ALTERNATION

Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa Volume 24 Number 2 (2017)
Electronic ISSN 2519-5476

Advancing Teaching Innovation and Research Excellence in Higher Education

* *Alter*nation is an international journal which publishes interdisciplinary contributions in the fields of the Arts and Humanities in Southern Africa.
* Prior to publication, each publication in *Alter*nation is reviewed by at least two independent peer reviewers.
* *Alter*nation is indexed in The Index to South African Periodicals (ISAP) and hosted online on the UKZN platform, on OJS, and by EBSCO
* *Alter*nation is published every semester. Special editions may be published p.a.
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Print ISSN: 1023-1757; Electronic ISSN: 2519-5476

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*Alter*nation

Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa

Advancing Teaching Innovation and Research Excellence in Higher Education

Guest Editors

Rubby Dhunpath,
Nyna Amin
and
Langa Khumalo

2017

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Durban

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***Alter*nation 24,2, 2017**
ISSN 1023-1757

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Editorial: Advancing Teaching Innovation and Research Excellence in Higher Education

Rubby Dhunpath
Nyna Amin
Langa Khumalo

The theme of this special edition derives from the 10th Annual Teaching and Learning Conference, which focussed on advancing teaching innovation and research excellence in higher education. We were privileged to have hosted one of the world's most eminent scholars of the scholarship of teaching and learning (SoTL), Lee Shuman. Offering profound insights into the intersection of research and practice within the landscape of the Academy, Shulman asked: 'What is "evidence" for the improvement of teaching and learning in an unscripted and highly contextualized world?' He argued that 'whether describing good medical practice, educational design, or management in business, experts insist that judgments and decisions are evidence-based'.

Setting up for scrutiny the distinctions amongst evidence, conjecture, speculation, anecdote or fantasy, he challenged us to consider how we use, acquire, create or defend what counts as 'evidence' in our pedagogies and our designs. The question of evidence is particularly relevant in the context of challenging the archetypical university teacher who is expected to conduct research, teach, and perform community service. As teaching rises beyond the status of the 'poor cousin' of research, academics increasingly have an obligetion to make public the 'evidence' that characterises teaching excellence. Performance metrics no longer suffice as indicators of excellence, nor do self-study narratives.

As Hutchings, Huber and Ciccone implored in *SoTL Reconsidered* (2011), we have an obligation to move scholarship to the epicentre of individual and institutional work by researching teaching, learning, and professional development, while simultaneously recognising and rewarding pedagogical work. Caught up in episodic projects or interventions, we are a long way from that ideal where SoTL is fully inscribed into our institutional commitments to

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a1

student learning and progression. A more enduring, albeit ambitious, approach to embed a deep SoTL, is to adopt a systemic approach to development. While SoTL is typically associated with systematic reflection and investigation of praxis, it is perhaps worth considering the ways its underlying principles can serve as catalysts for sector-wide development and change, particularly in contexts where institutions battle to shed historicized identities.

One of the main ingredients for sector-wide development is scholars' willingness to embrace the value of interdisciplinary work alongside conventional modes of disciplinary enquiry. As the value of prosaic notions of conventional enquiry is placed under scrutiny, the *raison d'être* of higher education is being challenged, notably by students, who are questioning the relevance of higher education curricula. An enduring condition inhibiting collaboration is our adherence to essentialised disciplinary and cultural identities. Escalated calls for academics to embrace interdisciplinarity (as a hedge against obsolescence) has generated research which integrates the social and natural sciences and has brought together researchers to collaborate across disciplinary, epistemological and methodological boundaries.

Suspending our exclusive disciplinary preoccupations opens up possibilities for a scholarship that is reflective of the post-colonial condition. Repeated failures over the years to address perennial problems in higher education related to curriculum, institutional cultures, governance and financing, behoves us to concede that conventional modes of enquiry no longer effectively serve their intended purposes; it calls, instead, for radical shifts from individualistic to collaborative approaches. The pursuit of participant parity requires us to feel comfortable with making public our curiosity about each other's work, and in the process, to share in the common values, interests and beliefs that emerge through engagement in inter-institutional projects and sharing of research.

A Policy Framework to Support SoTL

Is it possible to create spaces and enabling transitions for engagement in SoTL and can policy provide a framework for action? This is the question Joyce Nsibande probes in her similarly titled article. She contends that a major challenge is how to move SoTL from being an option for interested academics to a culture embedded in the way higher education institutions normalise teaching and learning. She approaches this challenge through the lenses of

policy aimed at encouraging the uptake of SoTL. She argues that the practices foregrounded in the policy statements create spaces to support academics' transitions to engage in SoTL. However, for this to happen, a clear institutional strategy is required to support change at all levels. The strategy, she contends, should provide support and guidance for the uptake of SoTL at individual, faculty, and institutional levels. She demonstrates how policy directives, practices and institutional contexts can create counterproductive environments and can lead to a departure from the core intentions of the policy. For example, instead of engaging in the instrumental use of the evaluation results (to inform inquiry), there could be a default to legitimisation use (to justify teaching practice and demonstrate performance for rewards) or non-use. Both the 'legitimisation use' and 'non-use' are a result of what is generally valued in institutions and, to some extent, show a lack of the support needed for change. It cannot summarily be assumed that academic staff will have the capacity to adopt the required ways of working to engage in SoTL without support and an enabling institutional culture.

Individual Agency to Inform SoTL

SoTL, we can agree, is about individual agency, responsibility for conducting evaluations and using the evaluation results to inform engagement of SoTL. This is possible when support is provided to develop capacity so that academics can make appropriate decisions about teaching and learning and are imbued with the confidence to select the tools that will elicit relevant feedback. Rewarding SoTL in ways other than monetary means can help ensure that motivation is propelled by academic values rather than personal gains.

Appraising the inherent value and personal gain to be derived from migrating to SoTL is perhaps an unreasonable expectation for the academic who has to negotiate competing demands on her time. Are there potential leverage points for academic staff to be ushered into SoTL? Noting the potentially alienating epistemic shifts necessitated by designing and conducting SoTL research, the notion of threshold concepts is particularly useful in facilitating the shift in structure, culture and agency both at the level of the individual and at the institutional level. Threshold concepts are defined by Meyer and Land (2003) as core ideas that are cognitively challenging for learners, who struggle to comprehend it, but once grasped, it radically transforms access to learning. For Meyer and Land (2003: 14),

> A threshold concept can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress.

Threshold Concepts for Deep Learning

At the level of the subject or discipline, threshold concepts offer the potential for deep learning. This is demonstrated by the work of Davis and Maistry who explore 'involvement' and 'fun' as potential for deep learning. Billed as unusual suspects in a higher education economics programme, they argue that games have much potential as pedagogical tools and key catalysts to stimulate learning. They note that the students firmly placed 'involvement and fun' at the core of the learning process. The resultant deeper learning of economic concepts they argue, has implications as there needs to be a re-evaluation of the terms 'involvement' and 'fun' with respect to the enhanced learning which students experienced in the classroom. Their findings highlight the potential of economic games for student learning in a re-imagined teaching and learning space in teaching and learning contexts dominated by the traditional 'chalk and talk' lecture method. Considering the demand for graduates to have the ability to problem-solve, possess critical thinking skills and be able to collaborate with others, the higher education environment has to change from cognitive loading to 'cognitive apprenticeship'. Embedding games into the curriculum, can engender change as they create autonomy-supported learning environments that bring together the emotional and cognitive aspects of learning (total involvement) while at the same time binding the students together in community of practice which 'could move our system of education beyond the traditional disciplines, and towards a new model of meaningful learning' – cognitive apprenticeship. This shift in focus from outcomes-based learning (objects and facts) to the creation of learning spaces that facilitate deeper conceptual understanding (activity) is a desirable outcome.

Promoting Criterion-referenced Expert Learning

Meaningful learning takes on a different complexion in Health Sciences departments. Doctors and radiologists in particular, are critical for good health care provisioning – but scarce resources with insufficient numbers of specialists to train the numbers of specialist practitioners required in the country threa-

tens to scupper the efforts. The result is that actual teaching in clinical settings is sporadic. The challenges faced by an overstretched health care system and lack of resources is compounded by the loss of qualified health care workers to migration. Thus, medical specialists take on the tasks of teaching (without teaching certification) to produce the next generation of specialists. Under these circumstances, the novice is often charged with her/his own learning and radiological competence is, as a consequence, experience-based, intangible and tacit. Self-directed learning is laudable but in the medical field it can be risky.

In a position paper entitled 'Towards a realistic description of competence for new radiology graduates in South Africa', Govind and Amin propose a rearticulated version of the Dreyfus and Dreyfus approach for clarifying competencies that new radiology specialists should acquire. The authors argue that in the absence of criterion-referenced descriptions, competence is an empty crucible and is thus susceptible to a variety of interpretations, manifestations and practices which could lead to unintended consequences. The rearticulated model, they contend, is useful to distinguish expert from novice radiological competencies. The proposed model is incomplete with only a segment on perceptive skill offered for the purposes of beginning a conversation about radiological competence. The push for explicit criteria is critical as it means that novices who work without supervision can use it to guide their own development and growth. The article demonstrates the potential value of interdisciplinary undertakings for teaching complex competencies to qualified interns as they move from novice to expert levels of professionalism.

Increasing the Currency for African Pedagogy and Epistemology

Debates around competence are invariably linked to issues of legitimacy and profane epistemologies. Codified knowledges secure the status of 'legitimate', while knowledge systems that have not developed parallel technologies enjoy marginal status. The notion of a new African pedagogy and epistemology is gaining currency as scholars explore African modes of knowledge exploration that are experiential rather than abstract; communal and cooperative rather than competitive; and produced in the context of relevant application rather than an esoteric indulgence. An African epistemology is said to re-centre the value of indigenous languages, spirituality, narratives, symbolic imagery, the super-

natural, ritual, myths and social traditions as legitimate teaching and learning tools and outcomes. Scholars who traverse disciplinary borders to investigate the elusiveness of African scholarship are applauded, particularly since such intellectual work has hazards like reproducing a narrow parochial conception that is essentialist on the one hand but a broad, cosmopolitan and, arguably, more scientifically informed conception on the other. The intellecttualisation of African languages is, undoubtedly, central to the emancipatory agenda.

In Keet and Khumalo's article, 'Evaluation of the effects of a spellchecker on the intellectualisation of isiZulu', we are given insights into a bilingual language policy and plan in a higher education institution, which recognises English and isiZulu as official languages. The strategy as articulated in the language policy and plan, aggressively promotes the intellectualisation of isiZulu as an effective process to advance indigenous, under-resourced African languages as vehicles for innovation, science, and technology research in higher education and training institutions. The development of human language technologies (HLTs) which includes an isiZulu spellchecker, established on an organic isiZulu National Corpus, demonstrates that the spellchecker has had a positive impact on the work of target end-users, who also perceive it as an enabler for the intellectualisation of isiZulu. The technology, it is argued, is proving to be generative and democratic as the spellchecker accelerates the addition of new words to the isiZulu lexicon. Through an evaluation using the System Usability Scale of both the architecture and use of the isiZulu spellchecker, the authors contend that it has a positive effect on the intellectualisation of isiZulu. Perceived by the target audience as generative of interest in further functionalities afforded by the technology, the isiZulu spellchecker's 'add-on dictionary' feature is proving useful from a 'computational viewpoint as well as a linguistic one, to examine emerging words and orthography'. The authors conclude that new words added to the lexicon are testimony to the claim that the intellectualisation of the language is taking root as the tool is being actively used in technical spaces such as administration work (formal language), translation work and editing.

Disrupting Hegemonic Articulations in Higher Education Teaching and Learning

Recent upheavals in higher education suggest that there is an awareness that

the *status quo* cannot be maintained, that change is crucial and that higher education needs to engage in a renewal process that puts Africa and its inhabitants at the centre without reducing change to a narrow Africanism. The debates, discussions and tensions of a decolonial curriculum or qualification galvanised by social, political and economic demands for relevant education, requires not only action; it obligates a rethinking, a reviewing, and reframing of hegemonic articulations and practices in higher education. A number of articles speak directly to the destabilisation of existing hegemonies.

The article by Leibowitz, 'Power, Knowledge and Learning: Dehegemonising Colonial Knowledge' signals efforts to intellectualise non-western modes of knowledge, thinking and doing. In this authoritative piece, Leibowitz unveils the toxicities of colonial knowledge, which has occupied, over centuries, a lofty posture and purview of what counts and what is discarded. Dismantling the power of colonial knowledge, she argues, consists of firstly, acknowledging the detrimental aspects of current codes of knowledge, followed by dehegemonic practices while factoring in the limitations posed by these efforts. It is common knowledge that the decolonisation project cannot be eschewed, eliminated or ignored so we are well advised to consider carefully the arguments proffered by Leibowitz.

Large State Hegemony of Institutional Operations in a Small Island State

'Curriculum Responsiveness in Teacher Professional Development Programmes' by Ankiah-Gangadeen and Pascal explains how institutions in the Island of Mauritius respond to a peculiar set of contextual conditions. Speaking from across the Indian Ocean, they argue that a small island state like Mauritius borrows and models its programmes from large non-island states even when it defies practical rationality. It seems that the hegemony of institutional operations in Mauritius are dominated by agendas of large states that are received as normal. For example, with a potential student population of under 50 000, the proliferation of institutions and duplication of programmes is unusual, and inexplicable, unless one detects a deeper economic logic driving the entire enterprise, that is the commodification of knowledge contemporaneous with a reduction in state funding.

Challenging the Domination of Low Cognitive Demand Assessment Tasks

'Assessment and Cognitive Demand in Higher Education Accounting Textbooks' by Arek-Bawa and Dhunpath unveils the hegemony of low cognitive demand assessment tasks in accounting textbooks. The South African Career Junction Index of 2016 shows that jobs for accountants are a growing demand, a pattern discernible in Nigeria as well. This places an obligation on higher education to produce accountants who are technically competent and intellectually skilled. Noting that textbooks are a mainstay of higher education curriculum, the authors examined the nature of assessments tasks to gauge the quality of learning. Their findings are worrying: the assessment tasks in selected text books require low cognitive demand by students. In other words, it tests items that are unchallenging and give a false sense of competency. The authors suggest that alternative measures of assessment be introduced so that higher order thinking and learning outcomes can be assured.

Enabling Teaching and Learning through Multimodal Approaches

The study by Rodrigues evaluates the impact of a multimodal approach to provide *assisted learning* specifically to EAL students. Using a blog where students can operate in an unthreatening learning environment in the language and mode of their choice, the study demonstrates how students' understanding of threshold concepts were deepened. The study demonstrates that using various modes and mediums provides all participants with an enabling teaching and learning environment. The blog with its variety of communication modes provides a learning space, where students assimilate their diverse semiotic resources and knowledge sources with the language of Mechanics. It is clear from the study that a multimodal approach which introduces mediating texts through translanguaging offers novel pedagogies in the teaching and learning spaces by disrupting the use of English.

By highlighting multisensory perception through various modes, the end user is enabled to transcend the English language paper-based text to negotiate meaning. This study provides evidence that Mechanics students gain access to complex applied sciences concepts by transforming paper-based

information into signs, objects, sound, images, and emergent mental representations. A developed multisensory perception therefore provides a scaffold to make the correct interpretation when words or concepts are foreign or strange. It can be argued that South African Higher Education is increasingly embracing the imperative of transmuting African languages to be the kernel of the academy. The introduction of these languages is motivated by pedagogic reasons to facilitate knowledge access and student success as articulated in the 1994 UNESCO World Conference framework of action. The frameworks encourage the recognition and response 'to the diverse needs of their students, accommodating both different styles of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use and partnerships with their communities'. The language papers argue persuasively for the cultivation of African languages so that they become languages of all academic activity in order to eliminate problems of language being as an impediment to access and success.

Disrupting English and Colonial Hegemony in Higher Education

The imperative to challenge the use of certain hegemonic languages as established praxis in the African academy is articulated in three papers. Mchombo argues that education in Africa has failed to locate language as the main reason for the high attrition rate in the education system. Language proficiency plays a central role in attaining a holistic education. He contends that hitherto, the operative assumption has been that African education is delivered in ex-colonial languages due to their centrality to math, science, and technology. His article focuses on the fallacies behind such assumptions and he argues that the retention and entrenchment of European languages as languages of instruction serve to solidify the 'conceptual-cum-linguistic incarceration' of African education.

Persistent criticism of education in Africa revolves around its resistance to 'decolonisation'. It excludes Africans' concerns and worldviews and prevents research being conducted from an African perspective for Africans' own purposes. It is Mchombo's conclusion that African education should desist from insulating foreign languages, cultures, and knowledge systems from African values and cultures in schools.

Prah argues very strongly in his article 'The Intellectualization of African Languages for Higher Education' that Africa can make more progress if African languages are situated at the centre of the education system. Originally a Keynote address from 2015 at UKZN, he followed it up with a deepening of the argument, with regard to its historical dimensions, in his Keynote address, also published here, delivered at the University of Zululand's 8th Humanities and Social Sciences Conference, 18 - 20 October 2017. He points to specific instances of Eurocentric biases which affect the structure and content of contemporary education in Africa. These include the historical periodization scheme that is utilized across the board in the social sciences and humanities in African education and also the notion of 'African Studies' in African universities. He argues that societal relevance is a crucial factor for education to be meaningful. In this regard, the language question; and that the need to use local languages that are shared by the masses of specific societies, is essential for development and emancipation. African Languages are culturally the single most important instrument that should be at the centre, of the intellectualized media that are being developed to optimize human capital.

In his article, emanating from the same conference as Prah's, Smit provides a few brief, historicisable perspectives on what he calls the Truth, or Knowledge, of *the* Decolonial in the history of thought in South Africa. He explores what we may mean when we talk of *the* Colonial and *the* Decolonial, their Truth(s) and Knowledge(s), as well as how we could contribute to the continuous developing of *the* Decolonial through research, and research-led teaching and learning. Referencing Scott's notion of 'hidden transcript', he provide a few pointers as to how to engage such references to the beginnings, and roots of *the* Decolonial in our context. He also provides a few conceptual perspectives on how to view history in Africa, from the vantage point of this approach, how to focus our research especially on thought-as-resistance, and the imperative to engage the digitally globalizing world. He also explicates his notion of #decolonialenlightenment. His argument must be positioned within the broader framework of the educational transformation processes South Africa has engaged and gone through, since the first education White Papers and related educational decisions and directives were released and implemented since 1995/ 1996.

Higher educational institutions, because of their heights in the educational structures of society, must take the lead in enabling the intellectualization of African languages. Departments providing instruments

and materials need to be established. Departments and dedicated specialists for these purposes need to be created. South Africa, as the best resourced country in terms of infrastructure, is most suitably placed to take a lead in this endeavour. There is also the incomparable advantage of Afrikaans, which offers a technical example to other African languages, of how to transmute African languages to become fully intellectualised languages capable of articulating the full rigors of science and mathematics. African languages, it seems, must disrupt the hegemony of English in the academy if they are to be developed as scientific languages.

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Creating Spaces and Enabling Transitions for Engagement in SoTL: Can Policy Provide a Framework for Action?

Rejoice Nsibande

Abstract

Much has been written on the conceptualisation of the scholarship of teaching and learning (SoTL), and on the approaches and methods used by scholars across the globe. A major challenge is how SoTL can be moved from being an add-on option for academic staff, to a culture embedded in the way higher education institutions engage with teaching and learning. This paper reflects on an institutional policy on the evaluation of teaching as a means to create spaces and enable transitions for academics' engagement in SoTL. Elements of the policy aimed at encouraging SoTL and their implications for the anticipated change are discussed. The paper argues that the practices foregrounded in the policy statements create spaces to support academics' transitions to engage in SoTL. However, for this to happen, the paper suggests that a clear strategy is needed to support change at all levels. This strategy should provide support and guidance on the uptake of SoTL at the individual, faculty, and institutional level.

Keywords: evaluation of teaching; policy on the evaluation of teaching; scholarship of teaching and learning; change theory

Introduction

The scholarship of teaching and learning (SoTL) is gaining prominence in higher education, which has led to the generation of an extensive body of literature in response to the demand for guidance on 'what it is' and how it is

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a2

different from or similar to other scholarship such as research. Some considerations when describing SoTL are engagement with knowledge on teaching and learning in order to develop specific knowledge in teaching in the discipline, engagement in deep and systematic reflection as a form of inquiry and efforts to share the knowledge with peers so that it can be scrutinised (Shulman 1999; Hutchings & Shulman 1999; Kreber & Cranton 2000; Kreber 2007). The work done focuses on the purpose and significance of SoTL (Hutchings & Shulman 1999) with the emphasis on student learning. Examples of the work conducted by SoTL scholars are provided showing the methods and approaches used and highlighting the importance of context in understanding SoTL (Hutchings 2000; Booth & Woollacott 2015). Despite all the scholarly clarifications and definitions of SoTL, it remains a fluid and challenging concept (Boshier 2009; Manarin & Abrahamson 2016) that influences trends on uptake in institutions.

As is the case in other countries, scholars in South Africa (SA) are concerned with clarifying what SoTL is and its focus (Leibowitz 2010; Booth & Woollacott 2015), particularly in the SA context (Leibowitz & Bozalek 2015). Leibowitz and Bozalek (2015) highlight the influence of the apartheid legacy and argue that it is for this reason that student learning should be placed at the centre of the discussion, which should be informed by a social justice agenda. A publication edited by Booth and Woollacott (2015) provides examples of the kind of SoTL work that scholars have done in different contexts (cf. Pitso 2015; Booth 2015; Cameroon 2015; Osman & Booth 2015). Another critical aspect of SoTL is its role in supporting the professional development of academics as teachers in higher education (Leibowitz 2010; Cameroon 2015).

A critical area that needs attention is how SoTL – as an imperative in the professional development of academics as teachers and in the transformation of teaching and learning – can be supported to grow institutionally. There are limited examples of how engagement in SoTL can be embedded in institutional culture by building on existing structures. This will help create a critical mass of scholars so that the 'transformative potential' of SoTL (Booth &Woollacott 2015) can be realised. Ways have to be found to enhance the uptake of SoTL by moving from engagement by interested individuals to a movement across institutions (Moutlana & Moloi 2014; Vithal 2016). Moutlana and Moloi (2014) argue that a system of recognition and rewards can embed SoTL in an institution in the same way that the culture of

research has been established. Vithal (2016) concurs and adds that because SoTL cannot be imposed on scholars, an 'organic approach' is needed that takes shape over time and that is 'inclusive and multidimensional' to drive the uptake of SoTL across the institution. It is here that this paper seeks to make a contribution by analysing an institutional policy that calls for the use evaluations of teaching to reflect on areas of teaching and learning requiring further investigation as part of SoTL.

