

**RESEARCH AS TRANSFORMATIVE LEARNING FOR MEANING-CENTERED
PROFESSIONAL DEVELOPMENT**

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Introduction

How can higher education prepare prospective leaders of emerging nations to develop counter narratives that resist the non-too-subtle cultural and economic imperatives of globalization in which higher education is deeply implicated? This chapter considers how research professors can counter the hegemony of the encroaching Western modern worldview by harnessing new research paradigms to engage their postgraduate students – mature-aged professional educators – in meaning-centered professional development aimed at personal and cultural emancipation. Metaphorically speaking, I call this *research as transformative learning*, and it has characteristics that resonate with theories of experiential learning, dialogical learning and inquiry learning presented in other chapters in this book.

Research as transformative learning opens new epistemological spaces (without necessarily closing down old ones) for educators to examine the cultural situatedness of their professional practices. Researchers as transformative learners draw on constructivist, critical-social and arts-based epistemologies to examine reflectively, critically and imaginatively their lived experiences (as advocated by Potosky, Spaulding and Juzbasic, this volume), revealing the historical and sociocultural framing of their personal lives and professional practices.

Researchers as transformative learners, especially those belonging to post-independent nations where indigenous cultures – knowledge systems, languages, worldviews, values, identities - were repressed for centuries by colonial powers, reinvest personally and professionally in their cultural heritage and are motivated to find ways of giving their culture an official curriculum presence alongside the Western modern worldview.

However, strengthening personal agency while working to achieve cultural emancipation is not easily won; it entails modes of higher-order thinking such as critical (self-) reflection,

metaphoric imagining, dialectical reasoning, spiritual awakening and re-envisioning, to name a few. The honing of these higher-order thinking abilities involves dialogue with the self (intrapersonal) and with the other (interpersonal) in order that the emerging authority of the transformative learner's lived experience can resist the siren call of the 'academic expert' whose largely ungrounded (psychological, philosophical, sociological) theorizing is writ large in the canon of (Western) research literature. Thus transformative learning engages the self in rich reconstructive dialogue (much as advocated by Wegerif, this volume). When it comes to writing the thesis, Arts-based literary genres that facilitate dialogic, narrative and poetic voice, amongst others, are important to the empowerment of the researcher as transformative learner.

To illustrate the practicability and efficacy of research as transformative learning, I draw on the work of my recent doctoral graduates whose transformative research generated pragmatic philosophies of culturally situated education for respecting, celebrating and growing local cultural capital in the universities and schools of Mozambique and Nepal. But first a word about my own epistemology as an author of this chapter. What you are about to read is a culmination of more than 25 years of theorising about my own practice as a research professor, endeavoring to practice what I preach to my graduate students: research as transformative learning. I have engaged long and hard in reflective inquiry into my own practice as graduate research teacher and graduate student mentor, drawing on contemporary qualitative methods such as critical reflection, narrative inquiry, grounded theorizing and Arts-based research writing. A full account of this epistemology is available in other publications (e.g., Taylor, 2008; Taylor & Wallace, 2007; Taylor, Taylor, & Luitel, 2012).

Education for a Transformed World

My role as a research professor in a university graduate centre is to engage teachers of science and mathematics (and other disciplines) in postgraduate professional development. Most of my on-campus students come from African, Asian and Arabic-speaking countries, bringing rich diversity in cultural beliefs and values, social practices and languages. Some have grown up in traditional village lifestyles, most are from non-Western (but rapidly Westernising) societies, and some from recently independent (postcolonial) nations. What each of these postgraduate students has in common is success in negotiating ‘cultural border crossings’ (Giroux, 1993) into a Western modern worldview that has governed both their formal education, from primary school through university, and their professional practice as school teachers or university teacher educators.

During the first weeks of semester it becomes clear that few have reflected critically on their role as agents of enculturation of their own students into a Western modern worldview.

Most students have not identified, let alone thought to challenge, the assumptions framing the curricula that govern their professional practices and, not surprisingly, they envisage

Chinese Proverb I

The fish is not aware of the water in which it swims

educational research as a means of finding ‘the’ answer to the question of ‘*How can student participation and achievement in science/mathematics education in my country be improved by modern teaching approaches?*’ Such a well-intentioned question, however, does not necessarily afford a critical examination of the relevance of established curricula to the conflicting needs of their rapidly globalizing societies. Most are predisposed to reforming established teaching and learning practices in their schools and universities from within existing curricular structures, rather than seeking to reconceptualise their society’s educational goals. Why is this? The answer

lies in the invisible part of the political spectrum where hidden assumptions govern beliefs about the purpose of schooling, giving rise to an uncritical belief in a ‘one-size-fits-all’ curriculum for modernising societies worldwide.

