promoted teacher roles (Graven, 2002).

Our reading of the curriculum policy documents through Bernstein's theoretical lens indicates that the pedagogical relationship between the 'facilitator' and the 'learner', implied weak framing, with the teacher having a limited degree of control of both the pupil and the knowledge transmitted (Bernstein, 1971). Tyler (1999) also maintains that Therapeutic positions are weakly framed. From a framing perspective, C2005 projected a Therapeutic primary mathematics teacher identity of one who



would facilitate learning for an active and creative learner (DOE, 1997c). This official position skewed the teacher-pupil-knowledge triad relationship and constructed a weak identity for primary mathematics teachers.

The key C2005 guiding principle of integration relates to the Therapeutic teacher identity. South Africa's radical form of integration effectively implied the combination of all eight learning areas through cross-curricular themes (NDE, 1997; DOE, 1997a; DOE, 1997b). Taylor and Vinjevold's (1999) review of the Department of Education's illustrative learning programme indicates the predominance of non-mathematical tasks at the expense of mathematics conceptual knowledge in primary mathematics classes. In terms of Bernstein's (1975) concept of classification, C2005 was weakly classified, as the boundaries of discipline knowledge were blurred through the integration of the eight learning areas and the blending of educational and everyday non-school knowledge. Bernstein (2000) and Tyler (1999) concur that the Therapeutic teacher identity's transmission prefers weak boundaries, or that this position is weakly classified. Bernstein (2000) and Tyler (1999) outline some Therapeutic pedagogic identity features that can be related to C2005, especially the fact that this identity is opposed to specialised categories of discourse and prefers an integrated modality of knowing – hence its recourse to regions of knowledge or arenas of experiences that are referred to as learning areas. Even the naming of the Mathematical learning area, as Mathematical Literacy, Mathematics and Mathematical Sciences (MLMMS) foregrounded integration.

Under C2005, teachers had to continuously assess learners by using a wide range of strategies, including learner portfolios, self- and peer assessment, group work and project work, with external formal assessments being undertaken at the end of Grades 3 and 6 (DOE, 1997a). C2005's emphasis on continuous formative assessment strategies over summative assessment is consonant with Bernstein's (2000: 213) portrayal of the Therapeutic pedagogic identity as an "internally regulated construction ... relatively independent of external consumer signifiers". Bernstein (1971) notes that evaluation is a function of the strength of classification and framing – thus in an integrated, weakly classified and framed curriculum, such as C2005, evaluative criteria tend to be weak with multiple criteria for assessment emphasising ways of knowing rather than the acquisition of knowledge. From a Bernsteinian perspective, C2005's assessment forms were meant to recognise and liberate individual learner qualities and inner attributes (Bernstein, 2003). Such evaluative practices impacted on the assessment of learners' mathematical work, with the result that the primary mathematics teacher had to contend with awarding learners marks not only for "remembering subject content", but also for "different aspects of the learners' abilities, such as their creativity and critical thinking" (DOE, 1997c: 12). In summary, C2005's radical form of integration, weak classification, orientation to integrated mathematical knowledge and emphasis on continuous formative assessment projected a South African Therapeutic primary mathematics teacher identity, which foregrounded social and political healing at the expense of

progressive mathematical conceptual understanding (Taylor & Vinjenvold, 1999; Chisholm et al., 2000; Graven, 2002; Chisholm, 2005).

## **CAPS' Market primary mathematics teacher identity**

The CAPS primary mathematics curriculum documents emphasise the need for deep conceptual understanding and the acquisition of key mathematics knowledge. The main focus falls on the first of the five content areas, "numbers, operations and relations"; this makes up 60% and 50% of the foundation- and intermediate-phase mathematics content, respectively. The focus stems from the intention of ensuring that learners acquire "secure number sense and operational fluency" and are "competent and confident with numbers and calculations" (DBE, 2011a: 8; DBE, 2011b). The importance of mental mathematics, initially highlighted in the Foundations for Learning Campaign, also features strongly in the primary mathematics curriculum, which promotes "number bonds and multiplication table facts" (DBE, 2011a: 8; DOE, 2008). The primary mathematics curriculum documents also highlight the need for learners to engage in problem-solving activities, thereby creating a context for the development of higher order mathematical concepts (DBE, 2011a; DBE, 2011b). South African primary mathematics education's focus on improving learners' number sense, operational fluency, mental mathematics and problem solving aligns with the influential and international primary mathematics studies that have identified these mathematics activities as central for developing learners' mathematical proficiency. The resulting primary mathematics teacher identity thus corresponds with Bernstein's Market pedagogic position, which is oriented towards the segmental, serial ordering of subjects within the curriculum.