The University of the Witwatersrand (Wits University), through its policy on the evaluation of teaching, links the conducting of evaluations with the possibility of engaging in SoTL (undated). Wits policies have a five-year cycle after which they are reviewed. In the current evaluation of teaching policy, evaluations are seen as a way of triggering thinking about areas of inquiry that could be investigated as part of SoTL. Although I have not conducted specific research on the topic, I have observed that evaluation results are not used optimally to identify teaching and learning areas that need further investigation and or improvement as required by the policy. It should be noted that this is not to suggest that no scholars are engaging in SoTL at Wits – the issue is the level of uptake. This paper reflects on the extent to which the policy enables meaningful engagement in SoTL. Drawing on Vithal's (2016) idea of growing SoTL organically, the purpose of the paper is not to 'sell' policy as a way to mandate engagement in SoTL. It argues merely that when policy is used to create space for the development of SoTL, underpinning policy principles should be adopted to develop a strategy to support the achievement of SoTL goals. This strategy should focus on all levels of the system for effective change (individual, faculty, and institution). Valters (2015: 11) advises that 'social contexts and processes are always in flux, with emergent issues, unforeseen risks and surprises arising throughout'. This speaks to the 'messiness' of social contexts and social change – changes do not enter neatly into social contexts as they often compete with other existing demands.

SoTL a Work in Progress: Purpose, Definition, Approaches, and Practices

As SoTL gained prominence as one of the scholarships in higher education, scholars focused on clarifying what it is, what it is about, and how it is different from other scholarships (Shulman 1999; Hutchings & Shulman 1999;

Hutchings 2000; Kreber & Cranton 2000; Kreber 2007). One way SoTL can be defined is as follows:

> A scholarship of teaching is not synonymous with excellent teaching. It requires a kind of 'going meta', in which faculty frame and systematically investigate questions related to student learning – the conditions under which it occurs, what it looks like, how to deepen it, and so forth – and do so with an eye not only to improving their own classroom but to advance practice beyond it (Hutchings & Shulman 1999: 13).

SoTL goes beyond what is normally expected of good teaching as it involves inquiry and reflective practice in order to develop knowledge on student learning. Hutchings concurs with the above definition and suggests also that SoTL can be viewed in a broad sense in the following way:

> … also, the work that scholarly teachers are doing when they make inquiries into their classroom practice, document their work, and make it available to peers in relatively informal settings (Hutchings 2000: 9).

Hutchings maintains that inquiry is at the heart of the work of teachers in higher education and that such inquiry often begins with pragmatic questions that can be pitched at different levels. It starts on the first level with questions on effectiveness (what works) and, on the second level, it is about describing what the teaching activity looks like. The two levels are about descriptions, and what follows are questions on what is possible in a particular teaching context with the possibility of theory building as the final level. Hutchings' (2000) taxonomy can be linked to Booth and Woollacott's (2015) discussion of a model of becoming a scholarly teacher. Quoting from Ashwin and Trigwell's 2004 publication, Booth and Woollacott (2015) highlight that in this model, the first level focuses on investigating teaching practices in order to improve them, a process that is inward looking. The second level is about investigating teaching practices in order to generate knowledge about teaching and learning that can be shared with peers. The third level engages peers through publications in appropriate journals with the aim of producing knowledge that addresses teaching and learning issues beyond the individual's teaching context. It is important to note that not all academic staff are expected to reach Level 3 –

what is crucial, however, is investigating teaching practice with peers in order to improve student learning and professional development (Leibowitz 2010).

Although there are variations in the way SoTL is conceptualised, especially on how to share the knowledge developed (Boshier 2009; Stefani 2011), common elements are evident in the literature. Scholars agree that SoTL is an inquiry (posing questions and conducting investigations) that is focused on developing both knowledge of teaching in the discipline and knowledge of student learning. The outcomes of the investigations are then shared openly with colleagues in the field and allow other people to build on these outcomes as well. Linked to this is the understanding that responding to questions on student learning requires collaboration among peers at different levels (between disciplines and across disciplines and institutions) (Hutchings & Shulman 1999; Booth & Woollacott 2015). Hutchings and Shulman (1999) argue that developing knowledge on teaching and student learning in higher education is not a project for an individual but for scholars working together. Leibowitz (2010), too, argues that for SoTL to demonstrate critical engagement, it should reflect certain features that are at the core of the process. One feature is collaboration (working with other people such as peers and students), which requires openness as professionals systematically engage with their teaching practice in order to improve student learning. A second feature is broadening engagement across disciplines in an attempt to find new ways to solve teaching and learning problems (see also Vithal 2016). Leibowitz (2010) maintains that the deep reflection process should interrogate the assumptions informing practices in disciplines as these often shape teaching processes and views on knowledge and its production. Scholars collaborating on SoTL can be seen as learning communities that provide a setting in which peers support each other in the process by sharing knowledge, methods and dispositions. Osman and Booth (2015: 163) succinctly describe learning in the communities this way:

> In this process of sharing and critiquing practical knowledge there is an opportunity for teachers to produce professional knowledge about their fields and disciplines.

This collaborative process further motivates participation and improve craft in a way that could contribute positively on the growth of SoTL over time.

Another critical issue dealt with in the literature concerns the focus and purpose of SoTL, especially when responding to the needs of particular

contexts. In addition to generating knowledge on student learning in different disciplines, SoTL has to focus on broader issues in higher education (Kreber 2007). Concurring with this view, Stefani (2011) argues that the nature and focus of SoTL should be guided by an appreciation of what the purpose of a university is in the 21st century beyond the basic acquisition of subject content. In the SA context, SoTL, when conducted properly, can be a means of addressing deeper historical issues in higher education (Leibowitz 2010) as more students from different backgrounds access higher education. Vithal (2016: 3) says the following in this regard:

> Higher education institutions in South Africa have undergone substantial changes in the two decades since the advent of democracy to redress the past injustices and inequalities … As student participation rates have increased, another strong national concern has risen for improving quality in Teaching & Learning.

This means there is a need for a different way of thinking about teaching and learning, a way that takes into account the context of the students participating in higher education. Of importance is how the process is enabling all students to participate equally and have a fair chance to succeed with attributes that will not only advance them in the work place but also prepare them for their roles as citizens in a democratic society (Council on Higher Education 2015).

Leibowitz (2010) and Leibowitz and Bozalek (2015) state that in order to address the SA teaching and learning context effectively, engagement in SoTL work should be informed by social justice principles. In SA, student success is a major problem (Leibowitz 2010; Leibowitz & Bozalek 2015; CHE 2015; Vithal 2016), and SoTL could be a way to understand and deal with some of the contributing factors. There is an urgent need to understand the critical questions that should be posed for the enquiry and the methods that should be used to respond to contextual issues. As to the nature of the questions, Leibowitz (2010) argues that SoTL should ask value-based questions on teaching processes and their meaningfulness to student learning, questions on issues that are critical to higher education. and questions on critical issues that are significant to society such as meeting the learning needs of all students so as to improve success rates. A variety of different questions can inform SoTL activities but at the heart of the work should be student learning (Hutchings & Shulman 1999). This emphasises the point that SoTL goes beyond teaching ef-

fectiveness. Its main objective is to address challenges in the teaching and learning context so that student success can be enhanced.

It can thus be claimed that SoTL supports the professional growth of teaching professionals in a way that serves students and institutions thereby advancing teaching and learning in higher education. Lee Shulman in his keynote address at the UKZN's 10th Teaching and Learning conference held in Durban (September 2016) said that we engage in SoTL because of the professional, intellectual, and moral aspects of the work we do in higher education. This suggests that engagement in SoTL should contribute to the broader issues that impact student learning. Vithal (2016: 4) clarifies this point as follows:

> … SoTL that takes student learning needs as a focus from the outset, producing knowledge which is oriented towards solving specific problems by academics from a number of disciplines and favouring dissemination through practice as well as publication.

SoTL thus goes beyond legitimising or providing justification (Hojlund 2014) for personal decisions on teaching practices in its endeavour to identify ways of engaging in teaching and learning that enhance students' learning experiences.

The fluid nature of its conceptualisation sometimes makes it difficult to grasp what SoTL actually is and how it is different from other ways of engaging, especially if SoTL work is to be acknowledged and rewarded (Boshier 2009; Stefani 2011). According to Boshier (2009), few staff members and institutions fully understand the nature of SoTL and its related practices (methods and nature of the knowledge produced) thus leading to major difficulties in rewarding those involved. This has dissuaded a number of people from learning more about SoTL or participating in SoTL work. In Stefani's (2011: 11) view, the difficulties are exacerbated when SoTL is used as a 'mantra to give teaching and learning greater symbolic capital as research with very little understanding of its key principles and implications thereof for practice'. In addition to the conceptualisation challenges, there are also problems with the methods used, including the nature of the questions posed for SoTL work.

Research into SoTL has revealed that the questions we ask, or fail to

> ask, as researchers influence the shape and form of SoTL output (Manarin & Abrahamson 2016: 1).

The questions framed for the inquiry and the methods of engagement shape what is seen as SoTL and the nature of knowledge produced (Boshier 2009). Although the variations are indicative of the way SoTL responds to contextual needs (Hutchings 2000), this has led to the somewhat troublesome nature of the knowledge of SoTL.

Manarin and Abrahamson (2016; 1), in their work on the subject, confirm that in the most cases the nature SoTL knowledge is experienced as 'troublesome'. The authors argue that the attempts to explain SoTL have not helped as the challenge relates to the knowledge and methods of inquiry that are foreign to 'normal' ways of working in disciplines – SoTL thus requires a 'new epistemology'. For instance, it requires knowledge of reflective practice, action research, openness to peer review, and understanding of professional development – and all of these are new ways of engaging. The troublesome nature of SoTL is experienced also on another level as acquiring these ways of engaging has implications for identify shift and formation – discipline experts are thus becoming scholars of teaching and learning. This indicates the need for support and also acknowledgement of the factors that are at play in the particular contexts where practitioners are engaged in SoTL. Manarin and Abrahamson (2016: 1) agree that:

> SoTL has the potential to become a vehicle for transition, inquiry, and growth, working between disciplines and sharing common practice.

The challenges related to knowledge of SoTL serve as a caution for what is critical in supporting engagement but do not imply that institutions should slow down adoption of SoTL. Due to the 'transformative potential' of SoTL, alluded to by Booth and Woollacott (2015), in dealing with issues of teaching and learning, there is a need to forge ahead. However, relevant support is needed to help scholars. Development of the required competencies (relevant knowledge, skills, and values), rewards, and recognition, as well as resources, will not only motivate take-up of SoTL but will also help it grow as part of institutional culture (Vithal 2016).

The emphasis throughout the literature review is the importance of adopting a scholarly approach to teaching as a step beyond achieving the good

teaching expected of everyone. This section of the paper highlighted the conceptualisation of SoTL and the need for institutions to plan carefully for the support required for the uptake of SoTL.

Evaluation of Teaching and Engagement in SoTL: Policy Intentions

The policy under discussion is being reviewed according to university guidelines for policy reviews. The policy states that all academics should elicit feedback on their practice through peer reviews, student feedback, and self-reflection. Such feedback should be used to identify areas that need further scrutiny in SoTL work. In the guidelines section, the policy explicitly links evaluations of teaching with SoTL in the following ways:

> Evaluation of teaching enables lecturers to become reflective practitioners through a process of receiving feedback about, and observing their own practice and their assumptions about teaching and learning. Rigorous self-reflection enables lecturers to identify areas for improvement and strengths which can be built upon, and set professional development goals for themselves (University of the Witwatersrand n.d. 2).
>
> The evaluation of teaching should form part of reflective practice. In this way, it can enhance the scholarship of teaching by promoting the critique of practice that is often facilitated by conversations about teaching among peers and by reference to educational theory and literature (ibid: 2).

It is important to state clearly that the policy does not suggest that evaluations are part of SoTL. However, it does suggest that evaluation feedback should be used to identify and pose questions crucial to SoTL enquiry. These questions could be at the level of asking 'what is effective' in teaching practice (Hutchings 2000) and how student learning is supported. The policy directives are in line with the broad conceptualisation of SoTL provided by Hutchings (2000) and Hutchings and Shulman (1999). SoTL calls for systematic enquiry into practice; it involves thinking about courses, facilitation of learning, and trying new ways of teaching. This process is guided by questions about student

learning informed by evaluation feedback followed by commitment and openness to emerging issues and further sharing with peers. These are critical aspects of SoTL. The process is focused on value-based questions (Leibowitz 2010) that promote understanding of the conditions that are conducive to student learning in disciplines and across institutions. For example, careful thought and deep reflection are needed on which students are benefiting from current teaching practices and which students are not benefiting and the reasons for this.

The policy calls for reflective practice that provides an opportunity for making sense of practice as academics take 'a learning approach to their teaching' (Osman & Booth 2015: 166). This learning approach is about 'perspective making and perspective taking' guided by literature and conversations with peers. It is an opportunity for more advanced ways of reflecting on practice that can lead to profound responses to the teaching and learning needs in particular contexts. In this context, SoTL is seen as an opportunity for academics to develop in-depth understanding of their teaching practice by asking questions on how learning is supported, by finding evidence for this, and by finding best ways to improve learning. The inquiries and related findings are shared with peers so that they can be scrutinised and used to redirect practice. Reflective practice is a critical component of the higher education practice; however, it cannot be assumed that everyone has the competence to engage in deep reflection that will support the required engagement in SoTL. It is not that the institution through the policy believes that all academic staff will engage in SoTL; it is about creating the opportunity to see teaching as an intellectual project to support student learning and the professional development of academics.

The policy connects the purpose of evaluation to professional development (Leibowitz 2010) by using feedback to reflect and deepen knowledge on how to teach in different disciplines. See the following extract in this regard:

> … to foster among new academic staff and continuing staff a commitment first to excellence in classroom instruction and management and second to service and professional growth and development (University of the Witwatersrand. Undated: 2).

However, this intention is in contrast to an element of 'accountability' implied

in some of the policy statements such as the following:

> School, faculty and university management will have at their disposal valid documentation to assist them in making sound and objective decisions with regard to probation, promotion and performance appraisal … the university will better be able to reward satisfactory, distinguished, and excellent achievement among lecturers (ibid: 1).

Accountability influences the approaches and methods seen as appropriate for conducting evaluations as well as for the use of the feedback. Evaluations of accountability are aimed at demonstrating the effectiveness of teaching practices as part of quality assurance processes. Accountability is welcomed in higher education; however, in practice, it can override what would have been spaces for enhancing the quality of teaching and learning. This impacts on collecting feedback that supports professional development and the improvement of student learning as the emphasis is more on survey scores than qualitative feedback. The policy guidelines stipulate that:

> Schools need to ensure that the source of feedback, and the methodology chosen are sensitive to their particular teaching context, and are appropriately customised (University of the Witwatersrand. Undated: 4).

However, this is overtaken by processes that are meant to maximise objectivity so that rewards can be granted to those who deserve. Linking evaluations with rewards undermines a culture of collegiality and strengthens isolation and competition. Even though the policy 'commits to creating an environment in which it is 'safe' for lecturers to observe and reflect upon their practice openly and honestly' (University of the Witwatersrand. Undated: 2), using evaluations for accountability purposes promotes 'survival' leading to a complex and high stakes process. This high-stake environment shapes the extent to which evaluations are used to inform SoTL work as intended by the policy. In addition, evaluations that influence questions critical to engagement in SoTL require the use of appropriate methods to elicit useful feedback. Surveys that generate scores to indicate student satisfaction do not produce data that can promote endeavours to think about SoTL inquiries constructively.

The policy preamble indicates that the individual academic is respon-

sible for conducting evaluations of teaching and using the feedback to support deep reflections that can lead to thinking about teaching and learning areas that need further investigation. The following policy statement assumes all academics are motivated to engage with the process in an intellectual and scholarly way:

> This commitment to learning could be pursued deliberately by academics that, as professional educators, take control of their teaching practice and seek to research and improve it, supported by communities of good teaching practice (ibid: 1).

Implied here is that academics should find ways to address all factors that can impact on student learning, with the assumption that they are competent to do this effectively. These factors could include teaching approaches, conceptions of how students learn, and curriculum issues. The conducting of evaluations and using them to identify areas of teaching that need further research is the responsibility of academics as part of their ongoing professional practice. This suggested way of engaging should be appreciated and interrogated within the existing evaluation culture in the particular institution, focusing specifically on the extent to which this culture supports policy goals (Trowler 2015; Valters 2015).

The changes discussed above are at the level of the individual, faculty (and/or schools), and institution. The policy requires academics to use evaluation feedback to engage in deep reflection on their teaching practice not only for their professional development but also for development of knowledge that can transform teaching and learning. The policy assumes that academics have the motivation and competence to engage in systematic inquiries of practice in collaboration with colleagues who can also play the role of critical friends in the process (Hutchings & Shulman 1999; Booth & Woollacott 2015). Both the faculty and institutional processes are expected to create safe spaces for these changes by encouraging engagement and also rewarding those who do engage. The changes discussed here need to be looked at in light of the 'messiness' of social change so that strategic support can be offered. The changes expected to facilitate engagement in SoTL need to be nurtured and supported over time.

The following section draws on ideas from change theory and social practice theory aimed at looking critically at the elements of change implied in

the policy and the implications for practice (developing strategies to support the achievement of policy intentions). Trowler (2015) points out that underpinning any theory of change is the need to understand social reality. It is then important to identify and think carefully about what is seen as an effective way to support envisaged change. This section discusses the changes envisaged by the policy, highlights some of the challenges that impact on the realisation of goals, and suggests what should be considered when developing a strategy to support change.

Developing a Strategy to Support Policy Intentions

In principle, the policy creates spaces to support and encourage engagement in SoTL. However, the implied changes require a clear strategy that links policy principles to explicit action plans on how to drive SoTL in an institution. Drawing on Fullan (2006: 4), the discussion should:

> Include harder questions – 'under what conditions will continuous improvement happen?' and, correspondingly, 'How do we change cultures?'

Planning for change requires thought on the conditions necessary for nurturing continuous deep change that would improve engagement in SoTL at the level of individual agency and institutional culture. In order to support the intended policy changes discussed in the previous section, it is useful to draw on change theory (Elmore 2004; Fullan, 2006; Funnell & Rogers 2011; Trowler 2015; Valters 2015) and social practice theory (Reckwitz 2002) in order to interrogate the implications for practice. Change theory holds that identifying the expected changes and clarifying how they will happen needs to be scrutinised in order to plan strategies that over time will support the targeted changes in practice. Clarity on the expected changes can facilitate communication with stakeholders and can also inform strategies to support engagement. Of importance is that the strategies should consider issues at the different levels at which the system should be nudged to ensure uptake of SoTL over time.

The changes expected at the level of the individual (reflective practice, knowledge of education theories on student learning, and framing enquiries for SoTL based on evaluation feedback and engagement with peers) require profound change and not just exposure to knowledge. This is a new way of

engaging that calls for changes in deeply ingrained assumptions about student learning in disciplines and in approaches and methods of working (conducting evaluations and engagement in SoTL). The challenge is to understand the nature of SoTL, its knowledge base, and how the expected changes are likely to occur in a given context.

The conducting of evaluations and engagement in SoTL should be seen as social practices (Saunders 2012), which have three important elements (Reckwitz 2002); meanings (conceptualisation), know how (skills), and resources (tools and spaces). All the elements need to be in place for the evaluations to feed into SoTL. The importance of academics' understanding of evaluations and their purpose, especially when linked to SoTL, their skills in conducting evaluations, and their capacity to interpret feedback as well as use it accordingly, cannot be overstated. Developing a conceptual understanding of SoTL and acquiring the competence in the methods required to engage as well as the resources to do the work are equally critical. The competencies required to engage in SoTL, such as reflective practice (criticality and reflexivity), knowledge of educational theories, and relevant methods are foreign and troublesome to discipline experts (Manarin & Abrahamson 2016). A clear strategy is needed to help academics develop these competencies, and it is important to note that even with a clear strategy, the competencies are gained and strengthened only over time. Opportunities should be created for continuous improvement through action and engagement with others doing similar work within and across disciplines (Elmore 2004; Fullan 2006; Osman & Booth 2015). Lack of support to develop understanding and competencies may lead to non-use of evaluation results (Hojlund 2014) thereby impacting on the possibility of engagement in SoTL. Developing individuals' understanding of SoTL and their skills, as well as providing resources, is important for deep change as opposed to ad hoc and superficial engagement. However, this on its own will not support the change required, but the social context (both at faculty and institutional level) still has to be dealt with.

While the agency of the academic is at the centre of the whole process (making decisions on when to conduct evaluations, interpreting the results, and using them accordingly), it is crucial not to downplay the impact of the particular context in terms of its norms and regulative elements. If the context where social practice is located is contradictory to policy intentions, development of SoTL as a practice is unlikely to be nurtured. It is therefore important for the institution to reflect on its context in order to ensure that it is

aligned with what needs to be achieved.

More often than not, a discrepancy will exist between the assumed effective way of bringing about change and the contextual reality – hence what happens in faculties (schools/departments) and institution is critical. The culture at both faculty and institutional level often remains unchanged even when new ways of working are introduced. It is then important to reflect on and appreciate the social practice context in terms of how it impacts intended change. Engagement in SoTL as a 'social practice with a context' revolves around a number of interrelated contextual factors (Valters 2015). Trowler (2015) argues that individual agency (both actions and beliefs) interacts with and is influenced by the socio-cultural and structural factors in an institution. Often, we do not think about the context when changes are planned and introduced. To some extent, we overlook the interplay between the acts of the individual agents and the context that shapes and influences what is possible to do and how to do it. The context is characterised not only by ways of doing but also by ways of understanding what people are required to do. This needs to be scrutinised so that it aligns with and supports required change – engagement in SoTL.

For example, as a way of supporting and encouraging practices related to SoTL, faculties (or schools and departments) should create a supportive environment, that is, spaces where colleagues can collaborate safely. When academic staff do teaching as an individual project, the process can fail to create support for those academics who are beginning to engage in SoTL. Being deprived of interaction with colleagues has implications for the development of meaningful ways of dealing with problems in teaching contexts. SoTL with its emphasis on communities of learning (Hutchings 2000; Leibowitz 2010) can determine how individual time is used, and often this time is secured for research activities. It is crucial to have access to information on teaching and student learning if academics are to commit to using their time for collaborative work. Making this information accessible guides the work by providing conceptual tools for asking relevant questions. Some ways of working are ingrained in the university context where the norm is for academics to work autonomously. SoTL, with its emphasis on collaboration, implies working against this practice. Collaboration is about peer support; however, this can be realised only when there is leadership support as well. The change is about individuals and the social context where teaching practice is located.