I have sympathy with culture studies researchers whose work helps me to understand that my international students’ uncritical sense of belonging to ‘developing’ countries is potentially demeaning and disempowering (Schech & Haggis, 2000). For centuries the so-called developed world, particularly Western European nations, colonized, subjugated and oppressed peoples worldwide for political and economic gain (Desai & Nair, 2005). The European Enlightenment (Scientific Revolution / Age of Reason) gave rise to the concept of modernity, in which the unfolding present is regarded as superior to the seemingly fixed past, and to the Eurocentric discourse of ‘orientalism’ which diminished the intellectual and social status of the culturally different other (Said, 1978). As The West’s power spread with the discovery of the New World this “translated into a sense of superiority over those pre-modern societies and cultures that were ‘locked’ in the past – primitive and uncivilised peoples whose subjugation and ‘introduction’ into modernity became the right and obligation of European powers” (Ashcroft, Griffiths & Tiffen, 2006, p.145).

At that time, Mozambique was still considered to be a province of Portugal. At school we were taught about the courage and bravery of Vasco da Gama and Luis de Camoes. We learnt about the princes and princesses of Portugal. We learnt about important rivers in Portugal and many marvelous things about Portugal: the food, the drink, the people... We learnt the word ‘oliveiras’, for the trees that produce olive oil, “famous in the entire world”, my teacher said. We learnt the word ‘videiras’ for the vines that produce grapes used to produce wine. We learnt about God, whom I understood to be a white man, and the devil, whom I understood to be a black man. We learnt how big Portugal was, how it extended from Europe to Africa. We learnt about the weather in Portugal and how it was important that the Portuguese came to my country to save our souls “that before were lost” (Gomez de Azurara, in Ferris, 1989).

Emilia Afonso, 2002

Throughout the colonized world, education systems were set up as mirror images of those in the motherland with curricula designed to ‘civilise the natives’ by assimilating them into the dominant cultural beliefs, values, practices and languages (or worldview) of The West. In this process local knowledge and language systems were suppressed and the cultural integrity, identities and livelihoods of colonized peoples were severely undermined (Veerma, 2004).

In the 21st Century we live in a world largely dominated by the view that, in the so-called natural order of things, Western nations are exemplary models of material and social progress, a belief reinforced by our unarguable expertise in modern science and technology; and made glamorous by the resulting availability of lifestyle enhancing goods. Because science and mathematics education are seen to be the keys to modernization, a global export industry is flourishing served by Western universities specializing in postgraduate courses. Postcolonial scholars argue, however, that globalization of curricula and its ‘policing’ by international benchmarking systems (e.g., Trends in International Mathematics and Science Study: <http://nces.ed.gov/timss/>) constitutes a form of neo-colonialism (Semali & Kincheloe, 1999) that replaces local cultural knowledge systems with the one-size-fits-all system of Western knowledge, a process described by Haarman (2007) as modernity’s ‘replacement ideology’.

On the one hand, modern science and technology provide us with a host of material benefits, including advanced medical technology, global transportation, e-communication systems and improved agricultural productivity. On the other hand, environmental ethicists (e.g., Skutnabb-Kangas, Maffi & Harmon, 2003) and scientific and governmental advisory panels such as the Intergovernmental Panel on Climate Change (2007) and the United Nations Secretary General’s High-Level Panel on Global Sustainability (2012) report that this has come at a very high cost. Modernization is strongly associated with increased global warming, air/water/soil

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pollution, proliferation of weapons of mass destruction, nuclear power crises, global financial crises, cultural, linguistic and biological extinction, and natural resource exhaustion, to name but a few.