Regarding primary mathematics teaching practices, the curriculum policy allows for both learner-centred and teacher-centred activities that foreground mathematical concepts and skills. Whilst whole-class activities, small-group and independent activities are the main primary mathematics teaching classroom skills listed in the new curriculum policy documents, they also encourage an active and critical approach to learning, under which teachers accommodate learners' computational strategies (DBE, 2011a; DBE, 2011b). Reading through the primary mathematics curriculum documents, one gets mixed messages on the teaching approach advocated by this new curriculum. Analysis of the primary mathematics curriculum documents using Bernstein's work (1971; 2000; 2003) and Tyler's (1999) theoretical insights reveals that the new curriculum's framing is strengthened and thus stronger than C2005's frame.

It is useful to view strengths of classification and framing along a continuum rather than simply as polar opposites of strong and weak classification and framing. In our analysis of the framing of CAPS, we have found it more useful to locate the shift as a process of movement between the poles of weak and strong framing, where the starting point, direction and distance of movement along the continuum are important. The strengthening of the frame under CAPS could be a result of the

type of mathematics knowledge that is supposed to be learnt in local primary classes, especially given the fact that the new curriculum emphasises the learners' operational fluency. This argument emanates from Bernstein's (1971) assertion that the form of knowledge transmitted affects the nature of the framing. It logically follows that the strong CAPS content knowledge classification has resulted in a strengthened primary mathematics frame.

If "frame ... refers to pacing" (Bernstein, 1971: 228), and "instructional or discursive rules" (Bernstein, 2003: 198), then strong pacing is evident in the CAPS primary mathematics curriculum documents through its specification, clarification, timing and sequencing of content from Grade to Grade across the four terms of the year (DBE, 2011a; DBE, 2011b). In other words, strong pacing and sequencing is indicated through Grade by Grade "specification of content to show progression" (DBE, 2011a: 19; DBE, 2011b). Such sequencing serves to indicate the "progression of concepts and skills" and how content can be adequately spread over time (DBE, 2011a: 19; DBE, 2011b). These two purposes of strong pacing reported in the new curriculum show strong framing, as there are "reduced options" available to teacher and taught in terms of the primary mathematics "concepts and skills" that are supposed to be transmitted and received in the pedagogical relationship (Bernstein, 1971: 205; DBE, 2011a: 19; DBE, 2011b: 12). Furthermore, Bernstein's (2003: 206) elaboration that "with strong pacing, time is at a premium" is illustrated in the primary mathematics curriculum documents' recommended distribution and allocation of mathematics teaching topic-cum-time schedules (DBE, 2011a; DBE, 2011b). The mathematical concepts to be relayed at the primary level have been explicitly stated and timed in the curriculum documents and this indicates a strong framing.

On the other hand, the specification, sequencing and pacing of content elaborated in local primary mathematics curriculum documents should not be viewed exclusively as strengthening the framing, but also serves to give a guidance "on the spread of content in the examination/assessment" (DBE, 2011a: 11; DBE, 2011b: 12) which, according to Bernstein (2003), translates into school learning performance indicators. Such intentions are also stated in the ANA report (DBE, 2012). Secondly, though the curriculum is highly sequenced and paced, it leaves room for primary mathematics teachers to "sequence and pace the maths content differently from the recommendations" in the policy documents (DBE, 2011b: 32). Thirdly, like the previous curricula, CAPS is founded on, and retains allegiance to the principles of "social transformation ... human rights, inclusivity and social justice" that were foregrounded initially in C2005 and later in the NCS (DBE, 2011a: 3).

According to Bernstein (2000), the Market position radically transforms the regulative discourse of the institution, as this affects its conditions of survival, resulting in weakly framed transmission (Tyler, 1999). Similarly, CAPS did not forego the political pedagogical intentions that initially set the groundwork for curriculum reform in South Africa and these are carried through. Thus, while shifting towards the Market, there is still some overlap with certain features of the Therapeutic

identity within C2005. Because of this, the weak framing of C2005 is shifted to the background in the strong pacing of CAPS, resulting in a strengthened frame. The primary mathematics teacher identity projected thus actively engages learners within the recommended mathematical concepts and discourse.

With regard to the objective of “improving the quality of basic education” (DBE, 2012: 1), the new CAPS curriculum seeks to ensure that there are similar interpretations of the curriculum across the country (DBE, 2011c), and to improve the knowledge and learner performance levels in numeracy and literacy (DBE, 2012). However, the latter function is primarily grounded in the ANA standardised tests which are meant to monitor, track and improve the literacy and numeracy levels of South African learners. Secondly, the ANA tests are meant to serve as a diagnostic tool for identifying areas of strength and weakness in teaching and learning, provide information for school-focused interventions, and afford teachers benchmark information and baseline data that can ameliorate classroom assessment practices and inform the teaching and learning of literacy and numeracy (DBE, 2012). Thirdly and from an education policy management perspective, the ANAs provide credible and reliable information to monitor progress, and guide planning and the distribution of resources to help improve learners’ literacy and numeracy knowledge and skills (DBE, 2012). Both Bernstein (2000; 2003) and Tyler (1999) argue that a common national curriculum framework and the periodic mass testing of learners enables centralised monitoring and the homogenisation of educational practices, thereby creating performance indicators for accountability, transparency and efficiency.