As part of changing the culture in a social context, it is important to think about 'proactively addressing distractors' (Fullan 2006: 10). This means identifying elements that are counterproductive in supporting envisaged change. Policy requirements should avoid ways of doing that can produce practices that are counterproductive to engagement in SoTL. For instance, the purpose of evaluations is heterogeneous and includes using evaluations for accountability purposes (establish teaching effectiveness). This change the way evaluation results are used and can impact on the safe space that should be created for inquiries in teaching practice and student learning. Evaluations of teaching tend to focus on demonstrating competence in order to support decisions on career progression (probation confirmation and/or promotions). Hojlund (2014: 30) refers to this as the 'legitimisation use' of evaluation results. Not only are evaluations seen as a policing mechanism (Boughey 2001), but participation too would be driven by the need to inform decisions on career progression. Such a stance impacts on efforts to ensure that evaluation feedback on teaching practice feeds into deep reflections and careful decision making on the improvement of teaching practice and student learning. When evaluations are used in this 'instrumental' way, meaningful questions on practice and student learning can be triggered. Of course, the usefulness of the result is dependent on the method used to elicit feedback and the particular academic's capacity to engage in reflections.

What is emphasised as the purpose of evaluations promotes not only a particular way of using the evaluation results but also informs preferred methods of conducting evaluations. The use of surveys to elicit feedback on teaching and learning prevents academics from getting in-depth understanding of practices that support learning and those that need improvement. To deal with this challenge, evaluations need to be reconceptualised, not just how they are used but also their methods and focus – in order to move from teaching effectiveness and teacher performance to student learning (Nygaard & Belluigi 2011). Teaching and learning need to be understood differently; the process cannot be reduced to a conception of learning informed by a linear input-output model. The methods of conducting evaluations and the use of feedback should be in line with the ideal that evaluations should inform lines of enquiry that feed into engagement in SoTL. The system needs to rethink ways of doing, seeing, and valuing to ensure alignment with engagement in SoTL.

This strengthens the view that an appreciation of the context, its culture, and what is valued is critical when thinking about policy effectiveness

(Trowler 2015; Valters 2015). Rewarding and valuing SoTL in the same way as other forms of scholarship (Moutlana & Moloi 2014; Vithal 2016) is important – SoTL is 'serious intellectual work and should be rewarded' (Hutchings & Shulman 1999: 13). Creative thinking is needed on how SoTL should be rewarded, and not just monetary rewards should be considered. Knowing that SoTL work is appreciated, acknowledged, and valued not just by colleagues but by the institution will promote interest and engagement. Changing the culture of the social context is the most challenging area because of its nebulous nature. According to Elmore (2004: 11), '[c]ultures do not change by mandate; they change by the specific displacement of existing norms, structures, and processes by others'. This does not happen automatically – it requires an institution to reflect honestly on its processes in the light of the intended change. Disruption of normative ways of working and the adoption of practices that nurture the changes expected to support SoTL are critical. Trowler (2015: 164) cautions:

> Whenever significant innovations begin they presage new discourses, new types of tools, new agendas and new configurations of power relations and subjectivities. But existing sets of social practices condition response and fundamentally affect the implementation process.

A point to note, institutional culture cannot be overhauled in an instant; it requires a gentle push from different levels until it begins to align with the expected change.

Concluding Remarks

The discussion in this paper has focused on an institutional policy for the evaluation of teaching, specifically, its connection with encouraging engagement in SoTL. Higher education is replete with activities and demands. Any change that is introduced needs therefore to build on and connect with other institutional activities where possible. When this is done, as in the case of the policy discussed here, it is important to identify the nature of the expected change. Reflection on the thinking underpinning the change can reveal critical areas that need to be revisited and reconceptualised if, in practice, evaluations can meaningfully inform SoTL inquiries. Although policy

statements highlight opportunities for embedding SoTL in institutional practices such as evaluations, these opportunities may be missed because of failure to develop a strategy to support the change.

This paper has shown, that on the one hand, based on policy directives and goals, questions may be triggered to motivate engagement in SoTL. The way SoTL is viewed in the policy is not far from how SoTL is broadly described in the literature. Evaluations of teaching when conducted appropriately can bring to the fore critical issues of teaching and learning that need attention. On the other hand, the discussion has shown also that some policy directives and institutional context can create an environment for counterproductive practices that can lead to departure from the core intentions of the policy. For example, instead of engaging in the instrumental use of the evaluation results (to inform inquiry), there could be a default to legitimisation use (to justify teaching practice and demonstrate performance for rewards) or non-use. Both the 'legitimisation use' and 'non-use' are a result of what is generally valued in institutions and, to some extent, show a lack of the support needed for change. It cannot summarily be assumed that academic staff will have the capacity to adopt the required ways of working to engage in SoTL without support and an enabling institutional culture. This challenge is directly linked to what Manarin & Abrahamson (2016: 1) refer to as the 'troublesome knowledge of SoTL' and its associated practices. The competencies required to engage in SoTL, as well as the understanding of its value in transforming higher education teaching and learning, need to be consciously developed and nurtured over time.

This is also true of the required knowledge of evaluations and how feedback can be used to think about and trigger lines of inquiry into teaching in a particular discipline and thus support professional development. There is a need to re-conceptualise evaluations as a practice that supports 'intellectual, professional, and moral' engagement with teaching at individual and institutional level. For evaluation results to inform SoTL, an explicit focus is needed on how students learn in different disciplines and what should be done to improve their success. As part of the process of reframing evaluations, extensive support is required for academics so that they understand the work of SoTL. SoTL is about individual agency, responsibility for conducting evaluations and using the evaluation results to inform engagement in SoTL. This is possible when support is provided to develop capacity so that academics can make appropriate decisions on the areas of teaching and learning they need

feedback on and the selection of tools to elicit the feedback. The usability of the feedback, especially for SoTL purposes depends on the methods selected for the evaluation and the focus of the evaluation (Saunders 2012).

Reconceptualisation is important for academics and the institution as a whole because of the interplay between agency and the institutional culture – the latter can either support or hinder the achievement of policy goals. Thinking about evaluations differently can help mitigate elements that are counterproductive to SoTL, such as, using evaluations for quality assurance processes. Acknowledgement is needed of the institutional evaluation context with its regulative and normative culture. Appreciation of context will help focus efforts in negotiating and supporting uptake of SoTL as a new practice in an already 'messy' teaching environment in higher education. The context (at both faculty and institutional level) needs to align with the intended change in terms of creating spaces and providing resources to engage in SoTL as well as rewarding and recognising the work done. Rewarding SoTL in ways other than monetary ways can help ensure that motivation is driven by value rather than personal gain.

An action plan for supporting SoTL in institutions is vital for creating opportunities to showcase examples of how it can work successfully. Over time, exposure to the success of SoTL in transforming teaching and learning in different disciplines will reinforce uptake. Besides monetary rewards, exposure to the transformative nature of SoTL will attract engagement eventually leading to a critical mass of scholars engaged in SoTL work.

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‘Involvement’ and ‘Fun’ as Potential for Deep Learning: Unusual Suspects in a Higher Education Economics Programme

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Abstract

While games have much potential as pedagogical tools, there is limited empirical evidence that indicates the extent to which they might be successful in a higher education Economics programme. This prompted an investigation in the form of a qualitative case study at the Durban University of Technology (DUT), utilising a sample of first-year Economics students who had participated in a series of games incorporating key micro-economics topics.

Northcutt & McCoy’s Interactive Qualitative Analysis (IQA), a unique, structured and rigorous methodological approach that advocates strong participant involvement in the research process, provided the foundation for the research. Focus group discussions, individual semi-structured interviews and reflective journals provided the data for the study, which revealed that the use of games was a key catalyst in stimulating learning. Of note is that students firmly placed ‘involvement and fun’ at the core of the learning process, which resulted in deeper learning of economic concepts. This has implications for education in re-evaluating what is meant by the terms ‘involvement’ and ‘fun’ with regard to an enhanced learning experience within the classroom.

The findings highlight the potential for learning that judiciously selected economics games might have for student learning in a re-imagined teaching and learning space.

Keywords: deep conceptual understanding; games; involvement; fun; higher education; real world

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a3

Introduction

A review of International literature has shown that there is growing interest in the use of games as an instructional strategy to improve learning in the classroom, as games are considered to be an effective means for developing knowledge and skills in students. Although much has been documented about the potential of games to facilitate engagement, motivation and student-centered learning, there is 'little consensus on the game features that support learning effectiveness, the process by which games engage learners and the types of learning outcomes that can be achieved through game play' (Guillén-Nieto & Aleson-Carbonell 2012: 435). This suggests the need for more fine-grained analyses of the enabling and inhibiting factors that might influence the teaching and learning encounter when games are adopted as a key resource for teaching and learning, the very focus of the study being reported on in this article.

According to Wideman *et al*. (2007) and further substantiated by Mayer (2014), major gaps exist with respect to research into the gaming process and the way in which its design elements contribute to effective learning. They note that it 'will require new methods and tools for unpacking the complex processes at play in gaming and for investigating the wide range of possible outcomes in the educational process' (Wideman *et al*. 2007: 6). They argue that an ' understanding of game play and its relationship to the cognitive processes it evokes in users is essential' as it is likely to provide valuable insights into the reasons for the success or failure of games for teaching and learning, especially as it relates to game attributes, processes of learning, and its products or manifestations (Wideman *et al*. 2007: 8).

In the quest to foster deeper conceptual understanding and engender passion for the Economics module taught at the Durban University of Technology (DUT), a programme employing an economics gaming intervention was introduced into the 1st year curriculum. The games that were chosen for the intervention related specifically to microeconomics concepts which have historically proven to be challenging for students to comprehend due to their abstract nature. Such topics included market equilibrium, price ceiling and the law of diminishing returns.

A Brief Overview of Games in Teaching and Learning

Games are pedagogical learning tools that create an active learning environ-

ment which enhances student motivation and interest. By being actively involved in the gaming process, according to Najdi and El Sheikh (2012), students retain more information; improve cognitive abilities; deepen the conceptual understanding of topics learned; engage in collaborative learning; and improve the transfer of knowledge to other topics. Van Eck (2006) notes that games create a meaningful context within which students are enabled to apply, practice and demonstrate knowledge in the gaming environment. Therefore, as they are able to 'experiment with various decisions and analyse their consequences' (Dobrescu, Greiner, & Motta 2015: 1), the learning becomes meaningful. Furthermore, Feller (2006) states that games are a means to teach students the 21st century skills that the modern economy is seeking, namely analytical thinking, team building, multitasking and problem-solving**.**

However, according to Hays (2005) and Wouters *et al*. (2013), the usage of games is not a panacea in all situations because they are only effectual if they are related to the subject and have clearly defined learning outcomes. According to Hays (2005), an educational game cannot be a stand-alone instructional method, but it must rather be linked directly with the outcomes of the instructional programme so that students understand what happens in the game and how it relates to the outcomes, through feedback and debriefing. The effectiveness of games is enhanced when used in conjunction with other teaching methods. By games being embedded in the curriculum with content which is precisely defined, students not only exhibited a higher level of interest, but their attitude towards the subject improved (Randel *et al*. 1992; Hays 2005; Vogel *et al*. 2006; Wouters *et al*. 2013).

Games have also been introduced into the educational setting as a means of increasing student motivation and promoting effective learning. International studies have found that the efficacy of using [1]games/experiments across disciplines have consistently promoted learning and reduced the amount of time necessary to grasp the essence of a topic (Van Eck 2006). Constructivism and experiential learning provide the theoretical backdrop for the use of games in an educational setting. In brief, constructivism explains how people construct their own understanding and knowledge of the world through experiencing things and then reflecting upon those experiences

[1] In researching the efficacy of games in the teaching of economics, authors often alternate between the term 'game' and 'experiment'. In this paper, both terms will be utilised, depending on the sources used as reference.

(Micheletto 2011).

Constructivism advocates active learning techniques such as games/experiments to create knowledge and reflect upon what has been learned. The introduction of games into the formal learning environment has the potential to change the current instructivist paradigm which is characterised by passive learning, into one which is interactive and student-centered (Davis 2011).Classroom games/experiments have the potential to change the role of the student in the lecture from a passive recipient of knowledge to an active constructor of knowledge (Bergstrom 2009).

The seminal work of John Dewey (1916) recognized that learning relies on active involvement and that knowledge emerges from situations in which students have to extract ideas from experiences that have meaning and importance to them. Interactive materials such as classroom games/experiments provide rich, engaging learning experiences for students. By actively participating in an experiment or games, students are likely to be better equipped to develop deep conceptual knowledge. However, Micheletto (2011) cautions that participation in the experiment is not enough, as post-game discussion and reflection is likely to create opportunities for high-level thinking skills and meta-cognition, a process of thinking about one's thinking (and learning) processes. The implication is that there is a need to move beyond constructing students as note-takers, towards creating active learning environments which enable students to work in small groups. For example, to analyse, criticise, solve problems and 'actively experiment, test and apply what they have learned in other and more complex situations' (Zapalska *et al*. 2012: 164). This ensures that students remain the most important element in the process of learning.

Many studies have provided evidence that using educational games/experiments have resulted in higher student achievement; better retention of course material; higher student motivation, as well as improved attitudes towards a variety of subjects when compared with traditional 'chalk and talk' pedagogy (Emerson & Taylor 2004; Dickie 2006; Ball *et al*. 2006).

Classroom games/ experiments have, according to Carter and Emerson (2012), become a popular active learning approach for economics and have even been found to benefit weaker students with lower grades overall (Emerson & Taylor 2004). Additionally, research undertaken by Tsigaris (2008) indicated that classroom games/experiments not only increased the performance of students, but resulted in more favourable evaluations of lecturers.

Apart from finding that a game had a positive and significant impact on student performance, Davis (2011) discovered that the students themselves rated games as definitely beneficial to their learning of economics, increasing their interest in and attitude towards economics as a subject. This, in turn, highlights the motivational effect of introducing classroom games/experiments on student learning. Gremmen and Van den Brekel (2013) provided further confirmation on the motivational aspect of gaming by studying student behavior. They noted that students showed increased effort and persistence with respect to their study of economic concepts.

The use of games/experiments has been successfully introduced to teach other subjects. For instance, according to Boyle *et al*. (2014), games, animations and simulations create educational environments within which there is a move from passive (chalk and talk) to active teaching and learning contexts. They argue for learning activities to be 'active, situated, problem-based, interactive and socially mediated' (Boyle *et al*. 2014: 2). Their research uncovered consensus on the positive role played by digital games, animations and simulations on learning in research methods and statistics. Skills include strategies for logical and scientific reasoning to critical thinking and the use of evidence and argument to data analysis, interpretation of results and evaluation skills. In addition, they provide the added benefit of making research methods and statistics more interesting, enjoyable and engaging (Boyle *et al*. 2014).

Li and Tsai (2013) posit that when used in the science context, games were a beneficial tool for testing, applying and visualising scientific knowledge in action. In this way, students were able to gain an authentic experience which they could relate to 'real world' application. Furthermore, games encourage the development of a community of practice where students are in a 'risk-free' environment that encourages collaboration. In other words, students are free to make decisions and draw their own conclusions without the constraints of academic pressure. As a result, they are able to 'harness their curiosity' and enjoy the subject (Li & Tsai 2013: 889).

According to Rastegarpour and Marashi (2012), games have the potential to bridge the gap between theory and practice, as they practically demonstrate the theory in action and provide opportunities for hands-on experimentation. This process of active engagement 'caters for a wider range of intelligences among students from audio to visual to linguistic to kinesthetic to interpersonal and intrapersonal intelligence, while enabling them to recall more' (Rastegarpour & Marashi 2012: 598). They conclude that educational

games had a positive impact on student learning; interaction with their peers, enabling them to benefit from the experience of others; improvement in concentration; the ability to actively experiment through trial and error while testing theories; and the creation of an enjoyable environment in which they were actively involved.

However, while extant literature supports the efficacy of introducing games/experiments into the classroom, there is a paucity of information on 'how and why' students actually learn from games. It must be noted that research into gaming has been dominated by experimental studies that were guided by positivist principles as they apply to educational research. This has been at the expense of qualitative research designs. This article reports on a qualitative study of a gaming intervention undertaken at the Durban University of Technology (DUT) amongst first-year Economics students.

Three games were chosen to address micro-economics topics which were traditionally difficult to understand due to the abstract nature of the theory. Drawing on 15 years of lecturing experience at DUT, the author searched for and adapted non-computerised games which he believed would provide students with a tangible, concrete experience that would contribute to a deeper conceptual understanding of the topics, namely Equilibrium (Trading in a Pit Market[2]); Price Ceiling (Landlords and Renters[3]); and the Law of Diminishing Returns (the Widget Game[4]).

As each of the games had been designed for smaller groups of participants, they had to be adapted for use in larger classes of more than 100 students. This meant that the game had to be played in groups and each phase repeated so that every student had an opportunity to participate. Again, it must be noted that no game comes as a perfect fit and games must be adapted according to the learning outcomes that one requires, taking into consideration the characteristics of one's students.

Time had to be taken into consideration as each lecture period at DUT is only 50 minutes long. Consequently, the game design had to fit within these parameters. As a result, the author had to carefully consider what learning objectives could be achieved within this time-period and adjusted the game

[2] Trading in a Pit Market – C. Holt (1996).
[3] Market Forces and Price Ceilings – J.B. Kruse, O. Ozdemir, M.A. Thompson (2005).
[4] Widget Production – J. Neral (1993).

accordingly. In addition, the game intervention had to take place within the lecture venue, which in itself provided unique challenges.

The methodological protocol, namely Interactive Qualitative Analysis (IQA), is outlined in the section that follows.

Interactive Qualitative Analysis as a Methodological Strategy

Most of the research undertaken into the cognitive (i.e. improved student performance) and motivational benefits of using games have used controlled experiment methodology - a quantitative approach. However, not much has been written about the way in which students learn from games and why (the cognitive and learning processes) – a qualitative approach. IQA was chosen as the means for uncovering 'how and why' students learn from games as it provides a rigorous framework and enables the researcher to map out the causal relationships between the various factors (affinities) of learning during the playing of an educational game. Furthermore, it emphasises the role of the participants and reduces researcher bias.

The IQA protocol, as conceived by Northcutt and McCoy (2004), differs from traditional qualitative analysis as the researcher takes on a less intrusive facilitator role. IQA advocates for participants to be integral to the data generation process, as well as in the analysis and interpretation stages of the research process. As such, the researcher is no longer the sole analyst and data interpreter. Instead, the researcher guides participants through a systematic process. IQA prescribes the documentation of a rigorous audit trail through a process that comprehensively addresses the issues of trustworthiness, dependability and confirmability in qualitative research (Tabane & Human-Vogel 2010).

IQA aims to ensure that participants have a shared understanding of the phenomena by collectively developing and looking at the relationships between the themes (affinities) as defined and refined by the students. The outcome of this process is the development of a System Influence Diagram (SID), which is a graphic illustration of the phenomena and the inter-relationships between the various themes (affinities). A randomly selected group of fourteen students were chosen from the class that participated in the economics gaming intervention to join the focus group discussions, which were then followed by individual semi-structured interviews. In the first step

of the IQA process, the students in the focus group discussions developed and refined the affinities. Thereafter, they determined the causal relationships between these affinities, which were then recorded in the Affinity Relationship Table (ART). These affinities and their causal relationships were further enriched through individual semi-structured interviews with each of the focus group participants.

The ART formed the basis for the development of the Inter-Relationship Diagram (IRD). Here, through applying IQA protocols, the author decided upon the relationships to be included in the SID and identified the role played by each affinity: whether it was a driver or an outcome. According to IQA, a driver is an affinity that affects other affinities. A primary driver has a direct effect on other affinities, but is not affected by any of the affinities in return; a secondary driver has a relative causal relationship with other affinities whereas outcomes are the effects of a causal relationship. The secondary outcomes are affected by the secondary drivers and, as a result, influence or affect the primary outcome. The latter is purely a result of the interactions (ie causal relationships).

Two systems influence diagrams were constructed, depicting the relationships between the drivers and the outcomes (within the diagram below, colours have been designated to each outcome and driver for ease of identification). The first systems influence diagram to be constructed was a Cluttered SID, which showed all the possible relationships between the affinities. Because it was saturated, this picture was too rich in data and difficult to interpret. Therefore, a process of rationalization was utilised (according to IQA protocols) which culminated in the uncluttered SID (Figure 1), as shown below.

Key Findings

'Use More Games' (7) emerged as the Primary Driver of how students learned from the Economics gaming intervention. Students indicated that the use of games was the catalyst for creating a dynamic, vibrant learning environment which was conducive to deepening and internalising their conceptual knowledge. Two crucial components emerged as secondary drivers, namely students' 'Involvement/ Experience' (5) and 'Fun/ Enjoyment/ Excitement' (6).

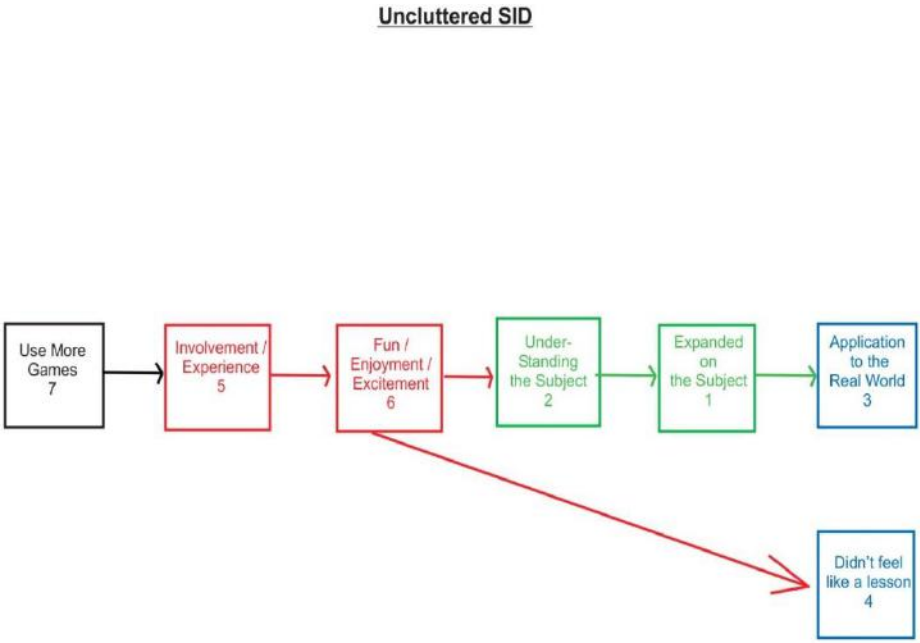

Figure 1: Key
Black: Primary Driver – Use More Games (7);
Red: Secondary Driver(s) – Involvement/ Experience (5); Fun/ Enjoyment/ Excitement (6)
Green: Secondary Outcome(s) – Understanding the Subject (2); Expanded on the Subject (1)
Blue: Primary Outcome(s) – Didn't Feel Like a Lesson (4); Application to the Real World (3)

Figure1: Uncluttered SID

This 'Involvement/ Experience' (5) was directly responsible for introducing the element of 'Fun/ Enjoyment/ Excitement' (6) into the economics classroom. The vibrancy and interactivity resulted in students becoming more engaged in the lesson; more interested in Economics topics;

and ultimately, able to remember more of what they had learned. This, in turn, led to greater understanding of the subject (2), a secondary outcome. The internalisation and assimilation of knowledge gave students the confidence to interpret and explain the economic concepts in their own words, as the concepts now had meaning and purpose. By expanding on the subject (1), a secondary outcome, the students were placed into a context where they could see the theory in action. This brought meaning and substance to otherwise abstract concepts.