Of concern to me is that science and mathematics curricula tend to direct teachers worldwide toward celebrating uncritically the benefits of the socioeconomic imperatives of modernity and away from revealing the deleterious side-effects. Few teachers feel compelled to prepare their students with higher-order abilities for engaging critically and imaginatively in social decision-making about ethical dilemmas facing society's adoption of modern science and technology. Furthermore, there is very little curriculum interest in The West for revealing the multicultural heritage of modern science and mathematics, particularly its non-Western genesis in Arabia, Persia, China and Africa (Lyons, 2009). In Australia, bilingual curriculum programs for rural and remote Aboriginal schools have been all but abandoned, signaling that cultural assimilation into the Western modern worldview has become *de rigeur*.

We appear to be at a cross-roads in the evolution of our planet: either we continue on the tragic path of diminishing our cultural, linguistic and biological diversity and voraciously consuming non-renewable energy resources or we decide to engage deeply and wholeheartedly in sustainable development marked by careful conservation of the Earth's natural and cultural resources and peaceful co-existence. To achieve this goal we need to construct education for sustainability pathways as advocated by, for example, UNESCO's 'Decade for Sustainable Development: 2005-2014' (<http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/>) and the Australian Government's national action plan for sustainability (2009).

But educating for sustainability involves much more than teaching children new scientific facts about biodiversity, climate change, cultural diversity, indigenous knowledge and living sustainably. This is a necessary but insufficient condition; the facts need to be processed through higher-order learning such as values clarification, empathic negotiation, critical reflection, and mindfulness. Indeed, education *as* sustainability involves holistic teaching that “nurtures the development of the whole person...the intellectual, emotional, physical, social, aesthetic, and spiritual” (Miller, 2005, p. 2). A higher level of consciousness honors the whole human being (Palmer & Zajonc, 2010) and seeks synergy between multiple, competing worldviews (Laszlo, 2008).

There is increasing demand for a 21st Century education *as/for* cultural and environmental sustainability as can be seen in the emergence of interdisciplinary and intercultural studies evidenced by: an integral philosophy of ecology that connects individuals, communities and natural systems in complex networks (Esbjorn-Hargens & Zimmerman, 2009); biocultural diversity conservation which focuses on “the diversity of life in all its manifestations – biological, cultural, and linguistic – which are interrelated (and likely evolved) within a complex socio-ecological adaptive system” (p. 5) (Maffi & Woodley, 2010); reconnecting science, reason and spirituality to understand the creative emergence of conscious life (Kauffman, 2008); ethical visions of education to cultivate mind and imagination (Hansen, 2007); integrating physics and biology to understand consciousness (Lanza & Berman, 2009); and educating for social and ecological peace (Wenden, 2004); amongst many others.

Although educating for a higher level of consciousness might seem to be an insurmountable challenge given the historical inertia of formal education systems, there is cause for optimism that it is achievable. In recent decades a paradigm shift has been underway in

science and mathematics education, with growing demands for socially responsible curricula and humanistic pedagogies that promote deep meaning-centered learning. Although in its infancy, this paradigm shift is gaining momentum thanks to emergent theories of mind and society that are giving rise to powerful social epistemologies of teaching and learning. Here I outline recent trends.

During the 1980s and early 1990s the teaching of science and mathematics was reconceptualised through the lens of *social constructivism* which emphasizes the importance of focusing instruction on the learner's cognitive, emotional and social meaning-making processes (Cobb, 1994; Tobin, 1993). This perspective has contributed to more student-centered classrooms in which teachers engage students in reflective thinking, experiential learning, collaborative learning, open-ended inquiry, rich-task activities and problem-posing-and-solving approaches. But a word of warning! Although social constructivist pedagogies have helped to counter the traditional dominance of behaviorism that governs transmissionist teaching and passive-reception learning roles, it is readily subsumed within standard curricula that aim to reproduce uncritically and unwittingly the presumed moral superiority and epistemic certitude of the Western modern worldview, especially in the instrumental fields of science and mathematics education (Taylor, 2006).

