

Voices in The Silence: Narratives of Disadvantage, Social Context and School Mathematics in Post-Apartheid South Africa.

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Introduction

Voices in the Silence is a critical exploration of the construction of disadvantage in school mathematics in social context. It provides a reflexive, narrative account of a pedagogic journey towards understanding the pedagogizing of difference in mathematics classrooms and its realizations as pedagogized disadvantage in and across diverse socio-political, economic, cultural, and pedagogic contexts.

The fieldwork mostly occurred within the Cape Province of South Africa, in schooling communities with socio-economic, cultural and historical differences. Research took the form of interviews, discussions, narrative-sharing, and participant observation, in a recent post-apartheid context.

In resistance to perpetuating hierarchized, linear or scientific approaches to research within traditional social sciences and mathematics education, I embrace an arts-based methodology. Through narrative and poetic form, I engage with socio-political, cultural and pedagogic implications of the social construction of disadvantage in school mathematics discourse and practice. The dissertation, therefore, offers interdisciplinary approaches to critical concerns of inequity and access, calling on the emotive, spiritual, embodied, and personal domains of experience in problematizing the (re)production of disadvantage and certain socio-cultural practices that school mathematics supports.

The concept of *silence* is introduced to interrogate the interstitial/intertextu(r)al places of 'lack' and 'deficit', and competing ideological positions and discourses of power, which inform the pedagogic and lived realities of "disadvantage" in mathematics classrooms within different contexts. *Moments of articulation* within fieldwork define utterances and somatic performances embedded within narrative contexts and their attending discourses, and instigate investigation, deliberation and engagement in analyzing the multiple ways in which disadvantage takes root/route. These *signpost* where 'voices in the silence', in discourse, context, and the subjectivities they (re)produce, may be recognized, problematized and rearticulated through narrative.

This dissertation's major contribution is to open up spaces for dialogue with(in) silence through a reflexive narratizing. Ultimately, *Voices in the Silence* is an invitation to a dialogical pedagogic journey that seeks to provide roots/routes of engagement with the ideals

of social justice and an egalitarian society. It attempts to find narrative moments within the difficult terrain of research work and lived experience where constructed and pedagogized disadvantage can be re-imagined and transformed into transcendent pedagogies of empowerment and hope.

Given the narrative format of the work, theoretical perspectives and methodological approaches are purposefully integrated. It is helpful, therefore, to provide a research description of the 'Dissertation Structure', which follows.

Dissertation Structure

This dissertation is comprised of four sections, represented by the quarters of a circle. These sections represent four phases of a cyclical journey, metaphorically represented by the four phases, or quarters, of the moon. This is also in keeping with a more 'circular', or 'elliptical', narrative-based approach synonymous with some African indigenous epistemologies.

Each *section/phase* begins with a preface, walking the reader through that phase of the journey. This provides the reader with some background as to what to expect. It is metaphorically similar to explanatory travel notes in a photograph album or an entry in a journal of an expedition.

PHASE ONE: AN INTRODUCTION relates to the process of deciding on travel, where and how to travel, what the traveler might be looking for, the obstacles she might expect to encounter, and the way of seeing (or not seeing) that the traveler might bring to bear on the way in which she embarks on her travels. This section walks the reader through the introductory phase.

SILENCE sets the tone for the dissertation by introducing the metaphor and theme of silence for debate. This debate congregates around *silence* as it invests in the social construction of disadvantage and the way it may be lived out in relation to school mathematics discourse in different contexts. It also offers an interpretation of silence as living and operating within the interstices and intertextuality of discourses, agents, and ideologies of power within the social domain, and how this (re)produces disjunctures, paradoxes and dilemmas within fieldwork, research writing and lived experience. While it interrogates the many slippery forms and interpretations of silence, it provides it with metaphorical significance through the theoretical feature of voice.

PHASE TWO: THEORETICAL DISCUSSION AND CRITIQUE represents organizing the trip; making travel arrangements; packing for travel; deciding what to take, what is needed, and checking one's itinerary. It walks the reader through some theoretical discussions and critique of narrative. It lays out a framework and reference points to enable the reading traveler to proceed. It also unfolds the map of the journey, as planned and experienced.

THE TELLING OF TALES provides a background on narrative inquiry and presents a critique on the advantages and disadvantages of narrative within an arts-based framework. It also offers reasons for my embracing of narrative for this research project.

UNFOLDING THE MAP tells how the pedagogic journey unfolds; what to expect for the rest of the dissertation; some details on data collection and the research journey; and a brief map of the journey.

PHASE THREE: JOURNEY ACROSS CONTEXTS represents the ever-emergent state of travel and the research journey itself. It walks the reader through the actual physical and pedagogic journey through the 'telling of tales'. The four narratives describe the narrative intricacies of the research journey, but follow a chronology of writing, rather than the physical route. In this way, the pedagogic journey is fore-grounded.

STATES OF NATURE is a reflexive account of a visit to a farm school in rural post-apartheid South Africa. It focuses on issues of normalization, localization, and proceduralism. It looks at the importance of context, prevailing ethos, and the political disjunctures between the local and global. Conservativism and white governmentality are problematized in how they create ‘the normal.’