A primary outcome of the gaming intervention was that students were now able to relate these economic concepts to the Real World (3) (i.e. they had taken the theory from the abstract to concrete reality and were now able to see real life application of economic concepts). In addition to the above-mentioned primary outcome, 'Fun/ Enjoyment/ Excitement' (6) in the classroom was directly linked to a separate primary outcome, namely, 'Didn't Feel Like a Lesson' (4). Here, the emphasis was on the disruption of the traditional lecture format, a deliberative pedagogical move via the gaming intervention. This brought about a learning environment in which students felt unencumbered by traditional classroom constraints, able to interact with each other, personalise their learning and naturally retain what they had learned. Although, there were two separate primary outcomes, they possessed a common thread, namely, that in both cases the students' conceptual knowledge was deepened.

In this new learning space introduced by the game, students were empowered to visually and tangibly engage with the economic theory in a meaningful manner. This enabled them to see how the economic theory could be de-constructed and re-constructed into a coherent argument. By being able to understand (2) and expand (1) on the subject, students were able to clarify economic concepts and transfer their knowledge beyond the classroom.

> I understood the topic covered by the game very well because the revealed components made it easier for me to understand the topic – like having one fixed tool makes production increase at first, but when there's additional workers, it starts to decrease.

> Well, while the subjects get expanded, we gain more experience. Like you know some kind of thing you didn't know before and while subjects continue expanding, you gain more knowledge and more experience and you do it outside the class.

> The whole market is understood, [what] the whole market is doing and so these are the means of suppliers and these are the means of buyers. So, only when I understood the subject could I really match it that, okay, that I can call this term in a real world, demand, and I can call this one supply.

Expanding on the Secondary Drivers – Unusual Suspects in Deep Learning

The authors discovered that the holistic learning experience was driven by one primary and two secondary drivers: the primary driver – 'Use More Games'(7), created an environment which acted as a catalyst for a deeper conceptual understanding of the economic concepts; as well as two secondary drivers – 'Involvement/ Experience' (5) and 'Fun/ Enjoyment/ Excitement' (6).

'Use More Games' (7) was the primary driver of the learning process, which was dependent on a number of complementary facets to provide the necessary support. The first of which was 'Involvement/ Experience' (5).

First Suspect: Involvement

From the semi-structured interviews, it emerged that a key aspect of the learning process was student involvement in the lesson. Students were unanimous in their agreement that without involvement there would be no learning. This aspect added a different dimension as it triggered a self-reflection of the pedagogic process, resulting in a re-conceptualisation of the level and type of involvement which should occur in the economics classroom. Researchers such as Astin (1999) and Lee *et al*. (2010) have shown that there is exponential growth in learning when there is a high level of student involvement.

Involvement, however, extends beyond mere active participation and interaction as it encompasses the elements of autonomy, competence and relatedness in order to create self-determined students who are intrinsically motivated to learn. Ryan and Deci (2000), the authors of the self-determination theory, put forward the idea that intrinsically motivated learners are committed to the learning process, remain involved and continue to delve deeper into the subject. Games engender student involvement by creating an environment

within which there is a high degree of autonomy where individual, self-determined choices have to be made in order to reach the pre-determined learning outcomes. This has led to comments such as *'you are really there'*, *'actually doing'*, *'being hands on*' and feeling like *'an adult'*. In other words, students are in control of the learning experience, with little external control being exerted on the learning process by the lecturer.

> By allowing us, students, to interact with each other as consumers and producers, we got a chance to feel and experience price bargaining, making profits and losses.

> Yes, I was involved. It felt like something real. It didn't feel like Sir was teaching us what to do. It felt like it was happening for real, like in real life.

For autonomy to be achieved, there has to be a decrease in external control: in this case the transformation of the traditional lecturing environment from 'filling the brain' with the lecturer in control, to that of a game space where students become the co-creators of knowledge, with the lecturer as a game host guiding the process and the students being free to make their own choices.

The second part of self-determination theory takes into consideration the element of competence. This is where the student feels 'efficacious about performing learning activities' (Kerssen-Griep, Hess & Trees 2003: 359). However, this must be simultaneously linked to autonomy to facilitate intrinsically motivated learners who need to attain a feeling of satisfaction that the learning challenges are accomplished. In terms of this research, many students could recall their progress through the game as they moved towards linking the game outcomes with the economic concepts.

For example, in the Pit Market Game, the student experiences the frustration of trying to negotiate with others as a buyer or seller to make a trade versus the joy of making the trade and then reflecting and trying to make a better trade in the next round. In the Price Ceiling game, students experience the rush of renters to take advantage of the maximum legislated price and the resultant lack of supply of rental accommodation because at that price many of the landlords could not rent out their properties and break even.

Being intrinsically motivated, the students became emotionally invested in the outcomes of the games. This resulted in a situation of intense immersed involvement which led to the triggering of 'aha' moments for students as they worked their way through the games.

> One of them was where we used a stapler which was one object and the more workers we had, the more it became unbearable to use one stapler. So, then you realise you're not going to make that many products with just one of the same objects. So, for me that was like okay, 'now I understand it better'.

> … while I was writing my test, I remembered what happened there. I remembered equilibrium and everything. Price floors was there. I remembered how renters wanted lower prices. Landlords wanted much higher prices to maximise their profits. I remembered everything, I was there. Yes, it helped me so much. I didn't even have to (like) read because I remembered the games.

The games offered a level of challenge that the students felt they could achieve, as well as a level of curiosity to entice their participation. This fits in with Csikszentmihalyi's (1990) theory of flow where 'flow is being completely involved in an activity for its own sake' (Bizzocchi & Paras 2005: 2). In other words, games offer a state of optimal engagement that results in a student's whole-hearted commitment to the gaming process. 'Flow explains a phenomenon that many people find themselves experiencing when they reach a state where there becomes a perfect balance between challenge and frustration, and where the end goal becomes so clear that hindrances fall out of view' (Bizzocchi & Paras 2005: 2). This optimal engagement results in a feeling of competence garnered during the playing of the game.

> The landlord and the renters, Yes! So, in fact, it was being taught using this light [in this way] … it explained a lot. I didn't understand a thing [before], but then while we were playing that game and using the landlord and the renters - using it as a game, I completely understood it. Completely understood it.

> ... can I say, the more you have experience, it can even [make you] able

> to create a game for that thing you're doing 'cause you have the experience. You have been involved and you have seen some things happen, so you [now] know more and you are able to create more games or useful games.
>
> And then, I just couldn't wait for the next one and actually, I just realised that after the first game, that's when I actually started reading my notes.

Therefore, when a learning context is able to generate a sense of autonomy and competence in students, it results in a deeper involvement in the learning task which in turn leads to deeper conceptual understanding.

According to Ryan and Deci (2000), the third step towards facilitating an intrinsically motivated student is the concept of relatedness, which involves 'the development of secure and satisfying connections with others' (Kerssen-Griep, Hess and Trees 2003: 359). Introducing a gaming intervention into the classroom catalyses the inter-relationships between students, allowing for them to interact with one another, sometimes for the first time as the formality of the traditional classroom is not conducive to social interaction. This relatedness, according to Ryan and Deci (2000), is an essential component of their self-determination theory as feeling connected with others has a direct relationship to competence. Not only is a relationship developed, but a community of practice is also developed where the students collaborate and are inducted into an economic way of thinking.

> As much as you're learning through the games, you don't feel like it's a lesson. It's much more enjoyable because you're interacting with other people. In the class, normally we don't even interact because we're such a big group.
>
> Then, I got that experience of how it is to be involved with other persons, discussing and teasing each other [while you are playing the game] … [saying] you are so weak in the point, you are weak there so, ja and then it is, hence it was a game.
>
> We usually argue when someone is coming [up] with the wrong answer, then the other one is suggesting [something] else, so it was cool.

Once autonomy, competence and relatedness is reached, self-determined students are able to accomplish the learning outcomes which were pre-determined by the lecturer when choosing the game because they are now highly motivated. These students have become goal-orientated, focused and persistent in pursuit of the answers to the posed challenges of the game. This motivation makes their involvement organic and spontaneous.

Second Suspect: Fun

The two secondary drivers, 'Involvement/ Experience' (5) and 'Fun/Enjoyment/ Excitement' (6), work hand-in-hand in the active classroom. The more intense the level of involvement, the greater the fun aspect of the learning encounter. According to students, 'Fun/ Enjoyment/ Excitement' (6) were pivotal elements in facilitating deeper conceptual understanding and transforming the normally 'dry' economic theory into meaningful, tangible applications which they could relate to in everyday life.

> Okay, this one's easy. If you're having fun and enjoying something and you're excited, you're gonna wanna learn more and know more about the subjects, so ja.

However, the words 'fun', 'enjoyment' and 'excitement' are not usually synonymous with the traditional academic learning process. In fact, positive emotions are not taken into consideration as they are regarded as momentary and transient and therefore of no use. According to Abe (2011), most research has focused on negative emotions and the role they play in coping with situations which cause anxiety or fear.

By introducing the element of 'fun' into the classroom, a new appreciation of the relevance of economic theory was fostered as students were exposed to new ways of learning through the playing of games. According to Fredrickson's (1998) 'broaden-and-build' theory, positive emotions play a prominent role with respect to problem-solving, paying attention and reflection. However, positive emotions are more than mere feelings and, in fact, cultivate an environment where students become fully immersed in the learning experience. Students noted that boredom diminished as they migrated from a passive learning environment into one which was vibrant, active and filled with fun and exciting possibilities.

> INTERVIEWER: Did you ever think you would have fun in the classroom?
>
> INTERVIEWEE: No I, didn't really. You know the first game, I thought it was going to be so boring, I almost went out. So, I sat down. Really, I am being honest. And then I sat down and I got involved in the games. I actually went to the front when Sir wanted to invite people to volunteer. So, I went to the front and it was so much fun. It was and the experience was like it was...I felt like it was happening for real. You know...Yes it did.

Students unanimously agreed that the games made understanding economic concepts easier. By being involved, the elements of fun and excitement were positive unintended outcomes. This gave students the freedom, confidence and ability to explore the learning material at a deeper level and even create their own examples for further clarity. Fun, as a driver, pushes the boundaries of exploration and learning, leading to the student being able to make the connection between the learning material of the game and the real world.

> When something is so much fun, you have to do it again. You have to apply it to the real world. It was fun, I promise you, it was.
>
> Wow! I had so much fun in understanding this subject. You know in understanding it makes you do so much more. [You can] Even make examples because of what you understand.

The move from a passive learning environment to one which is vibrant and active changes the way in which students are masters of their own learning, with goals to attain as well as appraisal of their own accomplishments. In other words, they are in control and place value on the learning experience. This, according to the control value theory proposed by Pekrun *et al*. (2011), intrinsically and extrinsically motivates the students. Dettmers *et al*. (2011) further proposed that autonomy-supported learning environments in which students enjoyed their lessons created a situation in which they were motivated to excel.

Emotions in the learning process are not usually taken into account when preparing courses. However, positive emotions may be one of the untapped resources that exist within the educational sphere, which lecturers can exploit to create skilled students who are able to enter the 21st Century workplace capable of creative and flexible thinking, with an openness to new relationships and experiences.

Reflections on IQA

Although IQA provides a means of identifying and mapping out causal relationships between the affinities that yield unique insight into 'how and why' students learn from games, there are drawbacks to the process. The foremost hurdle to overcome is the amount of time needed to conduct the first phase of IQA, namely the focus groups within which the affinities and their causal relationships are developed. As each focus group takes 2,5 – 3 hours to complete, this makes it quite difficult to fit into the daily routine. Students' timetables have to be compared so that a mutually agreeable venue and time can be arranged, in order to put the students at ease and not rush the process.

Another drawback is the linear nature of the causal relationships as depicted in Figure 1. This over-simplifies the relationships and as a result, is an under-play of the complexity of the interactions due to the uncluttering of the SID. Although this is a good reference point highlighting the factors (affinities) which have roles to play within the causal relationships, it is not a true reflection of the possible interplay between the affinities and the effects they have on each other. This emerged from the in-depth semi-structured interviews of each of the research participants where they could elaborate and reflect on the affinities and their interplay.

Discussion and Conclusion

The current landscape of South African higher education continues to be dominated by the traditional 'chalk and talk' lecture method – a situation where the student is a passive note-taker and not a co-creator of knowledge. However, the 21st Century needs graduates who have the ability to problem-solve, possess critical thinking skills and are able to collaborate with others. This means that the higher education environment has to change from cognitive

loading to 'cognitive apprenticeship' (Collins *et al*. 1991) – a move away from the traditionally passive form of education to an active learning environment. Involvement and fun in the classroom have proven to be powerful elixirs in the remedy of providing learning that is real, tangible and meaningful.

By embedding games into the curriculum, one can engender change as they create autonomy-supported learning environments that bring together the emotional and cognitive aspects of learning (total involvement) while simultaneously binding students together in a community of practice and, as stated by Rastegarpour and Marashi (2012: 600), 'could move our system of education beyond the traditional disciplines, and towards a new model of meaningful learning' – cognitive apprenticeship.

This process of embedding games into the curriculum comes at an opportunity cost to the lecturer in the form of time allocated for finding the games; their adaptation to meet the needs of the students, learning outcomes which are to be achieved within the game, selecting the level of difficulty (not too easy… not too hard) and fitting the game into the logistical constraints of the facility at one's disposal; planning the deployment of the games; as well as, monitoring that the games meet the pre-determined learning outcomes.

By placing students in an authentic learning environment, where they are co-creators of knowledge, they then get to apply their learning under the watchful eye of the lecturer – a situation similar to that of the traditional apprenticeship undertaken by artisans. This means that their learning environment evolves from a de-contextualised and abstract setting into one where knowledge is tangible, meaningful and applicable.

The effect of this transition results in the creation of an intrinsically motivated, self-directed student who has enjoyed being in the classroom, who is driven to know more and who is able to transfer skills and knowledge beyond the classroom. This is a student who is able to solve problems, critically reflect and apply the learned knowledge to real world situations. In addition, one sees the creation of a community of practice within the classroom where students have the opportunity to develop relationships with their peers and now have common ground to engage in conversations about the subject(s), thereby encouraging collaborative and peer-learning.

This shift in focus from outcomes-based learning (objects and facts) to the creation of learning spaces that facilitate deeper conceptual understanding (activity) is a necessary outcome. But, one fears it will meet with great inertia, as students and lecturers have become comfortable with the lecture format and

assessment: the lecturers are safe behind their PowerPoint presentations and the students are safe with their rote knowledge. The danger is that if the status quo remains, universities will produce graduates who are outdated, without the requisite skills to be employed in the knowledge economy.

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Towards a Realistic Description of Competence for New Radiology Graduates in South Africa

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Abstract

In this article, we trouble the notion of competence in current use to describe new radiological graduates. Against the backdrop of inequalities, a diverse set of experiences and scarce human and clinical resources alongside a lack of criterion-referenced descriptions, we argue that 'competence' is open to various interpretations and may unrealistically, include skills that an incumbent may not have acquired but is assumed to have. In this position piece, we suggest that a model to clarify radiological competence is possible by rearticulating Dreyfus and Dreyfus' model of skills development. We posit that a re-articulated model could be useful to distinguish the nature of expert from novice radiological competence, using perceptual skill as an example. We conclude with an invitation to engage in a conversation with a wider audience to arrive at a consensual framework for a realistic description of competence for new radiologists.

Keywords: Dreyfus and Dreyfus Model; novice and expert radiologist; radiological competence; tacit knowledge

Introduction

This position piece reviews the notion of competence, identifies the complications and contextual complexities faced by novice radiologists and, based on an analysis thereof, offers a re-articulation of an existing model to

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a4

lead a discussion towards a realistic description of radiological competence for new graduates. The article's intention is to trigger deep discussion about the need to formulate and describe the competencies (explicit and tacit) that specialist radiologists should acquire, as they evolve professionally from novice (beginner specialist) to expert (experienced specialist) levels of proficiency.

Current debates around professional competence for medical practitioners can be traced to a seminal paper written more than a decade ago by Epstein and Hundert (2002). They defined medical competence as 'the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflections in daily practice for the benefit of the individuals and the community being served'. Epstein and Hundert's broad description suggested that competence is closely aligned to wisdom and application – qualities that are undoubtedly, essential for all medical professions (Epstein & Pacini 1999). In the specialist fields, temporal specifications and content knowledge are foregrounded in a qualification, rather than wisdom and utility.

Whilst content knowledge is specified in sufficient detail, indicators of the aspects of competence, e.g. perception, have not been adequately unpacked to reduce the ambiguity of meaning, interpretation or practice. This lack of clarity arises because skill competence differs from one specialist to another in terms of acquired professional learning, role functions and performance. Furthermore, although Epstein and Hundert's notion of competence suggests what it is, the specifics of some aspects of radiological competence are implied, and therefore, remain tacit. In disciplines that are grounded in the interpretation of visual images, practitioners encounter additional challenges in that the level of professional expertise is tempered by the degree to which the embodiment of tacit knowledge (such as human visualisation) is exercised (Nodine, Kundel *et al*. 1999). However, it is common knowledge that a tacit skill like visualisation is inherently fallible (Tuddenham 1962; Renfrew, Franken *et al*. 1992) and consequently, unreliable for diagnostic purposes by novitiates. Nevertheless, it is true that, in practice, the application of tacit skills separates a novice from an expert. From Eraut's (2000) perspective, tacit knowledge epitomises professional performance. Eraut (2000) identified three types of tacit knowledge, namely, people and situations, routinised actions and intuitive decision-making, which together constitute professional performance. In the case of radiologists whose work is image analysis, routine actions and intuitive

decision-making are crucial. We argue that, if tacit knowledge is made explicit (to the extent that it can be), the fallibility of intuitive decision-making could be reduced.

The medico-legal perspective currently provides an alternative route to interpret the notion of competence by understanding what it is not: an 'unreasonable lack of skill' (Berlin 2007) or, as 'nonconformity to the general opinion of experts in the field' (Robinson 1997), highlighting the fluid nature of the definition of medical competency.

In view of the number of complex factors that can obfuscate a realistic perception of a specialist in radiology by lay, academic and professional persons, we contend that, efforts should be made to question, deliberate and to solve the issues related to clarifying the notion of professional competence for mentors and supervisors of new radiologists. Irrespective of their area of practice, the establishment of parameters for and descriptions of novice and expert practitioners, and identification of the relevant knowledge and skills that should be acquired, is crucial. Hence, the questions we pose in this article are twofold. Can appropriate descriptions of discipline specific competence serve to capture the reality of actual and competent radiological practices? Can we suggest a framework that describes and prescribes the relevant competencies expected of qualified radiologists?

We begin by tracing the qualification pathway and contextual background.

The Regulation and Certification of Radiological Professionals in South Africa

At present, the education, certification, professional development, and specialisation processes of the medical profession are split amongst three different organs under the auspices of the Health Professionals Council of South Africa (HPCSA). The HPCSA determines initial and continued registration for specialists (i.e. permission to practice as a professional). In addition, it monitors medical academia through regular accreditation visits and assessments. The HPCSA relies on universities to provide structured teaching for health care professionals and on the Department of Health to offer opportunities for service-based learning in provincial health facilities while the Colleges of Medicine of South Africa benchmark and assess for competence.

The quality of the curriculum and the production of radiologists is a shared responsibility of individual national universities and their associated Departments of Health. These responsibilities include overseeing a curriculum with clearly prescribed outcomes, explicitly-stated programme expectations, the use of appropriate learning tools and relevant learning methods in suitable working environments. However, at times, the learning outcomes of national programmes may not be aligned to a distinctive local clinical context. In South Africa, for instance, the quest for restitutive justice has led to a national curriculum that provides access to those excluded by the racial policies of the past (Benatar 2013), resulting in the maginalisation of local disease prevalence and demographic profiles. A critical complication of this arrangement is that while each programme may be internally coherent within a university and ethically practiced locally, the multiplicity of locally relevant programmes may be too diverse for a coherent curriculum from a macro standpoint.

Furthermore, it is important to remember that medical teachers are more likely to be qualified medical specialists without being qualified educationalists and, as such, teaching strategies and assessment standards are probably intuitive or experientially directed rather than pedagogically informed. An understanding of adult education, the challenges of university massification and the ability to address student diversity are often beyond the grasp of medical teachers without a teaching credential, especially as learning to teach may not feature on the list of priorities of overburdened medical specialists in higher education and public service institutions.

Furthermore, despite the integrated approaches to oversee and regulate the quality of the programmes, the South African specialist qualification is not recognised in some international arenas. For example, South African medical graduates who seek employment in Australia, Canada and the United States cannot do so without an assessment of competency through enforced probation and professional practice with subsequent assessments and re-examination before full registration is granted. An unexpected boon for the country is that conditional recognition by the aforementioned countries could staunch the ‘brain drain’ of trained South African doctors and specialists. While we may celebrate the retention of medical professionals, there is cause for concern if it means that there may be professionals in the country who cannot provide appropriate quality care for South African citizens (see e.g. Health 24 2016; PPS 2014). This suggests

that it might be worthwhile to examine aspects of quality when considering the pathway from novice to expert. Good quality may be possible by establishing parameters and descriptions of competence for beginner and experienced radiologists and for identifying the relevant knowledge and skills that should be acquired, commensurate with their stage of professional development.

The focus on competence should not be read as an agenda that counters the efforts made by South African health service providers to address challenges and needs. Indeed, competence is critical to improve healthcare provisioning and, simultaneously, to ensure the effectiveness of the curriculum for specialist radiologists in both the local and international arenas. We begin with an elucidation of the context in which radiologists are expected to hone their radiology skills.