According to Bernstein (2000), the Market pedagogic identity position realises these intentions by integrating a decentralised device of evaluation management within a curriculum emphasising national enterprise. Thus, teacher identities in this category must negotiate the tension between “satisfying external competitive demands” and “the intrinsic value of the discourse” (Bernstein, 2000: 71). Similarly, South African primary mathematics teachers’ identities have to meet the dual challenge of teaching learners key mathematical concepts and improving their performance in the ANA tests.

The new CAPS curriculum accommodates both formal and informal forms of assessment, with the ANA tests forming part of the formal assessment tasks. The tests claim to cater for different cognitive levels, are written per grade, to provide teachers with a systematic way of evaluating how learners are progressing in mathematics and testing their readiness to be promoted to the next Grade (DBE, 2011a; DBE, 2011b). Teacher observations, discussions, practical demonstrations, self- and peer assessment, assignments, projects and investigations are recommended for the informal assessment and evaluation of primary mathematics learners. For reporting learner performance, the rating codes have seven points with corresponding levels of competences and percentage ranges (DBE, 2011a; DBE, 2011b). As stated earlier, Bernstein (1971) noted that evaluation is a function of the strength of classification

and frames but, in the case of CAPS, where the strength of the classification and framing differ, this is not a straightforward issue.

The CAPS primary mathematics evaluative system, made up of informal and formal assessment, gives rise to both multiple criteria and ordered principles of evaluation, thus emphasising both the inner attributes of students and relatively objective procedures. For both the CAPS curriculum and the ANA tests, however, the latter forms of assessment are dominant, with the resultant primary mathematics teacher identity being objective rather than attributes-inclined when it comes to assessment. This resonates with strong classification of the market position, yet some of the informal, multiple criteria and attributes-inclined forms of assessments, which reappear in the new curriculum from C2005, points towards weak framing which, as we have suggested in this article, has been strengthened under CAPS.

## Concluding remarks

This article sought to investigate the type of primary mathematics teacher identity projected by the current CAPS mathematics education curriculum documents as compared with C2005. It explores primary mathematics teacher identity using Bernstein's concept of official pedagogic identity and draws on Tyler's elaboration of these identities as a function of classification and framing. Our findings indicate that, under C2005, the South African primary mathematics education curriculum projected a "Therapeutic" primary mathematics teacher identity whose main concern was to promote acceptable societal norms. The new CAPS curriculum indicates movement towards a 'Market' primary mathematics teacher identity that focuses on the progressive development of fundamental mathematics concepts and the improvement of learner performance in annual national assessments. However, elements of the Therapeutic identity remain in the new CAPS curriculum documents which continue to state political redress, social transformation, active and critical learning as its "general aims" (DBE, 2011a: 4-5; DBE, 2011b: 4). The impact of this has been that some aspects of weak framing of C2005 have been embedded in the strengthened frame of CAPS.

Bernstein (2000) notes that Therapeutic and Market identities are, in a sense, in opposition to each other. This opposition holds for these identities in the post-apartheid South African primary mathematics education context. However, according to Bernstein (2003: 213), the Market position is "ideologically a much more complex construction ... perhaps more sinister". This position can lead to tensions that primary mathematics teachers must navigate within local contexts, such as actively engaging learners and teaching key prescribed mathematical concepts while simultaneously maintaining a focus on learner performance in national assessments. In the larger research study of mathematics primary teacher learning and identity transformation of teachers participating in an in-service mathematics programme, in which both authors are involved, one participating teacher wrote in response to the ANAs written in October 2012:

*The ANAs are assessing all learners using the same strategy. I know my learners best, with all their different learning abilities. They (the ANA exemplars) were not very useful because they cover a whole year's work in September. I can't rush to finish everything in September, because that way I will be teaching the syllabus, not the learners. I don't think they helped the learners. I was just like drilling them. It only helped them for specifically the exams.*

This teacher's comment serves to illuminate some of the tensions teachers have to navigate when aspects of the Market identity are projected in curriculum and assessment policies. Whilst our key arguments have been based on analysis of primary mathematics curriculum and assessment policies, many arguments and tensions are likely to relate to other subjects. We cautiously suggest an extension of our findings to enable an understanding of South African teacher identities generally under C2005 and in the new curriculum dispensation.

## Endnotes

1. C2005 and CAPS publish separate policy documents for Foundation (Grades 1 to 3) and Intermediate (Grades 4 to 6) phases, but the introductory pages are similar. Thus this quote appears on pages 2-3 in both documents.
2. Of the many terms interchangeably used by Bernstein to describe the pedagogic identity categories, we preferred to use these four terms consistently throughout this article.

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