FISHES AND LOAVES addresses the philosophy of Africanisation, its incompatibility with the ideology of neo-liberalism, how Africanisation can become subsumed within neo-liberalism, and how this plays out in a mathematics classroom in a context of ‘poverty’. Issues of neo-colonialism, and how these inform poverty education and disempowerment within a mathematics education context, are at the fore.

ROOTS/ROUTES explores concepts of rootedness and routedness. It addresses notions of performance and rhizomatic journeying as they inform research. It highlights dilemmas, disjunctures and paradoxes within mathematics education discourses and the mythologies produced, as informed by progressivism, neo-liberalism and globalization. Contradictions in local and global contexts are manifest in lived experiences as sites of struggle between competing ideologies. This narrative weaves a critical and reflexive account of research moments as lived experience.

CULTURAL BEADS AND MATHEMATICAL A.I.D.S. explores critical issues in mathematics education and highlights further contradictions and dilemmas within different research contexts. It addresses issues of universalism, pedagogic constructivism, and progressivism in mathematics education, and how these are recontextualized in local contexts which contribute to the construction of disadvantage. In particular, progressive education rhetoric of ‘relevance’ in mathematics education is interrogated in terms of its recontextualization across pedagogic contexts, and how it might facilitate pedagogic disempowerment rather than liberation.

PHASE FOUR: TOWARDS JOURNEY’S END; A RETURNING is an ‘unpacking’ phase. This is a time when photographs of memories are placed in an album, and reflective journal entries written. I walk the reader through the returning phase and through finding ‘stopping places’ to pause, reflect on proximities and distances to research relationships; to stand back; and to allow the voices of the journey to come together, to collide or coalesce in finding new meaning in the way they shape experience and create emergent identities. It is also a time to ponder and seek a new way ahead, perhaps embark on another post-travel journeying. This notion of *returning* is a double entendre in the dual senses of ‘going back’ and ‘giving back’. There are three pieces. **VOICES OF SILENCE** is a poem describing the many voices of silence as they infuse themselves within research texts. **VOICES** explores disjunctions, paradoxes and ironies, bringing the voices from different research contexts into one coalescing text in examining how disadvantage is constructed and pedagogized within school mathematics. Lastly, **VOICES IN THE SILENCE** offers some closure and a re-opening.

Throughout the dissertation, **FOOTNOTES** and **ENDNOTES** appear. Footnotes (referenced *alphabetically*) refer to shorter commentaries, explanations, translations, or definitions. Endnotes (referenced *numerically*) refer to more in-depth theoretical discussions and critiques, or offer some alternative perspectives to parallel/ divergent/ convergent discussions or routes to the pedagogic journey. While the footnotes and endnotes provide context and theoretical grounding, the narratives can stand alone.

Significance of the Research

Voices in the Silence, through its critical sociological focus, narrative expression, theoretical complexity and interdisciplinarity, breaks new ground in the mathematics education field, and offers a significant contribution to qualitative inquiry in its theoretical-yet-grounded perspectives; non-traditional and aesthetic modes of delivery; multiple forms of engagement; integration of different methodological approaches, and commitment to egalitarianism and social justice.

The dissertation broadens the scope of interpretive possibilities to encompass interrogation of dominant discourses and universalizing ideologies within the social domain, which colonize meanings. Ideological positions such as globalization, neo-liberalism, neo-colonialism, and aspects of progressivism compete for hegemony within mathematics classroom contexts as sites of struggle for meaning, informing discursive positions of disadvantage, delimiting practice and disempowering students constructed in terms of social difference discourses such as ethnicity, gender, class, race, poverty, and ability, amongst other positions. The incommensurability of certain social domain discourses produce disjunctions, contradictions and dilemmas, experienced as a lived curriculum of *pedagogic disadvantage* in the lives of students and teachers within contexts of *constructed disadvantage*.

The research places a strong emphasis on local, situated and marginalized contexts, and examines the way in which hegemonic social domain discourses are reconfigured in pedagogic practice in these locations. It develops a critical position of education as situated within a complex of global politics, cultural knowledge, local values and identities.

While research took place in diverse South African schooling contexts during a period of unprecedented socio-political change, this helps to reveal certain oppressive pedagogies and practices that often are obscured by a veneer of overall greater socio-economic 'wellbeing' and 'stability' in other contexts. The implications for international contexts are made explicit, and have particular relevance for marginalized, multicultural, and aboriginal schooling contexts. The research contributes to policy initiatives that are directed at democratic education principles and social justice. Nevertheless, the dissertation emphasizes *resolution* over the traditional research objectives of proposing *solutions*.

Narrative and arts-informed approaches to mathematics education issues are rare, and the dissertation makes an important contribution in this respect and in its critical, socio-political focus, and moral and ethical commitments. It offers perspectives drawn from post-structuralism, post-modernism, and post-colonialism. It resists psychologistic interpretations of learning disadvantage that objectifies, constructs, pathologizes, and participates in deficit discourses. Through narrative, it deconstructs and reconstructs interpretations of pedagogic disadvantage and lived experience in ways that advocate for community empowerment, offer hope of renewal and transformative practice, and move us to consider our moral and ethical obligations to educational justice in a global context, while deeply engaging in reflexive and interdisciplinary research as living inquiry. Much of its contribution lies in the way it crosses difficult domains of knowledge and ways of knowing, and how it challenges certain accepted interpretations of mathematics education research, offering potential for future inquiry and practice.