The Radiology Learning Environment in South Africa

The learning site for a radiologist is predominately the state hospital. During the process of specialisation, the radiology trainee (a qualified medical doctor) is exposed to postgraduate teaching programmes and practical apprenticeship-like training in the state health sector over a minimum of four years. Working in state hospitals offers numerous opportunities to hone practical skills and to acquire advanced specialist knowledge and problem solving techniques in two ways: working alongside many experienced specialists and exposure to a large number and variety of cases. One would surmise that while the hospital experience can be intense, it also has the potential to be an ideal space for on-the-job learning opportunities. In reality, for many South African radiology specialists-to-be, a state hospital is often not experienced as an ideal learning environment (Health 24 2016; PPS 2014). Teaching hospitals, especially for radiological trainees, are currently unequally resourced, lack cutting-edge equipment and facilities, and are financially constrained and lack skilled human resources both for service provisioning and teaching (Mail & Guardian 2009).

The overstrained health care system (Govender 2016) means that new graduates and radiologist trainees may have to function independently at a premature stage of professional development and without the benefit of post-qualification vocational training. They are, therefore, less likely to correct poor diagnostic habits and may establish and reinforce diagnostic misinterpretations

during the crucial acquisition of useful experience. Furthermore, trainees are often exposed to patients who present at more complex levels of a disease, obliging a trainee or new graduate to provide clinical services that are beyond their level of expertise and experience. Whilst experience is gained through time-on-task for a prolonged period, expertise is an expression of both explicit and tacit proficiencies. A clear idea of the criteria that characterise expertise would enable it to be pursued and obtained by professionals.

To exemplify the issue at hand, we discuss the skills of visualisation and pattern recognition for diagnostic purposes.

Visualisation, Pattern Recognition and Analysis for Diagnostic Competence

Diagnostic competence for a specialist radiologist includes core abilities to visualise and to recognise patterns. In practice, a new radiologist is expected to identify, triage and interpret imaging signs for clinical usefulness and to convey that interpretation in an accessible form to the referring clinician.

The skills that exemplify radiological performance, an adaptation by Morita of the Blesser model (1972), are a combination of integrated (cited in Morita, Miwa *et al*. 2008) and interdependent steps: visualisation (sensory awareness) and autonomous pattern recognition using long-term visual memories, and analytical skills (Blesser & Ozonoff 1972). The model provides a broad, fundamental overview of practice in visually-based disciplines.

New radiologists, therefore, have to demonstrate practical and clinical diagnostic competencies which arise from two sources; first, a complex process of integrating growing formal knowledge with increasing embodiment of tacit knowledge (Heiberg Engel 2008) and second, by gathering useful experience through experiential learning (Anderson 1982). The ability to create, process and manipulate mental images (i.e. visualisation) is one such tacit skill. Tacit skill is a form of non-analytic reasoning and is an invisible but vital component of professional expertise at all levels of development (Norman, Young *et al.* 2007) that contributes effectively to overall competence (Talbot 2004). Since there is a continuum of increasing complexity aligned to professional development from novice to expert, tacit knowledge needs to be made explicit. Eraut (2000) reminds us that tacit knowledge is unstable, dynamic and contextually situated and, more

importantly, distinctive and individual. Deploying an iceberg metaphor, Eraut explains that professional knowledge that is learnt is that part of the iceberg, which is visible. Tacit knowledge which is invisible acts as a barrier to personal mastery and competence unless it is made obvious.

We therefore, conclude that the attainment of radiological competence depends on lucid guidelines and descriptions of tacit knowing to develop expertise. By clearly stating descriptors of skill competence for perceptual skill, we may isolate indicators of its maturation during training, and ensure that such changes are effected and that ultimately, the curriculum is rendered more efficient. However, despite growing evidence that novice and experts image readers gather, process and retrieve stored mental images differently (Brazeau-Lamontagne, Charlin *et al*. 2004), two assumptions have persisted since 1962. The first is that the mental image is faithful to the external image and the second, that every person gathers visual data in exactly the same manner regardless of the level of expertise (Tuddenham 1962). Based on these assumptions, teaching practices that view the cultivation of analytic skill as incidental learning endorse the traditional preference for nurturing analytical reasoning. Furthermore, excessive promotion of the embodiment of perceptive skill effectively fails to consider the substantive role of perceptual skill in the diagnostic process (Norman, Coblentz *et al*. 1992; Morita, Miwa *et al*. 2008). In order to address this issue, we focus on the characteristics of radiological perceptual skill at extreme ends of the continuum of professional development, that is, the novice and the expert image reader (see fig. 2) as an exemplar of how it may be possible to clarify skill competence. This focus on the extremities is in line with the agenda to begin a conversation about radiological competence.

Towards a Clarification of Radiological Competence

As noted earlier, a concept like 'competence' is open to numerous interpretations which are often subjective and context dependent, leading to divergent and, perhaps, contradictory outcomes. One way to obviate this fuzziness is to restrict the multiplicity of interpretations through the use of criterion referenced descriptions for each identified skill. Dreyfus and Dreyfus' (1980) model of skill development provides a useful idea of how clarification may be accomplished. The Dreyfus model is a five-stage typology used to identify the characteristics of skills attained at each level of

professional development (see figure 1). A more detailed description of each category is discussed extensively in the literature (see e.g. Carraccio, Benson, Nixon & Derstine 2008; Dreyfus 2004; Dreyfus & Dreyfus 1980).

While, at first glance, the model appears to be an insightful approach to tracking expertise and competence, Atherton (2013) draws attention some limitations. In particular, Atherton (2013), argues that the Dreyfus and Dreyfus model is one-dimensional as it makes explicit those skills, knowledge and practices that are measureable and underplays immeasurable aspects of practice such as interpersonal skills, professional development, lifelong learning and by extension, human skills such as visual perception.

1 Novice	○ Sees what is most important in a situation ○ Rigid adherence to taught rules or plans ○ Little situational perception ○ No discretionary judgment
2 Advanced Beginner	○ Guidelines for action based on attributes or aspects ○ Situational perception still limited ○ All attributes and aspects are treated separately and given equal importance
3 Competent	○ Coping with 'crowdedness' ○ Now sees actions at least partly in terms of longer-term goals ○ Conscious deliberate planning ○ Standardised and routinised procedures
4 Proficient	○ Sees situations holistically rather than in terms of aspects ○ Perceives deviations from the normal pattern ○ Decision-making less laboured ○ Uses maxims for guidance, whose meaning varies according to the situation
5 Expert	○ No longer relies on rules, guidelines or maxims ○ Intuitive grasp of situations based on deep tacit understanding ○ Analytic approaches used only in novel situations or when problems occur ○ Vision of what is possible

Figure 1. University of Michigan adaptation of the Dreyfus and Dreyfus model (Source: Dreyfus & Dreyfus 1980)

Writing from the perspective of clinical skill acquisition, Peña (2010) is far more critical of the Dreyfus and Dreyfus approach and disapproves of its phenomenological roots. In similar vein, Selinger and Crease (2002) lay bare its limitations. Despite its philosophical weaknesses, this framework is widely applied in medical education (see e.g. Batalden, Leach, Swing, Dreyfus & Dreyfus 2002; Carraccio, Benson, Nixon & Derstine 2008; Benner 2001; Selinger & Crease 2002). We reason that an approach that relies on personal experiences is apposite for understanding and application in local contexts that are disproportionately resourced, unpredictable, and diverse.

Despite claims that the Dreyfus and Dreyfus model reflects skills acquisition (Dreyfus 2004; Dreyfus & Dreyfus 1980) we argue that it while it interprets the characteristics of competence, it cannot explain the acquisition thereof (Peña 2010). It is, nonetheless, useful to describe the skills and to rank them along a continuum of competency from novice to expert for two reasons: it can clarify differences and can make explicit those skills that can be elusive because of their tacit nature.

Despite its limitations, the Dreyfus and Dreyfus model offers three uses: a continuum of development expertise stages that range from novice to expert; identification of the commensurate skills associated with each stage of development; and a common language of description which exemplifies each developmental stage. Applied as a template, a reworked Dreyfus and Dreyfus model for radiological competence could make explicit the differences between the perceptive practices of radiology experts and novices as delineated in figure 2.

	VISUALISATION	**PATTERN RECOGNITION**

Novice	**Less useful hypothesis generated/ inferior quality of mental image**
	• Visual working memory predominately data gathering rather than internal information processing
	  ○ Overburdened and irrelevant data gathering
	• Untrained information preprocessing
		Analysis predominates over pattern recognition
		• Smaller and disorganised long term visual memory - pattern recognition less likely
		  ○ Relies more on analysis of image features and individual signs
		• Decontextualised general depictive mental images

	• Limited confidence
	  ○ Less experience with natural bias and psychological perceptual traps
	  ○ Adaptation of mental images rather than assimilation of new information
	• Mental images are generalised; systematic but atomistic gathering of visual information
		○ Cannot easily narrow differential diagnoses
		• Has yet to nurture useful practice habits
		  ○ More false positive/ false negative diagnoses

Expert	**Superior quality of mental image, more useful and organised hypothesis generation**
	
	• Visual working memory predominately internal information processing rather than data gathering
	• Perceptual learning - superior information gathering and preprocessing abilities
	• Greater confidence
	  ○ More experience with natural bias, psychological perceptual traps
	  ○ Assimilation of new information into existing mental images rather than adaptation of mental images
	• Holistic image data gathering
		Pattern recognition predominates over analysis
		
		• More intuitive
		• Holistic image retrieval from expansive organised long term memory (useful, specific)
		• Contextualised focused details, descriptive mental images
		• Can make specific diagnoses more easily
		• Displays discernible professional habits

Figure 2 Proposed table for clarifying radiological competency for perception skill

For this article, we focus only on the first two processes that together exempli-

fy visual perception to extol the potential of a model for radiological competence. It should be noted that this table is work in progress and requires refinement by many minds. We do this in the context of the Blesser model of the radiological process that identifies three meta-skills: visualisation and visual information processing, pattern recognition and visual data analysis skills (Blesser & Ozonoff 1972). Figure 2, therefore, seeks to synthesise the differences between the perception meta-skills of novice and expert image readers, where the act of 'visualisation' refers to a visuospatial coherence of the mental image (the 'what' and the 'where'), while pattern recognition is the ability to match new mental images with consolidated and organised long-term memories (Gunderman, Williamson *et al*. 2001). In other words, visualisation engages the sensory system and internal image processing such that spatial processing and pattern recognition become non-analytical and subjective comparisons of exemplars with new mental images (Hofman & Hicks 2010). Pattern recognition, it must be remembered, has been shown to be the easier and preferred method of human behavior (Leape 1994) and, in addition to visualisation, extends beyond appreciation of the individual physical attributes of sensory information (Sabih, Sabih *et al*. 2011) without necessarily engaging higher cognitive functioning at that particular time (Evans & Stanovich 2013).

In radiology, the novice practice of assigning equal importance to all image parts in a systematic and bottom-up manner when gathering information (Kundel, Nodine *et al*. 2007) is not useful as it could detract novices from establishing diagnoses by drowning vital information in a sea of irrelevant details. By contrast, the expert internalises images in a more successful and intuitively holistic manner through a search pattern (Kundel, Nodine *et al*. 2007) that is shaped by a visual concept (Kundel & Nodine 1983; Manning, Ethell *et al*. 2014). Considering the appropriate weighting to the clinical scenario, the expert collects and stores information in a holistic rather than in a piecemeal way (Kundel & Nodine 1983). Indeed, as expertise develops, the mental representation inspected for pattern recognition and its final interpretation becomes more situationally relevant and coherent to the requirements of a task rather than being faithful to the external image (Tuddenham 1962). The skilled radiologist does this by refining how he or she focuses attention such that expert visualisation of patterns allows access to exemplars of visual memories by modifying new or stored mental images.

Pattern recognition is critical to the diagnostic process and, arguably, even a dedicated systematic scanning of images cannot compensate for its inadequacy (Oestmann, Greene *et al*. 1988). These exemplars are easily accessed through simple recall but it is the quality of the exemplar rather than the mere act of recall that epitomises expert pattern recognition. However, the internalisation of quality mental images requires internal manipulation of such images through modification of raw sensory information. The modified mental image plays a crucial role in the efficient analysis of visual data when there is failure to recognise a pattern in problematic or novel situations. Quality mental images allow the visual working memory to be redirected to further internal image manipulation if required, especially when the new mental images differ visuospatially from stored exemplars. Memory redirection is particularly relevant to the radiological process as images are virtually irreproducible even for the same person and more so for those dynamic tasks that require subconscious and instantaneous interpretation.

In visually oriented disciplines such as radiology, the sensory system (in this case, the peripheral eye brain system) evolves anatomically and functionally and becomes more proficient to the task at hand (Goldstone 1998). The bi-directional advancement of perceptive skill and discipline specific knowledge means that the subsequent mental images are distorted via sensory pre-processing[1] rather than solely through growing discipline specific knowledge or the influence of cognitive skill (Hertzog & Fahle 1997). There may be differences in the quality of the mental image in terms of visuospatial coherence between experts and novice radiology readers, lending doubt to the presumption that all readers perceive external visual information in exactly the same way.

Externally, this manifests as a radiology reader's ability to transition from using steadfast maxims (such as pictorial images) to being capable of visualising novel possibilities outside of such rules and regulations aligning with Dreyfus and Dreyfus' descriptors of skill development. The outcome is that improved discretionary judgment and contextual perception is honed with

[1] Structural and functional neuronal plasticity suggests that both early and late changes contribute to perceptual learning i.e. through changes in the receptive field structure as early as the primary visual cortex (Fahle 2004) and improvements in signal selection (Fahle 2004) through modifications of central neural loci in the parietal cortex (Karni, Weisberg *et al*. 1996)

concomitant ability to cope with dense information and the deployment of deep, tacit understanding.

The final interpretation of an image, therefore, coheres with individual discipline specific understanding of the visual data gathered; the readers' own perceptive ability and their ability to recognise and overcome the limitations in their own psychological, perceptive and analytical skills. Expert visualisation is consequent to the integrated development of perceptual, higher cognitive skill and growing self-confidence, enabling the student to exploit all routes of learning. By recognising that tacit knowledge is central to competent diagnosis and is a presupposer to radiological interpretation, we can surmise that creation of the adequate mental image[2] is a driver of the early learning process and would benefit from practice early in training (Norman, Coblentz *et al*. 1992; Taylor 2007).

This article sought to understand perceptive skill holistically to make explicit and extract the various skills that separate novice and expert radiological competence, and more importantly, to demonstrate the relevance of developing a model based on common, core competencies and outcomes during the training period. In elucidating the differences between expert and novice perception and its determinants, we have attempted to show how perceptive practices, regardless of their developmental influences, manifest in an observable manner during training. Simply described, one could argue that, the trainee should be able to demonstrate the ability to intuitively and confidently contextualise their interpretation of the image, discard situational non-specific, irrelevant imaging details, and support their intuitive conclusions through analysis if required while being dependent on an internalised image that is increasingly visuospatially coherent. It is, therefore, clear that it is not only cognitive processes that have the potential to evolve positively with training.

Analysis may be assessed in the structure of the written radiological report. The challenge relates to assessing tacit perceptual skill in work-placed based assessment and summative assessments. Based on the aforementioned range of differences between novice and expert radiological competence, the issue at hand is how we work collectively to design and implement a

[2] Mental images can be created either through the reader's own skillful perception (Woodman, Vogel *et al*. 2001) or the supervisor's explicit demonstration of imaging signs (Crowley, Naus *et al*. 2003)

curriculum to inform realistic assessments and prepare for sufficiently competent radiology graduates.

Conclusion: Beginning a Conversation about Radiological Competence

New radiologists are not without competence. However, it is not apparent what we mean by the description, 'a competent radiologist' because currently, the notion of 'competence' can be regarded as an incomplete signifier (Laclau 2000), which is open to multiple interpretations. Although competence is explicitly pursued in the training of new radiologists, it lacks definition, is difficult to describe, and in practice, is subjective and poorly criterion-referenced. Thus, it is imperative to begin a conversation about radiological competence, skills and learning outcomes that are explicit and acceptable to the profession. On a more critical note, it is difficult to be certain that the notion of competence in radiology specialist training is reflective of craft competence. It seems apparent that the two steps of the radiology process, although integrated, can be thought of as different skills and may be nurtured and assessed differently. We have sought to show how perceptive skill is different for expert radiologist and novice functioning and suggested that an isolated attempt to nurture theoretical knowledge and analytical problem solving skills without explicitly observing its positive influence on perceptual skill and learning means that such learning is inefficient in the quest for realistic competency. We therefore, need to consider the importance of including and assessing for both perceptive and analytic skills during the period of training for new radiologists. We believe that, a Dreyfus and Dreyfus-like model to clarify competence holds promise as a tool for radiological education for the embodiment and assessment of the tacit skill of perception.

In order to be useful, the conversation about the training should consider at least three issues: aligning local specialist care with internationally acceptable standards; producing specialists who address local health requirements within the available health care resources; and identifying the unique skills of each discipline for incorporation into training programmes. The outcome, in our opinion, increases the possibility of efficiently producing qualified specialists who are competent in all relevant

areas within the relatively short training period and the suboptimal hospital training environment.

As work in progress, we invite comment and continuation of the conversation to explore the possibilities for a realistic description of radiological competence that is founded on the basis of consensus. Ideally, this will populate the proposed Dreyfus and Dreyfus-like model with explicit criteria that have been inadvertently omitted and refine those that have been included.

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Evaluation of the Effects of a Spellchecker on the Intellectualisation of IsiZulu

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Abstract

Through its bilingual language policy and plan that recognises English and isiZulu as official languages of the University of KwaZulu-Natal (UKZN), UKZN has aggressively promoted the intellectualisation of isiZulu as an effective strategy in advancing indigenous, under-resourced African languages as vehicles for innovation, science, and technology research in Higher Education and Training institutions. UKZN recently launched human language technologies (HLTs) in isiZulu as enablers towards the intellectualisation of the language. One of these is an isiZulu spellchecker, which was trained on an organic isiZulu National Corpus. We evaluate the isiZulu spellchecker's effects on the intellectualisation of isiZulu. Two surveys were conducted with the target end-users, consisting of relevant questions and the System Usability Scale, and an analysis of words added to the spellchecker. It is evident that the spellchecker has had a positive impact on the work of target end-users, who also perceive it as an enabler in the intellectualisation of isiZulu. The survey responses show modest success for a first version of the tool. The analysis of the words added to the spellchecker indicates that new words are being added to the isiZulu lexicon.

Keywords: spellchecker; intellectualisation; HLTs; survey; evaluation; lexicon

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a5

Introduction

The launch of the isiZulu spellchecker is part of UKZN's broad programme of advancing the isiZulu language to be a language of science, research, teaching and learning. A screenshot of the tool is presented in Figure 1. Its launch was part of UKZN's strategy of launching other technologies such as the Zulu Lexicon mobile-compatible application (Android and iPhone); the isiZulu Term Bank; the isiZulu National Corpus with 20.5 million tokens, and two isiZulu books, an anthology of short-stories and the first bilingual (English-isiZulu) illustrated glossary of Architectural Terms. The launch of the isiZulu spellchecker in particular raised interest among the end-user target group comprising journalists, newspaper editors, and academics. We investigate and evaluate its impact, noting that its accuracy and comparison with other spellcheckers have been assessed elsewhere (Ndaba *et al.* 2016). The evaluation seeks to answer several questions specifically related to the spellchecker itself as well as its potential to contribute to the intellectualisation of an under-resourced language such as isiZulu. In particular, we seek to answer the following high-level questions:

1. Is the spellchecker meeting end-user needs and expectations?
2. Is the spellchecker enabling the intellectualisation of the language?
3. Is the lexicon growing upon using the spellchecker?

The questions will be answered with a two-pronged approach, using data from questionnaires among the expected user base of the current version of the isiZulu spellchecker, which broadly includes academia and industry, and a linguistic analysis of its use regarding the words added to the spellchecker by the users as a possible proxy for intellectualisation. The main outcomes are that the isiZulu spellchecker is perceived to have a positive effect on the intellectualisation of this language, which is also supported by the analysis of the user-added words. The tool has been received positively by the target audience, with suggestions made for more functionalities. Its use also indicated that a few additional rules could increase its accuracy.

In the remainder of the paper, we first discuss related works, after which we describe the set-up of the evaluation and present the results and discuss them. We conclude in Section 6.

Related Works

As the scope of the paper is intellectualisation of a language through human language technologies, we discuss the state of the art of both components in this section.

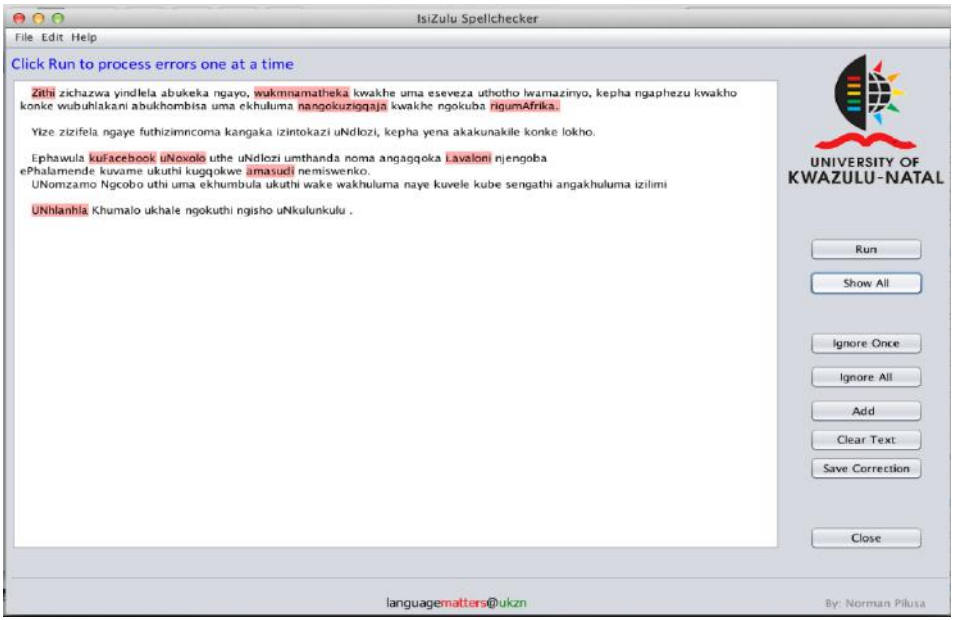

Figure 1: Screenshot of the isiZulu spellchecker, highlighting all words that it deems likely to be misspelt. It also has an isiZulu interface, which is included in Appendix B.

Intellectualisation of Languages

Intellectualisation is a term originally used by Havránek (1932), a linguist from the Prague School, to characterise a process that a language undergoes in its advancement.