In an endeavor to counter this largely invisible political hegemony, *critical social theory* was injected into the discourse of curriculum theorists (Grundy, 1987; Young, 1990). Critical social theory is concerned with creating societies free from dehumanizing policies and practices that perpetuate social injustice, cultural exclusion, social inequity, racism, sexism, ageism, scientism and many other forms of repression. These deeply sedimented ideologies operate invisibly to distort social norms which serve the (social, economic, political) interests of the

powerfully dominant few (e.g., social elites) while marginalizing and disadvantaging the less powerful and culturally different ‘other’ (e.g., women, ethnic minorities, children). Critical educators work to emancipate students by engaging them in classroom dialogue aimed at deconstructing the hegemony of repressive ideologies (after Habermas: see Taylor, 1996; Taylor & Campbell-Williams, 1993). In science and mathematics education a critical social perspective first became evident in the innovative design of gender-inclusive curricula, and now is giving rise to the cultural contextualisation of curricula by bringing indigenous worldviews and traditional ecological knowledge systems into the classroom (e.g., Aikenhead & Michell, 2012). By itself, however, critical social theory does not necessarily entail deep meaning-centered learning as it can serve to prescribe a counter-discourse that transmits an alternative (politically correct) ideology to ‘children of the revolution’.

The beginning of the 21st Century witnessed a renewed spirit of optimism in the struggle to etch a more secure foothold for meaning-centered learning in the conservative edifice of science and mathematics education. This was achieved, at least in theory, with the articulation of *critical constructivism* which combines social constructivist and critical social theories (Kincheloe, 2004; Taylor, 1998). Thus inspired, the *humanist* teacher aims to create a democratic classroom ethos of open (empathic and interactive) and critical (reflective and challenging) discourse that fuels and is fuelled by higher-order learning skills such as values clarification and reconceptualization, metacognitive and metaphoric thinking, and imaginative and visionary thinking. Students learn to use a range of genres to give expression to higher-order thinking processes and outcomes, including narrative writing, poetry, plays, stories, drama and role plays, sketches and movie making. Thus, disciplinary knowledge is learned deeply via multiple modes of thinking and representation. And, importantly for science and mathematics education, the

epistemic and moral authority (or claims to cultural transcendence) of the Western modern worldview are analysed (or deconstructed) through critical discourse informed by historical, philosophical and sociocultural perspectives.

A contemporary example of a humanistic pedagogy is a teacher-researcher program of ‘socially responsible science and mathematics’ that is preparing students, as future citizens, to develop a critical consciousness about ethical dilemmas associated with possible misuse of innovations in science and technology. Ethical dilemma teaching focuses on topical issues such as nuclear power generation and the attendant risk of radiation pollution (e.g., Japan’s Fukushima accident), and habitat destruction and resultant native species extinction due to land clearance for housing development. Students are taught social skills for engaging in ethical decision-making about the societal uptake of new developments in science and technology (Taylor, Taylor & Chow, in press/2012).

In light of these new paradigm developments in school curricula and pedagogies, how can higher education prepare the next generation of teachers with the capacity to inculcate higher-order thinking in their students? This is the challenge for teacher educators wishing to develop in their student-teachers the *eye of wisdom* (Hart, 2009) and the *heart of learning* (Glazer, 1999). As a teacher educator working with professional educators undertaking postgraduate studies, I believe that a key to meeting the pressing need for higher-order professional development is to radically reconceptualise the nature and purpose of postgraduate research.

Transformative Professional Development

An exciting influence on contemporary teacher education that resonates strongly with critical constructivism’s humanistic emphasis is transformative learning theory which has its

roots in the original work of Jack Mezirow (1991). I have at my feet a pile of books authored/edited by Mezirow and a large number of fellow transformative educators, who have continued to expand, enrich and extend his original ideas; as a body of academic work it is clearly burgeoning. Over the past 20 years Mezirow's transformative theory of adult learning has been applied to a range of contexts such as higher education, the workplace and the community (Brookfield, 1995; Cranton, 1994; Mezirow & Taylor, 2009), and recently has been coupled with theories of society, consciousness, spirituality, wisdom, sustainability, globalization, feminism, culture and so on, to generate compelling aesthetic, spiritual and ethical perspectives on the role of education in helping to create a more equitable, peaceful, diverse and sustainable world (Brooks, 2000; Fisher-Yoshida, Geller & Schapiro, 2009; Gardner & Kelly, 2008). Thus transformative learning theory embraces critical constructivist theory and, a result of its extensive community of scholar-practitioners, a kaleidoscope of applications has been created across the field of education and beyond.

What can we take from this extensive scholarship to shape our university teaching practice, especially in the context of engaging culturally diverse adult learners in postgraduate professional development? The following passage from the introduction to the book, 'Expanding the Boundaries of Transformative Learning' (O'Sullivan, Morrell, & O'Connor, 2002), is a succinct source of powerful ideas.

Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations, our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class,

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race, and gender; our body-awareness; our visions of alternative approaches to living; our sense of possibilities for social justice and peace and personal joy.

When I reflect on my own commitment to ensuring that my professional practice contributes to fostering biocultural diversity, then I find myself inspired by the above passage to articulate the following perspective on transformative learning for developing an enhanced mindfulness about ourselves and the world that we are inextricably part of.

1. Cultural-self knowing - more fully understanding our worldviews (or ways of knowing, being and valuing), especially values, premises, frames of reference, emotions and ideals residing in our subconscious (and connected to the *collective unconscious*) which underlie our habits of mind, constitute our (cultural/individual) identities, and govern our social inter/actions.
2. Relational knowing - understanding and appreciating the value of reconnecting with the natural world and with culturally different others' ways of knowing, valuing and being in the world.
3. Critical knowing - understanding how economic and organisational power has historically structured our sociocultural reality (especially class, race, gender and the conventional scientific worldview) and thus governs (controls, restricts, limits, distorts) our identities and our relationships with the natural world and with the culturally different other.
4. Visionary and ethical knowing - envisioning (through idealisation and imagination and dialogue with the culturally different other) what a better world could/should be.
5. Enhanced agency - realising that it is desirable, feasible and necessary to contribute to making the world a better place and that we have the capacity and commitment to do so.

These are qualities of transformative learning that I endeavor to bring to life in my own university teaching, bringing them to the awareness of my postgraduate students and inviting them to engage in higher-order learning so that they might transform their teaching practices and the lives of their students. I strive to enable them to re-address their standing in the world as professional educators (Palmer, 1993) by focusing their practitioner-research on transformative questions that are both subjective (interior focused) and sociocultural (outward focused); questions such as:

- What are the key social, cultural and political challenges facing my rapidly changing society?
- Whose cultural interests are not being well served by traditional educational policy and practice?
- Who are these students whom I greet every day? What are their worldviews, languages and life-long learning needs?
- Who is the cultural self who teaches? What key life-world experiences and values underpin my own professional practice and aspirations?
- What is my vision of a better world and how can my own professional practice help to realise it?

However, a major obstacle for novice researchers, especially science and mathematics educators, is their restrictive belief about what constitutes legitimate research. Life-long enculturation into *the scientific method* has instilled the conviction that *positivism* is the privileged epistemology of research, not only for the natural sciences but also the social sciences, including educational research (Kincheloe & Tobin, 2009). Positivism is embodied in normative educational research designs that subscribe to the following key epistemological principles.

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- The purpose of research is to produce (or verify) objective knowledge about general social laws. (i.e., objectivism)
- Legitimate knowledge can be produced only by means of objective, value-neutral inquiry employing quantitative research methods fuelled by ‘scientific reasoning’ (propositional, deductive, analytic logic) and governed by quality standards of validity and reliability. (i.e., scientism)
- Research is a theory-testing process of manipulating decontextualised variables. (i.e., reductionism)
- Bridging the theory-practice gap involves privileging the theoretical voices of expert academic researchers. (i.e., elitism)
- Research report writing involves writing scientifically: using 3rd person, past tense, passive voice, free of political polemic and rhetoric; a neutral ‘reasoned’ voice. (i.e., ‘God-speak’)

Clearly there is little opportunity in such a deterministic and objectivistic model for the practitioner-researcher to display evidence of his/her transformative professional growth! The primary focus on research outcomes - *knowledge as objective product* - masks the subjective and sociocultural dimensions of an unfolding inquiry. However, my intention is not to deconstruct the positivist research paradigm but to loosen its hegemonic grip on professional educators’ worldviews; to open their hearts and minds to alternative epistemologies of inquiry, especially those that promote the emergent process of discovery of ‘the self who

Chinese Proverb II

The fish becomes critically aware of the poor quality of water in which it is immersed and is committed to cleaning it up by helping to remove the source of pollution!

teaches' (Palmer, 1993). In the remainder of the chapter I outline a new paradigm approach that enables researchers to adopt the role of a transformative practitioner-researcher.