> By the intellectualization of the standard language, which we could also call its *rationalization*, we understand its adaptation to the goal of making possible precise and rigorous, if necessary abstract,

> statements, capable of expressing the *continuity* and *complexity of thought*, that is, to reinforce the intellectual side of speech. This intellectualization culminates in *scientific* (theoretical) *speech*, determined by the attempt to be as *precise in expression* as possible, to make statements, which reflect the rigor of *objective* (scientific) *thinking* in which the terms approximate concepts and the sentences approximate *logical judgements* (e.a.) (Havránek 1932: 32).

Intellectualisation is thus a clear process of (functionally) cultivating a language so that its terminology can carry the full weight of scientific rigour and precision, and its sentences can accurately express logical judgements, resulting in a language that has the capacity to function in all domains. As the direct consequence of intellectualisation, speakers of the language derive pride, self-assurance and resourcefulness from their (new) ability to discuss the most complex of issues ranging from the mundane to the academic and beyond (Khumalo 2017).

Intellectualisation has been famously associated with the development of Tagalog in the Philippines. The cultivation process involved Tagalog's lexical enrichment through terminology to enable its use in academia. Philippine linguists and sociolinguists are recognised by Neville Alexander (in Busch, Busch and Press 2014) as the doyens in the scholarship of intellectualisation. Sibayan (1999: 229) characterises an intellectualised language as one '[…] which can be used for educating a person in any field of knowledge from kindergarten to the university and beyond' (Sibayan 1999: 229). Thus, an intellectualised language has the capacity to discuss any issue regardless of its complexity. According to Finlayson and Madiba (2002), in the South African context intellectualisation is a meticulous procedure aimed at expediting the growth and development of hitherto underdeveloped African languages to augment their capacity to effectively interface with modern developments, theories, and concepts. It is imperative to note that crucial to this process is the capacity to interface with technology and the general digital visibility of these under-resourced indigenous languages. The paucity of such technology and technical terminology is often cited as the reason why African languages cannot be used as languages of teaching and learning; hence their discernment as shallow and inadequate (cf. Shizha 2012).

Intellectualisation in our context thus means the radical transformation of the capacity, role, and digital and/or technological presence of indigenous

African languages in carrying and conveying all forms of knowledge in all spheres of life. While the government through the Constitution of South Africa (RSA 1996: section 6) has expressed commitment '*to elevate the status and advance the use of'* these hitherto underdeveloped and under-resourced languages, very little has actually been done to improve their status and role in Higher Education (cf. Olivier 2014). The debate on the status and role of these languages has been sharply brought back to the centre of South African Higher Education through the #FeesMustFall campaign. UKZN has thus taken the lead in the intellectualisation of isiZulu through the development of HLTs such as the isiZulu spellchecker.

Human Language Technologies

Human language technologies for isiZulu are sparse and mostly remain in the realm of theory and academic proof-of-concept tools, such as a morphological analyser (Pretorius and Bosch, 2003), machine translation (Kotzé & Wolff 2015), search engines (Malumba *et al.* 2015), and knowledge-to-text natural language generation (Keet & Khumalo 2017). The main drivers for end-user tools at present are large multinational companies, such as Google Inc. with its rudimentary GoogleTranslate for isiZulu and the localisation efforts of its search engine interface (at no monetary cost), and Microsoft's isiZulu localisation as a for-payment localisation extension/plugin. To the best of our knowledge, there are no isiZulu equivalents of widely-used end-user features such as autocomplete, spellcheckers and grammar checkers, or an isiZulu language-sensitive 'desktop document search' such as Apple's 'spotlight'.

While efforts have been documented to develop spellcheckers (Prinsloo & de Schryver 2004; de Schryver & Prinsloo 2004; Bosch & Eiselen 2005), these tools are not available. The plugins for OpenOffice, Firefox, and Thunderbird – developed by translate.org.za in 2008 – are freely available, but they have not been updated so they no longer work with the latest versions (since OpenOffice v4.x). To the best of our knowledge, no user studies on the usability or impact of isiZulu spellcheckers have been conducted.

The isiZulu spellchecker used for the experimental evaluation takes a different approach from those earlier works that relied on word lists and grammar rules. Instead, this spellchecker is based on a statistical language model learnt from a sample of the isiZulu National Corpus (INC) (Khumalo 2015) and reports (or not) a word as misspelt based on the *probability* of it

being a mistake (Ndaba *et al.* 2016). Let us illustrate the idea with a small example, as the underlying technology may affect user satisfaction in either direction. Let us assume that the spellchecker's model is trained on three words only: *sivela*, *ngihamba*, and *uvelaphi*. The algorithm first produces 16 trigrams *siv*, *ive*, *vel*, *ela*, *ngi*, *gih*, *iha*, *ham*, *amb*, …, *phi*, of which 14 are unique. It then includes those trigrams that are used most often and discards the others that are assumed to be erroneous. For this example, *vel* and *ela* are used most often yet none is hardly used (say, less than 1%), so let's assume our statistical model includes all the different trigrams of these three words. If a user were to type *ngivela* in the spellchecker, i.e., a string that it has not been trained with, it will compute it to be a very probably correct word, because all of *ngivela*'s trigrams are in the list of valid trigrams. If a user were to type *ngivella*, the spellchecker would flag it as incorrect, because there is no trigram *ell* or *lla*. The actual statistical language model of the isiZulu spellchecker was trained not with three words but with a sample of the INC and uses a cut-off threshold of 0.0003 for valid trigrams; i.e., any trigram that has a lower probability of occurring than the threshold is discarded as being invalid. This means that such three consecutive characters are so unusual in the training texts, that it is assumed to be violating isiZulu orthography rules and would thus be wrong. Thus, the spellchecker flags or accepts a word as (in)correct based on *probabilities* of correctness, *not* on *certainty* of encoded grammar or curated word list. The quality of the language model, and thus the spellchecker's performance, depends on the size and quality of the corpus it is trained on and likely datedness and genre as well, as observed in Ndaba *et al*. (2016). The sample of the INC that was used for training the model included both novels and news articles.

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Materials and Methods

The aim of the evaluation is to seek an answer to the main questions posed in the Introduction: *Is the spellchecker enabling the intellectualisation of the language?* This had two sub-questions that address linguists and users' opinions about the spellchecker, and the materials and methods for the evaluations are split accordingly.

Methods

The method for obtaining data to answer the first two questions posed in the introduction is, by design, mostly quantitative, with a further qualitative follow-up, depending on the results of the quantitative part. First, we devise a questionnaire that also includes open questions (i.e., not 'yes/no') so as to obtain as much open-ended feedback as possible, and administer the System Usability Scale (SUS) questionnaire (Brooke 1996) in the same survey. The questions for the first part of the questionnaire are included in Appendix A and mainly focus on feature usage and wishes, use, and opinions on intellectualisation. The SUS questionnaire (Brooke 1996) is a widely-used quick survey consisting of 10 questions to be answered on a 5-point Likert scale. The values are added up by even and odd numbered questions, and multiplied by 2.5 to obtain a value between 1 and 100. This value is a rough indicator of user-friendliness and the usability of a system's interface and enables determination of whether the usability of the tool might have had an adverse effect on its use and users' perceptions of the tool. The questions are of the type 'I think that I would like to use this system frequently' and 'I found the system unnecessarily complex'. In line with the context of the evaluation, these questions have been translated into isiZulu and included in Appendix A as a record for future use.

Based on the results obtained, a follow-up in-depth qualitative evaluation is designed in the form of a semi-structured interview with industry

stakeholders, which may reveal further contextual information about the effects of the spellchecker. The prepared interview questions are included in Appendix A. The qualitative analysis was done by means of a manual assessment of the responses.

The method pursued in order to obtain results so as to answer Question 3—*Is the lexicon growing upon using the tool?*—can be refined into two parts, where each aims to answer a sub-question, being:

i. What is the percentage of user-added words that are 'normal' (already in the dictionary) words, cf. the new words?
ii. If words are added that are not in an isiZulu dictionary, do those user-added new words follow the canonical structure or are they import words?

The method used to answer this sub-question is principally from a qualitative and linguistic perspective. First, we obtain the 'user dictionary' file of a set of participants. This plaintext file is absent upon downloading the tool, but is created in the same directory once a first word is added and is appended to each time the user clicks the 'Add' [to dictionary] button. These user dictionary files are analysed by first gathering basic descriptive data, such as aggregate data by recording how many words have been added per user, the average and median number of words added by users. Subsequently, the words will be annotated to identify what type of words are being added that were not recognised by the spellchecker, including, but not limited to: a normal isiZulu word (that the spellchecker ought to have recognised) or a new word with deviating orthography and whether it is a proper noun (a named entity, like 'Facebook'), a current abbreviation (e.g., 'EFF'), and so on. The 'new' words, if any, are analysed in terms of whether they are canonical or import, and similar.

Target Demographic and Recruitment

The target audience of version 1 of the spellchecker was people who may write isiZulu regularly or on a daily basis and do so on their desktop or laptop computer for work or study purposes. This entails that participants in the evaluation are all adults and likely will have enjoyed at least a medium-level (secondary school), if not higher (university) level, of education. While gender

and age is relevant for the evaluation of some software applications[1], spellcheckers are generally widely used; therefore, these variables are not taken into consideration as a relevant dimension of analysis.

Participant recruitment was planned as follows. It would occur in a group email invitation by one of the authors, which includes students, administrators, and academics at UKZN, and the newspaper editors and journalists of isiZulu newspapers that contributed to the isiZulu National Corpus. If, after one week, less than 25% of the invitees would have filled in the survey, a reminder email would be sent.

Participation is anonymous and on a voluntary basis without remuneration or thank-you vouchers.

Materials

The materials consist of version 1 of the isiZulu spellchecker that was launched on 10 November 2016, the user dictionary files collected from participants, the questionnaires in isiZulu, and a partially localised version of the Limesurvey software. While the Limesurvey localisation is ongoing and has a few typographical errors, this is nonetheless preferred, so that the participant experience is in the facilitating context of enabling technologies for the language of focus. The survey is accessible at http://limesurvey.cs.ukzn.ac.za/index.php?sid=38664&lang=zu. Analysis was carried out in Microsoft Excel.

Results

The isiZulu spellchecker has been downloaded 159 times (as at 14th February 2017) since the 10th November 2016. The authors have received some questions regarding its installation, especially from industry, due to restrictive security setting on installing software downloaded from the Web. This issue is a general one regardless of the technology that has been used to implement the spellchecker. Nonetheless, it may have affected its successful deployment.

[1] For instance, when assessing social media use or games.

Questionnaire Results and Discussion

The survey was open for data collection for 2.5 weeks in late January/early February 2017. A total of 59 people had been invited to participate in the survey, of whom 34 are students and staff (administrators and academics) from UKZN, and the other 25 are from industry. After 1.5 weeks, there were five completed surveys, so a reminder was sent to all original invitees. At 2.5 weeks, there were 11 completed surveys, which were used in the analysis, noting an additional 26 'incomplete' surveys that were fully empty, i.e., the webpage was only opened, and therefore not further considered. These figures amount to an RR1 of 19% and an RR2 of 63%, which is roughly within the expectations of survey response rates with respect to the invitees.

Survey Responses on Features

A brief summary of the responses to the open questions is presented in Table 1 and these are discussed in more detail in the remainder of this section. The answers should be seen in light of the fact that five participants said that they rarely used the tool, while two said that they used it weekly, another two said that they tried it once, and one participant said that s/he uses it every day.

A clear majority of the survey participants indicated that the entire tool was helpful, in that it checks isiZulu words for correctness and allows one to add new isiZulu words that the tool does not recognise. Six participants were of the view that the spellchecker assists in checking, editing and validating spelling in isiZulu, two indicated that it assists in highlighting words that are not acceptable in isiZulu, one indicated that it helps in not only editing his/her work but also in adding words that are not currently in the lexicon, and another participant indicated that all the different functionalities of the tool are useful. Those who answered the second part of the question, i.e., to give examples of how the tool is helpful to them, responded as follows (answers translated by authors):

1) 'The tool helps one a lot when editing one's work.'
2) 'The tool helps in highlighting words that are not acceptable in isiZulu.'
3) 'The tool validates one's spelling.'
4) 'The tool is easy to use as navigation is easier.'

5) 'The tool helps the user to check if the work that one has just completed does not have errors.'

Note that two respondents (1 and 5) reveal *where* in the work activity the tool is making a difference.

Question	Top choice among options	Nr top choice
1 – most useful feature	'Entire tool helpful'	7
2 – useless feature	'None' (see text for details)	4
3 – add features?	'None' (see text for feature requests)	4
4 – remove features?	'None'	10
5 – intellect. enabler?	'Yes'	11
6 – enhanced work?	'Yes'	8
7 – plugin to which tool?	Chrome plugin was rated highest	N/A
8 – usage frequency	'Rarely'	5 (i.e., 6 use it more frequently)

Table 1: Summary of responses to the first part of the survey questions; only the number (n) of the top-choices are listed; see Appendix A for the full formulation in English and isiZulu

While four respondents indicated that there is no 'useless' feature (Question 2), other useful feedback was obtained in this comment field. One participant indicated that the spellchecker did not find some real and authentic isiZulu words and another indicated that the tool indicates that some isiZulu words are in fact not correct. This is expected as the spellchecker has around 90% accuracy (Ndaba *et al.* 2016); no spellchecker achieves 100% accuracy. Another participant indicated that the tool does not provide any suggestions for possible words that they were trying to spell. Spelling correction is indeed not a feature of v1, because there is as yet no algorithm for this function. It was also reported that there is no functionality for saving and storing the corrected word after correcting the misspelt one (although that functionality is available). The last participant indicated that some instructions are confusing; for instance, the instruction to switch language from isiZulu to English is vague.

In terms of whether there are certain functionalities that users want added to the tool, four survey participants indicated that they did not feel

anything needed to be added. The feature requests by the other respondents were that:

1) the tool should be made compatible with MS Word and other mobile phone applications, and also have predictive text functionality and autocorrect;
2) voice recognition for a voice search (two respondents);
3) recognise antonyms and synonyms;
4) the tool must be populated with more isiZulu words so that it recognises most words in this language;
5) the F1 help function should be translated to isiZulu, as it is currently only in English.

From a purely scientific and technological viewpoint on the state of the art of HLTs for isiZulu, autocorrect, predictive text, voice recognition, voice search, and recognising antonyms and synonyms either have yet to be investigated or are not deployment-ready. Points 4 and 5 can be achieved. Compatibility with MS Word is problematic, because that software is 'closed source', i.e., it depends on Microsoft's willingness to add a spellchecker for isiZulu to their software.

In responding to the question on whether there is any functionality that the users wish to be removed from the tool, 10 of the 11 survey participants indicated that there are none. One participant indicated that the tool's accuracy should be enhanced (i.e., the capacity to accept (or reject) isiZulu words, because it sometimes accepts a misspelt word and sometimes rejects as incorrect a correctly spelt word).

All the survey participants felt strongly that the spellchecker has the effect of developing isiZulu as a language of teaching and learning. In response to the related question, how the tool has improved one's work in language, eight of the 11 survey participants indicated that it has improved their work, particularly in translation work, editing, and in validating spellings. One participant indicated that the tool needs improvement, and another indicated that they had not used the tool sufficiently to respond adequately.

Because this is now a standalone tool and we were not sure whether or not to develop a plugin, we asked the survey participants to rank their preference in the order of 1-4 on a plugin for OpenOffice (free, and open source office applications), Thunderbird (open source email programme), Firefox (open

source Web browser, several platforms), and Chrome (Google's Web browser) (question 7 of the survey). Six respondents did not adhere to the ranking instructions, such as allocating 10 points twice and 0 twice, or did not provide a strict order (e.g., 4 four times, or 1, 1, 3, 4). Therefore, instead of calculating on the basis of the supposed theoretical maximum of 44 an option could receive, we added up all the values (124) and computed the ratio of the total points assigned to an option. The Chrome plugin was rated highest (0.37), followed by OpenOffice (0.29), Firefox (0.20), and finally Thunderbird (0.14).

SUS Evaluation

The SUS score was computed over the 11 completed surveys of the tool and averages 75, with a median of 82.5 (in a range of 45 and 100). Considering the natural language interpretations of that (Bangor *et al.* 2009), also depicted in Figure 2, the spellchecker tool's usability is considered 'good'. This suggests that if there is any limited impact on the intellectualisation of isiZulu by means of the spellchecker, this is not attributable to the tool's interface design and, vice versa, if there is a relatively major impact on intellectualisation, this would also not be fully attributable to the tooling. Put differently, any effect observed—as described in the previous section—is an effect of the spellchecking feature, not the particular implementation.

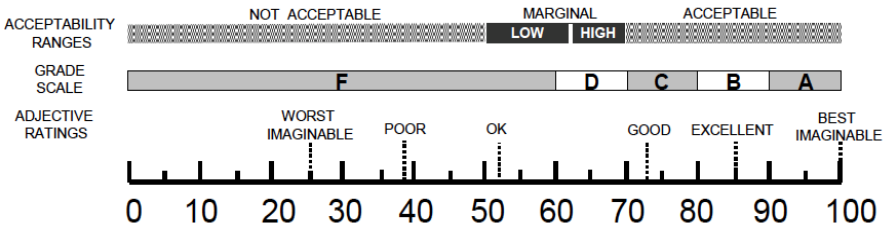

Figure 2: Descriptive interpretations of SUS scores (Source: Bangor *et al.* 2009).

Follow-up Interviews with Stakeholders

We intended to interview two industry respondents who work as editors of the two leading isiZulu newspapers in Durban. We could only interview one. The editor indicated that he uses the spellchecker every day in his line of work and

that, he finds it easy to use, and uses the spellchecker independently. However, he is not able to add words that are highlighted as not recognised to the checker's lexicon. He said that he did not have sufficient experience to comment on whether he has confidence in using the spellchecker. In responding to the question on whether there are any features that he wants to be added to the tool, he indicated that he would want grammar correction to be part of the spellchecker. He indicated that he would highly recommend the spellchecker to people in the same line of work. He noted that the spellchecker saves him time and makes his work as an editor much easier. Notably, he could not comment on whether the isiZulu spellchecker is an enabler of the intellectualisation of isiZulu, indicating that he does not fully understand what intellectualisation entails, despite having been provided with a brief explanation.

The Spellchecker's Trigrams and Lexicon

We managed to receive three user dictionaries, of which one was from an industry participant and two from within UKZN. This number is lower than anticipated, as it required more instructions to users who are not technologists. The three dictionaries had 1255, 4, and 198 entries. These entries were split successively into types, which are summarised in Table 2 and discussed in the remainder of this section.

Additions of the first type are those that the spellchecker did not recognise as correct due to 'oversensitivity' of surrounding text and context, such as the string '*ibidlala*.', whereas the tool should process it without the period, and the capitalisation at the start of the sentence, which could be lowercased internally for processing so that it is not flagged as incorrect. These are relatively simple to correct in the tool. The second type of addition is, in a way, also a 'mechanics' issue, as the statistical language model needs to detect sufficient trigrams from terms that have a within-word capital letter, such as *amaZulu*, i.e., that the trigrams *maZ*, *aZu*, and *Zul* make it above the threshold, and likewise for the other cases. Currently, it does recognise correctly a subset of such patterns only (e.g. *eGoli*). Related to these are capitalised words, such as *ABANTU*. Treating all valid and invalid capitalisations will require additional rules to augment the statistical language model. Words with dashes (e.g. *ze-PHD*, and numbers like *ngu-40*) will also be hard to learn from a dataset and may be better served by an additional rule.

Type	Examples	Cause
1. Tool (basics)	*emgonqweni*., *Iqhikiza*	The spellchecker takes whole strings, including '.' and ',' rather than without, and does not process sentence beginning (word with first letter capitalised)
2.Recognition – rule (Capitalisation)	*amaZulu, uKhisimuzi*	The training set was too small to learn all the valid within-word capital letters in trigrams
3.Recognition – rule (Dashed words)	*wase-UKZN, abanga-22*	Arbitrary compounds and numbers
4. Font size	*iigiye, abazaii, Iiphuma, aienge, namacansl*	All from one user_dictionary, which confuses *i* with *l*; (*ligiye*, *abazali, liphuma* etc. are the correct words)
5. Morphology – compound nouns	*isekelashansela, inkulumo-mpikiswano*	Different rules have been applied for compound words (as one word, dashed, two tokens)
6. Morphology – derivation expert names	*ususayensi*	Different rules for imports have been used, noting *uso-* vs *uno-* (in, e.g., *unompilo*)
7. Proper names	*Karim, ku-Andrew*	Multicultural society

Table 2: Summary of reasons why a word was added to the user dictionary.

Seen from a linguistic perspective, the data gleaned from the dictionary provides interesting questions in morphological theory. For instance, the compound word formation process for words derived from English are structurally represented differently in isiZulu. Examples from the user dictionary files are *LikaSekelaShansela* (an inflected form of the one recognised as correct *isekelashansela* 'Vice Chancellor') and *inkulumo-mpikiswano* 'debate', cf. e.g., *Umeluleki wezengqondo* 'Psychologist' that takes a different form with two lexical items in juxtaposition. Interesting theoretical questions, such as whether isiZulu has endocentric and exocentric compounds, need to be explored. Other interesting morphological observations from the data are the structure of the noun *Ususayensi* 'scientist' vs, e.g., *unompilo* 'nurse'. If one were to follow the word formation process for various

experts in isiZulu (e.g., *ususayensi* 'scientist', *usolwazi* 'professor', *usomahlaya* 'comedian', etc.) one would expert *unompilo* (nurse) to be **usompilo*. It would be interesting linguistically to shed more light on this word derivational process.

The user-added words also show that words are being added to the isiZulu lexicon that are not included in isiZulu dictionaries; e.g., *Osemnkant-shubomvu* 'experienced' of which the trigram *mnk* is below the threshold and *kan*, *ant*, *ubo* and *mvu* do not appear, i.e., this is, relatively, not fitting in the common orthography.

Finally, we took a random sample of 15 words from the set of words of the three user dictionaries minus those exhibiting one of the previously mentioned issues, so as to obtain an indication of why they were added from a technical viewpoint regarding the language model. The list of selected terms is included in Table 3. One word was actually recognised as probably correct, and the remainder was mainly due to the language model design decision being case-sensitive.

Word in user_dictionary	**English (base form)**	**Trigram analysis**
Imqomile	to date	*imq* not in trigram list
avele	to show up	Was recognised correctly
lsuke	to leave	*suk* not present as all-lowercase
sebeviyoza	dancing and singing	*ebe* not present as all-lowercase
koqobo	of self	*koq* not in trigram list
yokucobelelana	of sharing	*yok* not present as all-lowercase
yobucayi	that is sensitive	*yob* not present as all-lowercase
mashifoni	Chiffons	*oni* not present as all-lowercase
imifece	type of plant	*fec* not in trigram list
umkhonlo	a lead	*onl* below threshold; more common *umkhondo* is recognised
endlini	*in the house*	*end* not present as all-lowercase
kuieyo	*kuleyo* 'at that'	*uie* not in trigram list (interestingly, *kui* is [n=378] and *iey* is [n=8]); typo added by user
ogcagcayo	one who is wedding	*agc* not present as all-lowercase
ziyojika	will be turning	*oji* not present as all-lowercase

Table 3: Trigram analysis of a random selection of user-added words

Discussion

Overall, the isiZulu spellchecker as a tool has been positively received and it is regarded as an enabler of the intellectualisation of the language. Whether the number of downloads in a two-month period from its launch (n=159) is deemed 'high' or 'low' depends on one's expectations. What is important to note is that it has not been marketed explicitly and the two months fell in the summer holiday period. Thus, its download and usage was largely based on word-of-mouth among a reduced number of the target audience, and in this light, it can be considered a modest success for a first version of the tool and an encouragement to investigate the requested new features. The technical analysis of the user dictionaries mainly revealed that a larger training corpus may be better and that the accuracy can be improved further by adding a few simple string analysis (cf. grammar) rules on top of the statistical language model. Interestingly, the list of user-added words also contained words that are, also in their base form, not available in all dictionaries, such as *inqubekelaphambili* 'development/progress', yet they are still recognised correctly by the spellchecker. This being the case, the 'add word' feature of the spellchecker is an exciting avenue for further investigation into new words that are being added to the lexicon, and thus may soon provide a wealth of evidence on the intellectualisation of the language. The 'add word' feature is unique to this isiZulu spellchecker compared to earlier attempts (Bosch & Eiselen 2005; Prinsloo & de Schryver 2004), which is providing a wealth of information for spellchecker development as well as linguistic analyses. A controlled test setting with university students might assist in obtaining such results. Here, however, we focused on obtaining data from the broader society with its daily activities so as to assess broader impact.

Returning to the three core questions posed in the introduction, they can all be answered in the affirmative. The spellchecker does meet end-user needs and expectations, although we note the suggestions for further improving its functionality, such as suggesting corrections and voice, both of which require prior research. Users perceive that the spellchecker enables the intellectualisation of the language, which is further supported by the analysis of the words added to the dictionary, not all of which are in current dictionaries (i.e., the lexicon is indeed growing).

Conclusions

The evaluation of the isiZulu spellchecker has shown that it has a positive effect on the intellectualisation of isiZulu. The tool has been perceived by the target audience as positive, generating interest in more functionalities. Its use also indicated that a few additional rules will increase its accuracy. The isiZulu spellchecker's 'add dictionary' features proved very useful in suggesting improvements to the language model from a computational viewpoint as well as a linguistic one, to examine emerging words and orthography. The new words that were added to the lexicon are testimony to the fact that the intellectualisation of the language is taking effect. The tool is being actively used in technical spaces such as administration work (formal language), translation work and editing.

Acknowledgments: We would like to thank the survey participants and the users who provided the user dictionaries.

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Appendix A – Questionnaires

General Questions

1. Which feature do you find most useful? Please provide a brief reason. *Iyiphi ingxenye yaleli thuluzi lokupela oyithole iwusizo kakhulu? Sicela usinike isizathu.*
2. Which feature do you find least useful? Please provide a brief reason. *Iyiphi ingxenye yaleli thuluzi lokupela oyithole ingenalusizo? Sicela usinike isizathu.*
3. Are there any features you would like to see added to the spellchecker? *Zikhona ezinye izinto ofisa zifakwe ethuluzini lokupela?*
4. Are there any features you would like removed from the spellchecker? *Ingabe kukhona ofisa kususwe kuleli thuluzi lokupela?*
5. Do you think that the spellchecker is an enabler for the intellectualization of isiZulu? *Ucabanga ukuthi leli thuluzi lokupela linomthelela omuhle ekuthuthukisweni kwesiZulu njengolimi lokufunda? (Sicela uphendule ngo yebo, kakhulu, kancane noma cha).*
6. How has the spellchecker enhanced your work as a language practitioner? *Ingabe leli thuluzi likuthuthukise kanjani ukusebenza kwakho njengosozilimi?*
7. If you want to have the spellchecker integrated in another application, in which application would you prefer to have it integrated the most? (Please indicate order of preference, with 4 the highest and 1 lowest): OpenOffice, Thunderbird, Firefox, Chrome. *Uma ufuna ithuluzi lokupela lifakwe kwenye indawo osebenza ngayo, ungalifaka kuliphi? (Sicela ukhethe ngokulandelana kwazo lapho eye-4 iphezulu ne-1 iphansi): OpenOffice, Thunderbird, Firefox, Chrome.*
8. How often do you use the spellchecker? *Awulinganise ukuthi ulisebenzisa kangaki leli thuluzi: nsukuzonke, ngesonto, qabukela, ngike ngalizama kanye, angikaze.*

SUS in English

1. I think that I would like to use this system frequently
2. I found the system unnecessarily complex

3. I thought the system was easy to use
4. I think that I would need the support of a technical person to be able to use this system
5. I found the various functions in this system were well integrated
6. I thought there was too much inconsistency in this system
7. I would imagine that most people would learn to use this system very quickly
8. I found the system very cumbersome to use
9. I felt very confident using the system
10. I needed to learn a lot of things before I could get going with this system

SUS in isiZulu

1. Ngicabanga ukuthi ngingathanda ukusebenzisa loluhlelo njalo
2. Ngiluthole ludida ngokungadingekile loluhlelo
3. Ngicabanga ukuthi kulula ukusebenzisa loluhlelo
4. Ngingadinga ukulekelelwa ngumuntu onobuchwepheshe ukuze ngikwazi ukusebenzisa loluhlelo
5. Ngithole ukusebenza kwaloluhlelo okunhlobonhlobo kudidiyelwe kahle
6. Ngicabanga ukuthi kunokuningi okungahambisani kulolu hlelo
7. Ngicabanga ukuthi abantu abaningi bazofunda ukusebenzisa loluhlelo ngokushesha
8. Ngithole kunzima ukusebenzisa loluhlelo
9. Ngibenokuzethemba ngisebenzisa loluhlelo
10. Ngidinge ukufunda izinto eziningi ngaphambi kokusebenzisa loluhlelo

Additional Questions for the interview with Industry Participants (IsiZulu Newspaper Editors)

1. How often do you use the isiZulu spellchecker in your line of work?
2. Is it easy to use the isiZulu spellchecker?
3. If not, what do you find to be the complication in the use of the isiZulu spellchecker?
4. Do you use it independently, with the aid of a technician, or practically collaboratively with a colleague?

5. Do you have any function(s) of the isiZulu spellchecker that you are unable or find difficult to use?
6. Do you have confidence in using the isiZulu spellchecker?
7. Did you need to learn something in order to be able to use the isiZulu spellchecker?
8. Are there any features that you would want added onto the isiZulu spellchecker?
9. Would you recommend it to other people in your line of work?
10. How has the isiZulu spellchecker enhanced your work?
11. Do you think that the isiZulu spellchecker is an enabler for the intellectualization of isiZulu?
12. Do you have any other opinion on the isiZulu spellchecker?

Appendix B – A Screenshot of the isiZulu spellchecker with the isiZulu interface

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Power, Knowledge and Learning: Dehegemonising Colonial Knowledge

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Abstract

This article contributes to the debate on the decolonisation of knowledge by discussing the varieties of harm generated by Western enlightenment knowledge, which affects the colonised and oppressed, as well as the colonisers and privileged. The harm is discussed in relation to five points: it is interwoven with violence and imposition; it generates inequality; it leads to alienation; it lacks a foil to counter its own excesses; and it fails to answer the pressing challenges of our time. Several dehegemonising approaches are considered, including centring knowledge in relation to place; an ecology of knowledges; decolonisation from the outside; hybridisation; and comparison. These approaches all have value, although some contain challenges inherent to their conceptualisation. Most of these approaches are influenced by societal conditions of quality and inequality. The influence of broader conditions limits the potential impact of these dehegemonising approaches. The implications for the responsibilities of academics are delineated at the macro, meso and micro levels.

Keywords: cognitive justice; hegemony; teaching and learning; decolonisation; knowledge

Introduction

In the current era, the expressed desire for decolonising education is rapidly increasing. This is the case in South Africa (Le Grange 2016; Leibowitz & Mayet 2016; Jagarnath 2015) as well as internationally (Taylor & Pacini-Ketchabaw 2015; Battiste 2013). Since 2015, there has been a strong call to decolonise higher education curricula in South Africa, whereas worldwide, the

call has been in relation to both general and higher education. In this article, I hope to contribute to debates on the subject of decolonising South African higher education by drawing on both local and international literature, since this topic requires the benefits of a global conversation. Furthermore, I will make a case for the use of a wide range of writing on the subject of knowledge, language and literacy, and schooling and learning. By doing so, I show, firstly, how harmful the hegemonic Western knowledge systems have been, and secondly, how an underlying explanatory framework informing this harm, is based on the idea that the generation of knowledge and learning is profoundly situated and relational, involving power and social relations of in/equality. This relational and socio-cultural understanding of how knowledge is engaged with underscores the importance of alternative approaches to knowledge, as is discussed below. At the same time, a relational understanding points to the inherent tensions, complications and difficulties with advocating these alternative approaches. Hopefully, an exploration of these tensions can lead to a clearer charting of the way forward for the decolonisation of the curriculum.

The word 'relational' is used in this article to suggest how knowledge-related practices and identities are shaped by several kinds of relationships: relations between individuals from different social classes and power formations; relationships between individuals and resources and the abundance or scarcity of these resources, especially highly valued knowledge-related resources such as texts, computers, newspapers or laboratory equipment, or, from an indigenous, anti-colonial perspective, the natural resources that children interact with (see Rowan 2015, in relation to Inuit Nunangat Pedagogy).

The relation includes situatedness in place and history (for example in a colonial context or in pre-modern epistemology – see Mignolo 2011). These relations affect one's agency, one's sensibilities and one's understanding of the world. They are cognitive, but also embodied and affective.

This article is not based on a report on a traditional empirical education study, nor a philosophical treatise or bibliographic survey. It is an attempt to bring together theorising about cognitive justice and decolonisation with matters of teaching and learning.

Hegemonic Western Knowledge – What is the Harm?

In this article the 'hegemony' of knowledge is seen as the domination of one

body of knowledge or one way of seeing the world over others, allowing 'for one-sided, or historically dissymmetric "translations" between cultures' (Balibar 2016: 216). The hegemonisation of knowledge is when one knowledge system becomes dominant and ignores the value of or suppresses others. It is associated with globalisation and relations of power (Santos 2014). There are five key forms of harm, as discussed below.

The hegemonisation of knowledge has occurred partly or largely in sync with colonialism, and with power relations of the developed 'North' vs the 'undeveloped' 'South'. An expression adopted by Santos starkly conveys the violence inherent in this:

> … epistemicide: the murder of knowledge. Unequal exchanges among cultures have always implied the death of the knowledge of the subordinated culture, hence the death of the social groups that possessed it. In the most extreme cases, such as that of European expansion, epistemicide was one of the conditions of genocide (Santos 2014: 93).

The hegemonisation of knowledge serves the interests of the powerful: 'Since scientific knowledge is not distributed in a socially equitable way, its interventions in the real world tend to serve the social groups having more access to such knowledge' (Santos 2014: 189). The hegemony of Western knowledge is problematic in five respects: it is embedded in relations of violence and imposition; it is embedded in relations of social inequality; it is interwoven with dynamics of alienation; it lacks a foil to counter its own excesses and show up its weaknesses; and it is inadequate on its own to solve questions that require attention. These are discussed below.

Violence and Imposition

The relations of power and how these influenced interaction between knowers during colonialism is well captured by Mignolo (2002), suggesting how colonial subjects were objects, rather than subjects, in hegemonic knowledge relationships. This is illustrated in the extract below which pertains to colonial relations in Latin America. Indians were not participants in the conversations, but rather, passive and silent colonial subjects:

> Las Casas defended the Indians, but the Indians did not participate in the discussions about their rights. The emerging capitalists benefiting from the industrial revolution were eager to end slavery that supported plantation owners and slaveholders. Black Africans and American Indians were not taken into account when knowledge and social organisation were at stake. They, African and American Indians, were considered patient, living organisms to be told, not to be heard (Mignolo 2002: 63).

I would argue that this relationship of imposition and power colours relationships with Western hegemonic knowledge. The relations of inequality and domination are primarily amongst people; however a secondary level of inequality develops between the knowledge systems, in the sense that once a knowledge system, including the languages and discourses that are part of it, become hegemonic, an entire infrastructure emerges to support the powerful system. Ngũgĩ (1993: 35) suggests that this initial inequality leads to what he describes as 'subsequent distortions':

> Thus English and the African languages never met as equals, under conditions of equality, independence and democracy, and this is the root of all subsequent distortions.

The example that would be most familiar to South Africans – of how a language becomes dominant, and maintains this dominance for the duration of the dominance of its users – is that of Afrikaans, where an entire infrastructure, including textbooks, dictionaries and academic journals, was set up to support it becoming a modern language appropriate for academic purposes. The inequality occurs because this infrastructure was not made available to the same degree to indigenous languages in this country. This infrastructure has of course received less support in the current post-apartheid era.

For the Comaroffs (2011), the imposition of Western knowledge in the colonies was part of a violent process. However those in the 'metropole' were saved from having to come to terms with the ravages of devastation that occurred in the colonies:

> The segregation of metropole and colony not only obscured the humanitarian, modernizing, rule-governed, freedom-seeking face of

> liberal democracy from the exclusionary, violently secured forms of subjection, extraction, and devastation that were its underside. Colonies were zones of occupation in which the European civilizing mission was countered by the dictates of control and profit – and by the need to secure the contested frontiers held to stand between order and chaos (Comaroff & Comaroff 2011: 92).

The point here is that this gave the lie to the innocence or fundamental righteousness of liberalism. Many of us who have been reared relatively unquestioningly within the dominance of Western liberalism have not seen the dark side of this epistemology. I include myself in this group.

Violence and force as a means to enforce the hegemony of a knowledge system occurred within colonialism, but it remains a means to do so in postcolonial settings as well. In his autobiography, *The African Child* (1953/1972), Camera Laye writes about how the teachers at his primary school would hit students for talking in their home language rather than in French – the language of the colonisers. NgũgĨ (1993: 33) writes about similar instances when he was growing up in Kenya:

> I have told of instances of children being punished if they were caught speaking their African languages. We were often caned or made to carry plaques inscribed with the words 'I am an ass'. In some cases our mouths were stuffed with pieces of paper picked from the wastepaper basket, which were then passed from one mouth to that of the latest offender.

From my PhD study (Leibowitz 2001) which explored the narratives of students acquiring their second language, i.e. English, there were numerous accounts of how a powerful, hegemonic language was imposed on young African people, but at the same time, full acquisition of the language – so that they could use it meaningfully – was denied to them. In the following extract from the study, we see a student who did not acquire sufficient proficiency in English because of the conditions of domination. Those living in townships and rural areas were not allowed to go to white areas without a pass:

> The apartheid system played a most important part because the whites did not want to hear a thing, so I was forced to know English. The

> police were very strict at that time. In rural areas we were not even allowed as scholars to go to town, otherwise we would be locked up in jail. My family's background as also poor which made things more difficult for me because I could not acquire my second language from them at home. They belonged to the lower class. … I used to listen to some of the kids who were in the same class as me who spoke their second language [English] better than me. I used to ask my mother why she could not speak English and her reply was that she never had a pass to go to urban areas and those kids' mothers used to visit their people in towns and that is why it was easier for them to acquire their second language (Leibowitz 2001: 184).

This is a double-edged sword: a hegemonic knowledge system, or elements thereof, such as a language, are imposed on the oppressed; but the manner in which it is imposed positions them as passive, unequal users or as objects rather than subjects.

These examples from my PhD are cited here to stress the point that knowledge and the acquisition thereof is profoundly influenced, in this case by relations of inequality and imposition. They illustrate the point suggested in the cameo by Mignolo about Las Casas and the Indians that the hegemonisation of knowledge during relations of inequality colours how people, and young people in particular, come to know a particular knowledge or knowledge system. Mignolo's example reinforces the idea of the hegemonisation of knowledge rendering people of the South as 'objects' of knowledge rather than subjects (Makgoba & Seepe 2004) and depriving them of a degree of agency in relation to knowledge (Ndebele 2016). However one must be careful of depicting oppressed people as fully lacking in agency, which leads too easily to a deficit paradigm. In another extract from the same PhD study, a rural student displays a degree of agency in relation to the acquisition of the dominant language:

> When I was seven years old every weekend my mother used to go with me to her work in town. At my mother's work I used to play with her master's children. I was faced with a problem because I could not utter a single word [of their language]. … As I was curious to learn the language, when I heard an unfamiliar word I would keep it to myself and when I arrived at home, I asked my mother the meaning of the

> word. By so doing I began to learn the language gradually (Leibowitz 2001: 128).

The student described her determination to acquire the language. Nevertheless the context in which this was done was one of apartheid, where Africans were so often servants to whites, thus a context of extreme structural inequality. In the next section I argue that a similar dynamic is at play in relation to socio-economic inequalities more broadly.

Social Inequality

The impact of the imposition of hegemonic Western knowledge is not only felt by colonial subjects, but in relation to class based inequality, in the 'metropole' as well. This point has been made most strongly by reproduction theorists Pierre Bernstein (2000) in the UK, and Pierre Bourdieu (Bourdieu & Passeron 2000), in France. In the case of Bernstein, young people might speak the dominant language, here English, but not the dominant variant thereof, and not the middle-class code or relation to knowledge. Bernstein (2000) stresses class relations and their influence on the production of learners' subjectivities:

> Finally, social class relations through distributive regulation, distribute unequally, discursive, material and social resources which in turn create categories of the included and excluded, makes crucial boundaries permeable to some and impermeable to others, and specialises and positions oppositional identities (Bernstein 2000: 207).

Alienation

The imposition of Western knowledge forms also leads to alienated knowledge (Nyamnjoh 2012) as well as a sense of estrangement or foreignness for the new student to university (Jansen 2009). Alex de Waal (2016) maintains that 'African academics face a real divide between their real and scholarly selves' and become alienated from their craft as researchers.

Alienation is often discussed in relation to colonisation and coloniality, but it also features strongly in accounts of the mismatch between formal knowledge systems, as imposed via the discourses of middle-class schooling, and informal knowledge systems, both in colonial and non-colonial settings.

In the Southern African context Ndebele (2016: 18) writes about the dislocation of formal learning imposed monolithically by the school and church, from informal learning. This led to the impoverishing of the colonial knowledge disseminated via formal institutions, and the simultaneous impoverishing of local knowledge:

> The specificity of township life as content for serious contemplation of ethical and moral choices were never a part of formal learning. Instead, a displacement occurred.

The impoverishment of both the formal knowledge system and of the informal knowledge system, or perhaps the loss of an opportunity to enrich both, is typical of education in South Africa in the current era. Ndebele continues to write about the real-life drama of living in the township, and the romances and fantasies he engaged in: life in Shakespearean England or the betrayals, dramas and triumphs of the movies.

> We, the little ones at primary and secondary school, were transported through poems, novels, films, comic books, to worlds thousands of years away. In time, the more our imagination recreated those distant world into compelling reality, the less real our own immediate world became. As we progressively disengaged from it emotionally and imaginatively, it became less authentic, less accommodative, less attractive, unfulfilling and often hostile, as we lived in it. We lived in it without the concomitant learned habit of thinking it. Our affective imaginations progressively got anchored elsewhere. …
>
> So, all that was affectively close to me, which could shape my ethical and moral attitudes towards pain and pleasure, life and death, desire and revulsion, was never a part of learning in the world of official schooling. Nothing in my schools ever taught me about life in the township in any sustained manner. There were few opportunities to contemplate human behaviour such as would enhance the sense of human value and deepen subjectivity through informed rational discourse. It dawned on me that contemplated encounters with my immediate environment in its own settings had no institutional affirmations (Ndebele 2016: 18).

Lacking a Foil to Counter its Own Excess

Thus far my argument has been in support of the criticism of the hegemony of Western knowledge systems in that it serves the interests of the powerful at the expense of the oppressed. However there are aspects of this hegemony which can be shown to affect the oppressed as well as the privileged. Mignolo (2002: 71-72) maintains that decolonising knowledge is 'at least as important for the coloniser as it is for the colonised'. One of these aspects is that a hegemonic knowledge system lacks a dialectical or dialogic relationship with non-Western knowledges, which present the counter to, or the limits or logical implications, of Western modernity. Santos (2014) gives an example of knowledge systems where the consequences of uncountered excesses are great – including those of eugenics and racial anthropology. Eugenics is a good example of the difficulty of dislodging western epistemology, and of the mental grooves that are created by epistemology at a deep level. Eugenics was a logical outcome of the classification and categorisation inherent in the scientific work of the enlightenment, aligned with a hierarchical or dualist mode of thinking. In the humanist era 'man' was at the centre of the university, omnipotent and omniscient. If one can see humans at the centre, as most powerful, agentic and qualitatively superior, it is a small step to seeing certain kinds of human, for example Aryans or whites, as the most superior. Eugenics is a form of epistemicide, i.e. the imposition of a knowledge system that leads to destruction of peoples or their practices. The problem with this and other aberrations is the self-confidence and the complacency of those who perpetuated these errant ways of thinking. Santos (2014) maintains that this 'blindness' is recurrent. One could argue that these blindnesses or intellectual cul de sacs can occur in any society. It just happens that this blindness has ramifications for an entire world system, not just one small group in one area.

Inadequate to Answer Problems

A second problematic aspect of a hegemonic knowledge system that affects the entire system and all members of society is that it is not aware of the gaps or silences in the system, and cannot solve its own problems:

> The need for translation resides in the fact that the problems that Western modernity purported to solve (liberty, equality, fraternity) remain unsolved and cannot be resolved within the cultural and

> political confines of Western modernity. In other words, in the transition period in which we find ourselves, we are faced with modern problems for which we have no modern solutions (Santos 2014: 233).

The lack of solutions to modern problems is most poignantly felt in the current era in relation to threats against the planet and global warming, in addition to other modern as well as age-old problems. This is also a problem where many first nations and indigenous peoples claim to have more appropriate epistemologies, or knowledge systems that can contribute towards an understanding of how to live in harmony with the environment (Battiste 2013; Smith 1999).