Transformative Research

The field of contemporary qualitative research offers exciting and novel methods for engaging in transformative professional development, especially for practitioner-researchers interested in decolonizing and recontextualising their society's curricular and pedagogic policies and practices. Here I focus on one such possibility – *arts-based critical auto/ethnography* –



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When I subsequently returned to Mozambique and to my practice as a science teacher educator at Universidade Pedagógica, though conscious that learning never ends, I felt empowered to discuss more deeply with my students issues of science in our cultural context. I have been encouraging them to learn from themselves. To interrogate their own attitudes toward learning and teaching science as well as their colleagues' and teachers' attitudes. To discover hidden subjectivities they have as Africans, especially in the context of the school science classroom.

(Afonso-Nhalivelo, 2010)

which draws on the epistemologies of new research paradigms that have emerged during the past 20 years – *interpretivism, criticalism and postmodernism*. This multi-paradigmatic perspective enables practitioner-researchers to combine a variety of innovative research approaches – auto/ethnography, autobiography, narrative inquiry, poetic inquiry, critical action research, self-study, performance ethnography, etc. – to inquire deeply into and radically reconceptualise their own socioculturally situated experiences as consumers (students) and producers (teachers) of education (Denzin, 2003; Ellis, 1997; Green, Camilli, Elmore, & Grace, 2006; Pithouse, Mitchell, & Moletsane, 2009; Prendergast,

Leggo, & Sameshima, 2009; Roth, 2005). I shall outline briefly each of the research paradigms.

(see Taylor, Taylor, & Luitel, 2012, for details)

At the heart of the *interpretivist research paradigm* is a social constructivist perspective (see earlier) on the researcher's (hermeneutic) endeavor to develop deep, contextual and emergent understanding of the culturally different other by studying how the other's worldview shapes and is shaped by his/her socially situated actions. Ethnographic methods of prolonged immersion, participant observation and informal interviewing are employed. At the same time, the researcher engages in a (phenomenologically) reflexive process of deepening his/her own self-understanding.

Autobiographical and narrative methods of writing are employed to explore and record the researcher's own lived experience and emergent self-understanding.

Auto/ethnography combines ethnographic and autobiographical perspectives to direct the researcher's heartfelt inquiry into the historical roots of his/her own cultural situatedness and identity.

The *critical research paradigm* (see earlier) arms the auto/ethnographic researcher with conceptual tools for ideology critique, self-decolonisation and visionary thinking, as well as with the role of a social activist aspiring to transform his/her sociocultural

reality and improve the human condition. An *emancipatory* interest (after Habermas; see Young, 1990) fuels the critical researcher's mission to identify and lay bare the hegemony of powerful systems of social thought and action that have colonized historically his/her society and continue to maintain a powerful presence by virtue of their invisibility (e.g., the traditional Western



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My doctoral dissertation addressed the protracted problem of the culturally decontextualised nature of mathematics education which un/wittingly prevents many school students from gaining full access to powerful mathematical ideas. I have developed a mathematics curriculum model to implement creative and innovative pedagogies that help students gain access to much needed mathematical skills and knowledge required for critical and active citizenship.

(Luitel, 2009b)

modern worldview). Adopting a critical reflexive perspective enables the auto/ethnographic researcher to: (i) explore crucial ways in which his/her cultural identity has been molded (or distorted) by formal education systems, (ii) reconceptualise his/her cultural identity, values and aspirations, and (iii) develop a philosophical perspective for transforming the sociocultural structures of his/her future professional practice.

The *postmodern research paradigm* adds both pluralism and playfulness to the auto/ethnographer's work, providing a rich repertoire of modes of inquiry (Barone & Eisner, 2006; Diamond & Mullen, 1999; Galman, 2009; Knowles & Cole, 2008; Richo, 2009). Artful inquiry employs literary genres and logics to evoke in the researcher multiple modes of thinking and feeling and the means to communicate complexity, ambiguity and paradox to the reader in educationally thoughtful ways (Palmer, 1980). Examples include: *metaphoric, dialectical and paradoxical thinking, mindfulness and spiritual awareness, poetic and performative writing.*

For example, in this chapter my transformative rhetoric includes, in addition to the standard (propositional, deductive, analytic) logic of scientific reasoning: the polemical voice of an advocate of emancipatory education (Lather, 1991), literary devices such as metaphor (Lakoff & Johnson, 1980) to elicit dialogical



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One of the major outcomes of my doctoral research was an enhanced consciousness of my Mozambican identity. It is something that can be hardly characterized. My identity includes:

*my body and the bodies of others
my colour and the colour of others
my language and the language of others
my country and the country of others
my relatives and those who I know
my relatives and those who I don't know
my soul and the souls of others
my spirituality and the spiritualities of others
the others are me and
I am the others*

(Cupane, 2007)

thinking (as advocated by Rupert Wegerif in this book), and boxed *data-texts* juxtaposed strategically against the main text to evoke pedagogical thoughtfulness (van Manen, 1990). To the positivist eye, argumentation represented by anything other than scientific reasoning would appear to be transgressive of normal academic writing standards and thus illegitimate. But the *postmodern turn* in educational research opens the door to the Arts for qualitative inquiry, via multivocal and multilingual texts, to help meet this ‘neoconservative challenge’ (Denzin & Giardina, 2006).

The practice of arts-based critical auto/ethnography involves writing not simply as a process of reporting on a completed inquiry but, importantly, as a process that is constitutive of the act of inquiry: the researcher inquires as s/he writes (Richardson, 2000). The autobiographical aspect fosters excavation of deeply sedimented cultural memories thereby enabling the researcher to identify and examine his/her personal experience of historically established educational policies and practices (Taylor & Settelmaier, 2003; Pereira, Settelmaier & Taylor, 2005). Through authoring and reflecting in critical and scholarly ways on their own personal-cultural narratives, researchers can recover and reinvest in their cultural heritage, an important step in the process of personal and professional renewal. To develop one’s authority as a producer of cultural knowledge is a step towards decolonizing one’s research and professional practice (Mutua & Swadener, 2004).

Coda

Arts-based critical auto/ethnographic research has become established as a powerful means for postgraduate educational research students to engage meaningfully in transformative professional development embodying higher-order thinking. Drawing on new research paradigms that foreground the researcher’s intersubjectivity, and adding sociocultural theories to

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focus the inquiry, the transformative researcher is provided with powerful developmental tools with which to:

- examine critically his/her culturally situated experiences in life,
- recover and reinvest in the value of his/her cultural heritage, and
- develop a professional philosophy of culturally situated education.

Doctoral research completed recently by teacher educators working in universities in Mozambique and Nepal (see above) are exemplars of arts-based critical auto/ethnographic approaches that have yielded philosophies of culturally situated education (Afonso, 2006; Cupane, 2007; Luitel, 2009a). These transformative researchers excavated their cultural memories by generating memoirs, poems, stories, performance texts and images. They used these data texts for multiple purposes. First, to interrogate their lived experiences as indigenous people who had during childhood struggled to cross cultural borders into schooling systems governed by the worldview of colonial European powers. Second, to reflect critically on their struggles as teachers to render science and mathematics education culturally meaningful. Third, to explore the hegemony of their deeply sedimented positivist assumptions about what constitutes legitimate research, in the process expanding their epistemologies as they embraced new paradigm research methods. As their research progressed and they developed scholarly sociocultural perspectives, they wrote further data-texts to give expression to their developing visions as ‘culture workers’ intent on transforming the professional practices of future generations of teachers and students in their respective countries.

Ongoing scholarly publications by these new generation educational leaders evidence how transformative practitioner-research enabled them to develop a vision and commitment to creating culturally situated curricula that empower African and Asian children to respect,

celebrate and grow their cultural capital and develop identities for belonging to local, regional, national and global communities (Afonso-Nhalevilo, in press/2012, 2010; Afonso & Taylor 2009; Luitel, 2009b, in press/2012; Luitel & Taylor, 2006, 2007, 2009, 2010, in press/2012). Time will tell what the long-term impact will be on their professional practice, but there are encouraging signs. In Mozambique, Emilia Afonso-Nhalivelo and Alberto Cupane have introduced an 'Innovative Research Methods' course into the Master's program of their university, have established a program of research into indigenous knowledge systems of Mozambique, and are collaborating with universities in South Africa to conduct culture studies research in science education using new research paradigms. In Nepal, Bal Chandra Luitel has established a program of research specialising in culture studies of mathematics education via new paradigm research approaches; thus far, ten students have graduated with masters degrees (e.g., Gautum, 2011; Poudel, 2010; Shrestha, 2011). At this stage it would seem that transformative practitioner-research has a firm foothold for fostering meaning-centered learning in Mozambican and Nepali teacher education.

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