Non-hegemonising Approaches Towards Knowledge

Thus far we have traced the harm caused by a hegemonic Western knowledge system, with examples. In this next section an array of suggestions are considered, about how to view knowledge differently, such that individuals or groups are not subject to one, overarching and impositional knowledge system.

Centring Knowledge in Relation to Place

One of the most significant approaches, or certainly the most popular in South Africa within the call to decolonise the curriculum, is to centre the knowledge in the curriculum by focusing that which is most familiar or relevant to people, and in the case of Africans, African knowledge. As a writer and teacher of literature, Ngũgĩ (1985/2005) focuses his attention on literature and language. He maintains that the priority should be Africa, and should radiate outwards other colonised nations, for example the West Indies, before moving to Western powerful knowledge. Thus place and history (colonisation) are linked. He calls this centring a 'quest for relevance' (Ngũgĩ 2005: 87), where the purpose is to be able to see oneself and others in the universe from one's own perspective. It should be stressed that this is by no means an exclusionary perspective, as it is not about rejecting Western knowledge (Mbembe n.d.). This position is convincing and credible. However it does contain inherent challenges in heterogeneous societies where, even within a continent, be it Europe or Africa, migration due to violence, conflict and economic difference has led to many children or adults of different national and linguistic

backgrounds living or attending school together. Differences are not only national: they might be religious, gender or class based, and so on. I experienced this challenge first-hand when I was a high school English teacher in working-class coloured schools in the Western Cape in the late 1980s. Attempts to insert examples of African literature into literature curriculum were met with varying success, with stories with high affective value or those that dealt specifically with matters of interest in that coloured community, or to teenagers being more palatable – the fact that they were produced by African writers was not appreciated, even though we were (on the tip of) the African continent.

An Ecology of Knowledges

A second approach to dehegemonising knowledge is to see various knowledge systems as existing side by side, within an ecology of knowledges rather than within a hierarchy of value. The concept of 'cognitive justice' is a 'normative principle for the equal treatment of all forms of knowledge' (Van der Velden 2006: 12). This does not mean that all forms of knowledge are equal, but rather, that the equality of knowers forms the basis of dialogue between knowledges, and that what is required for democracy is a dialogue amongst knowers and their knowledges. According to this view there are a variety of knowledges which can be considered. Their relevance depends on the question being asked, as well as the process adopted to reach the answer, including social and ethical considerations,

> Since no knowledge or practice in isolation provides reliable guidance, and for an edifying, socially responsible, rather than technical, application of science, fully aware that the consequences of scientific actions tend to be less scientific than the actions themselves (Santos 2014: 127).

Mbembe (2016: 37) also calls for 'epistemic diversity', which is: 'a process that does not necessarily abandon the notion of universal knowledge for humanity, but which embraces it via a horizontal strategy of openness to dialogue among many epistemic traditions'. He refers to Enrique Dussel and Boaventura de Sousa Santos on the 'pluriversity':

> To decolonise the university is therefore to reform it with the aim of creating a less provincial and more open critical cosmopolitan pluriversalism – a task that involves the radical refounding of our ways of thinking and a transcendence of our disciplinary divisions (Mbembe 2016: 37).

The view that there are multiple and diverse knowledges does not necessarily imply relativism, or that 'anything goes'. For example, Visvanathan proposes a list of requirements for knowledge systems to exist side by side, and to ensure cognitive justice:

1. Each knowledge system if it is to be democratic must realise it is iatrogenic in some context.
2. Each knowledge system must realise that in moments of dominance it may destroy life-giving alternatives available in the other. Each paradigm must sustain the otherness of other knowledge systems.
3. No knowledge system may 'museumify' the other. No knowledge system should be overtly deskilling.
4. Each knowledge system must practice cognitive indifference to itself in some consciously chosen domains.
5. All major technical projects legitimised through dominant knowledge forms must be subject to referendum and recall (Visvanathan 2007: 215).

This ecological approach would rely on an institution, such as a university, to truly reconsider what its aims are, and to what ends it is educating students. For example, what kind of doctors does a medical school wish to produce? One that can conduct research at an international level? One that knows how to perform operations within a 'first world' system? Or one that is enabled, with sensitivity about a community's values and aspirations, to mount a preventative strategy against illnesses that afflict the majority of a country's inhabitants? Featuring indigenous knowledges side by side in higher education with the dominant Western enlightenment knowledge has been receiving attention, for example the launch of the Indigenous Strategy 2017-2020 in Australia, which includes the 'processes that ensure all students will encounter and engage with Aboriginal and Torres Strait Islander cultural content as integral parts of their course of study, by 2020' (Universities Australia n.d.).

According to Page (2017), this strategy, which built on earlier work by the Deans of Medicine, has been met thus far with 'varying success'. If one is including varying cosmologies, rather than piecemeal and atomised chunks of information, students would be required to become, by analogy with the word 'multi-lingual' then 'multi-epistemic' – having access to multiple epistemologies. In this case students would need to become proficient in a range of knowledges, and have an appreciation of their purposes and relevance. This would not be impossible, but it is challenging.

The difference between the current situation, where the privileged only have to acquire the dominant Western knowledge, is that the privileged students would also require to be re-educated, since they are not currently multilingual and multi-epistemic. An interesting example of this is a collaborative project I was engaged in called Community, Self and Identity (Leibowitz *et al.* 2012), which required fourth year students from two universities to study a short module together, in which they learnt about matters of identity, difference and community across boundaries of institution, social class, race, gender, language and discipline. We deliberately unseated the regular norms by starting the first session using participatory learning and action techniques, with students drawing maps of their communities and their needs, rather than with them writing expository prose or talking in a discursive manner (the latter being examples of the dominant academic mode). The students who were most discomforted by the information that was elicited were the middle-class, white students. Unfortunately by the end of the module the dominant modes (presentation via powerpoint and reflective essays) in which the middle-class students were more proficient, became salient. In other words, the designers of the module were correct in our intuition that disrupting power relations by changing the mode of communication and representation could differently valorise the knowledge of the working-class, black students. But we still had to contend with the tenacity of the current modes of communication and values regarding what is valuable knowledge, sustained by assessment policies, programme outcomes and professional standards which govern the curriculum.

Decolonising Knowledge from the Outside

A somewhat different approach is that we have to decolonise knowledge by thinking outside of the Western epistemology as it is not possible to think 'from

the cannon of Western philosophy, even when part of the canon is critical of modernity. To do so means to reproduce the blind epistemic ethnocentrism that makes difficult, if not impossible, any political philosophy of inclusion' (Mignolo 2002: 66).

To decolonise knowledge in fields such as philosophy or the social sciences, requires appropriating Western epistemology and simultaneously to think within other cosmologies which are not dependent on Western modernity, and in so doing, to criticise Western modernity. This is the task involved in decolonising knowledge, but it is less clear what the implications of this are for education. Perhaps in education too, a decolonising education requires students to appropriate Western knowledge, and at the same time, to critique it from without. The latter requires being familiar with non-western knowledges. However Mignolo's position suggests a slightly different education for students in colonial settings than for those in the global North, since in the global North one may learn to rationally understand epistemologies of the South, but not to feel them in the embodied manner that those in colonial contexts would do:

> Nothing prevents a white body in Western Europe from sensing how coloniality works in non-European bodies. That understanding would be rational and intellectual, not experiential. Therefore, for a white European body to think decolonially means to give; to give in a parallel way than a body of color formed in colonial histories has to give if that body wants to inhabit postmodern and poststructuralist theories (Mignolo 2011: iii).

By a 'different education' I do not mean a different school or university system, but a concept of education that assumes that there are different cosmologies, different sensibilities, rationalities and entitlements in one teaching and learning setting. Furthermore, this difference is not a comfortable or cosy one. When decolonising knowledge the embodied knowledge and sensibility of the colonised is privileged. Rather than a global village, the world is:

> a series of non-homogenous pockets of identity that must eventually come into conflict because they represent different historical arrangements of emotional energy (Mignolo 2002: 69).

Unless one is suggesting that students should be kept separate in their own spatial and historical contexts - which is both unfeasible as well as highly simplistic - then learning will of necessity involve an element of conflict about what a place-based sensibility might mean. This degree of conflict was illustrated in the Community, Self and Identity project referred to earlier, where students from different social as well as geographic locations (in the form of countries, provinces in South Africa and townships and suburbs within the Western Cape) came together to learn. The degree of conflict, which one student described as 'cognitive dissonance', led to a productive but uncomfortable learning experience (Leibowitz *et al.* 2012).

This approach would also require a strong degree of 'multi-epistemicism' amongst students, both bearers of hegemonic knowledge forms as well as non-hegemonic forms, as well as from educators. It would be extremely challenging, but perhaps more honest, than assuming it is easy for an individual to move from one knowledge system to another, or that it is easy to integrate differing worldviews or pockets of knowledge based on different worldviews (Battiste 2013) without distorting them.

Hybridisation

Another non-hegemonic approach is the encouragement of the hybridisation of knowledges, and the medium through which knowledge is communicated, i.e. languages. Ndebele offers a solution which he has consistently maintained: not to 'compare' or 'counterpose' but rather, to creolise. A position that he expressed in 1986 concerned the hegemony of English, which he felt could be appropriated by Africans, in which case it would be an African English:

> English will have to be taught in such a way that the learners are made to recognize themselves through the learning context employed, not as second class learners of a foreign culture, or as units of labour that have to be tuned to work better, but as self-respecting citizens of the world. The idea of teaching English through the exposure of second language learners to English culture should be abandoned. If English belongs to all, then it will naturally assume the cultural colour of its respective users (Ndebele 1986: 22).

Van der Waal (2012) draws on the work of Caribbean writer Edouard Glissant to consider whether the notion of creolisation and the politics of relation, do not offer a preferable solution to the essentialising of languages and language groups, including to the cultural hegemony of Afrikaans and whiteness on some of our campuses. At our SOTL @ UJ seminar where he presented this idea, the question was asked, 'could the creolised language or culture not then become a new, essentialised and hegemonic culture?' Given that Afrikaans, or English, for that matter, *are* creolised languages themselves, this could surely be the case. This would imply that we should not only consider creolisation or hybridity to be a solution, but in addition, the means by which this creolisation is maintained or negotiated, in new contexts of inequality. The principle of creolisation and relation do suggest an exciting way forward: for example, a student at her Rhodes graduation appeared barefoot and did a traditional IsiXhosa dance (Frederique 2016). This is an example of creolising or hybriddising our academic rituals and perhaps we should be looking far more systematically into the possibilities of this, not only regarding ceremonial rituals, but academic processes such as learning and teaching, and assessment.

Hybridisation conflicts with the argument that differing epistemologies, related to entire cosmologies, are not easily commensurate. This could be a valuable area for further research, i.e. issues of commensurability, and crossing cosmologies, ontologies, epistemologies and languages – under what conditions does this become feasible, and what are the pedagogic challenges? In my own experience of conducting research on language, I am aware of instances where mixing languages (known as code-switching) has been both productive as well as problematic.

Comparison

Despite the challenges posed by having to navigate knowledge systems, there are considerable advantages. Living and learning with different knowledges forces us to reconsider the blindnesses brought about by a complacent approach to knowledge:

> When two or more opposing accounts, perspectives, or belief systems appear side by side or intertwined, a kind of double or multiple 'seeing' results, forcing you into continuous dialectical encounters with these

> different stories, situations, and people. Trying to understand these convergences compels you to critique your own perspective and assumptions. It leads to reinterpreting the story you imagined yourself living, bring it to a dramatic end and initiating one of turmoil, being swallowed by your fears, and passing through a threshold (Anzaldua 2015: 125).

At a more metacognitive level, engaging in comparisons can reduce epistemic racism, for example by showing how non-Western knowledge sources have contributed to what we know as Western epistemology, especially with examples from Mathematics with its rich inputs from the Arabic world. Engaging in comparisons between knowledge systems can lead to valuable insights, provided that one does not compare, from the vantage point of the superiority of Western knowledge. The work of the Comaroff and Comaroff (2014) has been instructive, in showing systematic manifestations of similar deep social structures or processes in the South. Their most interesting example is the notion, basic to Western modernity, of the 'autonomous self'. They provide a detailed description of Tswana philosophy of the self, which in many respects is performative and individualistic, much as in the Western notion of the self. Whilst this approach has been very enlightening, and it may change views about how Western epistemology came to be and who contributed to it, it would not greatly reduce the controlling influence of present hegemonic practices.

Thus students would benefit from a more multifaceted exposure to various knowledges in the world. However the value of comparisons and exposure to diverse knowledges depends on social and material conditions of equality and inequality that influence how learners see themselves – as subject or objects.

Conclusion

As an attempt to contribute towards debate on decolonising the curriculum, this article began by sharing some of the key ways in which a hegemonic Western knowledge system generates and perpetuates harm. The discussion purposefully moved across historical eras and regions, in order to make the point that although this is very clearly an issue in South African education, it

is by no means particular to this country, and furthermore, while it is particularly harmful in the global South, it is not limited to the South. The varieties of harm that affect the oppressed are interwoven with violence and imposition; they lead to alienation; and perpetuate social inequality. The varieties of harm that affect the oppressed as well as the privileged, include the idea that the dominant hegemonic knowledge lacks a foil to counter its own excesses, and that it lacks the answers to counter the world's problems. Various approaches towards dehegemonising knowledge were surveyed, in order to argue that such a move is indeed possible. More than this, these approaches provide great intellectual advantages. However there are clear challenges in this regard, due partly to the assumptions inherent in these approaches, and party due to the relationality of knowledge production and acquisition. How students learn is strongly influenced by broader matters of power, authority and the distribution of resources. Mignolo (2011: ii) makes this point simply: 'decoloniality focuses on changing the terms of the conversation and not only its content.'

The implication of the social and relational nature of knowledge production and acquisition is that as academics we have a responsibility at three levels: at the most macro, societal level; at the meso level of academia, in our universities, professional associations and knowledge disciplinary associations; and finally, at the micro level, in our own teaching and learning contexts, when designing programmes and modules. All of the instantiations of harm targeting most directly the marginalised and oppressed, namely the relationship with violence and impositions, the maintenance and perpetuation of inequality and alienation, influence the subjectivity of the knower to the extent that there is a limit to how much change education can produce, when these structural and cultural conditions do not change. Thus if we care about the social relationships that influence learning and engagement with knowledge, we should care deeply about the social relations that impinge on learning.

The meso level of academia and its ability to change relations of power and knowledge should not be underestimated. An obvious example would be the manner in which pharmaceutical companies influence medical research and the production of medicines, at the expense of the interests of the poor. But academics do represent the interests of students and of knowledge generated in the interests of the broader community, in professional associations in particular, and can have an influence on the hierarchy of value of knowledges.

In the example referred to earlier of the move to incorporate indigenous knowledge in universities in Australia (Universities Australia n.d.) it was the actions of medical Deans that informed this development.

At the micro level, academics have the most leeway to influence the choice of content and approach to teaching and learning, perhaps in converse relationship to the ultimate impact of our choices. This observation is in no way intended to belittle the important work of transformation at the level of teaching and learning, and interaction with students. It is meant to explain why it is so difficult to effect extensive and lasting change at the micro level, not to argue that one should not be engaging in this fundamentally important activity.

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Curriculum Responsiveness in Teacher Professional Development Programmes: A Case Study of Language Education in Mauritius

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Abstract

This article examines the way in which the Mauritian tertiary education sector is responding to the island's current socioeconomic and political context in an era of globalisation. We begin with a reflection on international trends in higher education and discuss how reduced state funding has led to the 'commodification' of education. In line with studies that stress the need for small island developing states (SIDS) to devise their own approaches rather than emulate bigger states, the imperative for more collaboration and concerted effort to optimise existing resources is emphasised. To support this stance, the paper leans on a study that examines the extent to which curriculum transitions between an academic undergraduate and a postgraduate teacher professional development programme, in the field of languages, are responsive to the needs of the country. The findings reveal that the high degree of duplication in both programmes and the lack of collaboration between the institutions concerned are impassive to the economic efficiency being targeted in the public tertiary education sector.

Keywords: commodification of education; curriculum transitions; economic efficiency; higher education; Small Island Developing States

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a7

Introduction

There is some consensus that the advent of globalisation has led to the inclusion of education in the market economy. Consequently, it is expected that the sector will experience increased demand in the current context, where tertiary education is prized for professional upliftment with a growing number of service providers competing for a share of the state's higher education budget – which rarely keeps up with the demands of the expanding sector. Not surprisingly, the 'commodification' of education in response to tighter financial controls on higher education institutions by the state has led these institutions to consider and adopt alternative pathways to ensure constant student enrolment and sustain their existence. For instance, Knights (2003: 2) points out how international trade agreements like the General Agreement on Trade in Services (GATS), which 'identif[y] education as a service sector to be liberalised', have led to the internationalisation of education and because of cross-border education. Frontiers are becoming increasingly fuzzy in the face of international mobility, with foreign institutions opening branches in different parts of the world and a rise in student intake. The effervescence on the international scene prompts us to take a closer look at the scene in Mauritius, a small island developing state of close to 1.3 million people living on an area of about 2,040 km². The island currently harbours 10 public and 48 private institutions catering for a population of about 50 000 tertiary students. With no natural resources, Mauritius has had to review its economic policy and diversify its economy due to the fall in the price of sugar ─ the sugar industry having been the backbone of the Mauritian economy for a number of years after independence. While the textile and tourism industries are heavily banked upon in a bid to join the ranks of high income earning countries, Mauritius also aspires to become a world-class knowledge hub and gateway for post-secondary education in the region.

Against the aforementioned backdrop, this article explores the efficacy with which resources in higher education are being managed in the face of a limited student body, and also considering the Ministry of Education Culture and Human Resource's (MECHR) recognition that:

> [i]f tertiary education is expected to contribute significantly to the building of skills and the intellectual capacity of the country, there are a number of critical challenges that have to be faced … Both

> effectiveness and efficiency as well as an optimal use of financial resources have to be aspired for. (MECHR 2008: 14–15)

Furthermore, one of the goals of the Tertiary Education Commission (TEC), the regulatory body for tertiary institutions, is to '[e]nsure optimum use of the resources in the tertiary education institutions' (Ministry of Education and Scientific Research [MESR] 2006: 5-6), especially in a situation of over-reliance on state funding. We especially focus on the field of teacher education, where a growing number of service providers compete to attract the same clientele.

Small Islands Developing States versus Bigger States: Conceptualising One's own Model

The apparent variance between worldwide trends in the provision of services in the academia and the realities that are inherent to higher education in a country like Mauritius may be discussed against the broader discourse of small island developing state's (SIDS) specificities in education. Indeed, there has been a growing literature over the last decades advocating the need for SIDS to delineate the contours of their educational landscape by using their own yardsticks, since they 'are not just small versions of large states. Rather, they have distinctive features that demand particular strategies for development' (Bray 2016: 6).

In fact, more than three decades ago, the distinctive features of SIDS – particularly with regard to the dearth of human resources in certain key sectors – were already being underscored. There was indeed a strong advocacy to come up with personal responses to economic, societal and cultural challenges (Commonwealth Secretariat 1986). Today this realisation seems to warrant a growing pertinence in the field of higher education, even if as a general observation, it appears that in their aspiration for economic prosperity, SIDS often look up to bigger nations as they chart their route to perceived notions of socioeconomic prosperity. This is often done without taking heed of contextual realities that are far remote from those of nations that SIDS seek to emulate (Nadal, Ankiah-Gangadeen & Kee Mew 2017).

Instead of simply complying with international tendencies observed in academic circles, the educational priorities of SIDS (Crossley 2016: 12),

should be driven by how they can 'respond to major external environmental and economic shocks and challenges'. One of the forms that this response can take is, for instance, by optimising information and communication technologies to expand the tertiary sector (Crossley 2016). In the case of Mauritius, this is precisely what has been witnessed with the setting up of the Open University of Mauritius, a new entrant in the field of public tertiary service providers that is already 'flexing its institutional muscle to challenge normative face-to-face models' (Samuel 2016: 195).

When transposed to the academia, the discourse on the optimisation of scarce resources available in SIDS often cites as examples the University of West Indies (UWI) and the University of South Pacific (USP). These island universities have stood the test of time with regard to the unique ways in which they have managed to pool the scarce resources available from their respective 'islands context' as a regional answer to the challenges posed by globalisation (Martin & Bray 2011). Set up almost 70 years ago, the UWI, for instance, currently serves close to 40,000 students from 18 countries in the Caribbean region, across virtual and physical campuses located in different countries.

Bray (2011) recalls a similar intention to set up a regional university for small island states of the Indian Ocean region, like Mauritius, Seychelles, Reunion, Madagascar and the Comoros, in 1989. Advocated by the Indian Ocean Commission and backed by the heads of state of these respective countries, the projected setting up of an Indian Ocean university, nonetheless, did not come to fruition due to practical and political obstacles that surfaced further down the line. Since then, universities in this part of the world have been charting their own individual courses, despite some occasional initiatives (most often led by individuals rather than by the institutions themselves) like academic personnel visits or exchange programmes, collaborative research and publication endeavours, or the organisation of joint conferences. One recent illustration of the absence of sustained collaboration between regional stakeholders was witnessed with the setting up of the University of Seychelles in 2009. Even though the university chose to partner with a neighbouring institution for its BA French programme, namely the University of Reunion, it is best known as being a regional centre of the University of London, whose international programmes it offers. Moreover, in a bid to attract foreign students, the university aims to become 'the knowledge hub of the Indian Ocean' (University of Seychelles 2017), which precisely happens to be the way Mauritius positions itself as well (Gokulsing 2014).

Higher Education's Responses in Mauritius

The response of higher education in Mauritius is characterised by the absence of concerted efforts among providers of tertiary education. This type of response is not only observed domestically in a country like Mauritius, where a tendency to construe of academic service providers solely in terms of competitors is clearly visible. It is also a feature on the regional front. Such a situation is contrary to the 'hub' philosophy, whereby universities refrain from considering each other solely in terms of competing service providers – as they can also be viewed as complementary agents – working to ensure that the hub offers a large and attractive range of study fields (Kalla & Mootoocurpen 2015).

Even more surprising in the local context is the lack of collaborative pursuits amongst public institutions of higher learning, which often derive a substantial share of their budget from the government's coffers. In such a situation, it could have been expected that capitalising on the financial and human resources available would have represented an important concern for these institutions. Moreover, it might have also been a legitimate expectation that the Tertiary Education Commission or the ministry overseeing tertiary education would have seen to it that there is no duplication of offerings that target the same audience across campuses in close proximity to each other (see figure 1) in a small island state. Nevertheless, to attract more students, it was observed that each institution guarded its territory intensively and made its courses as market-oriented as possible.

One illustrative case in point about three public institutions of higher learning located a few metres apart from each in the area of Réduit, Mauritius, is that that they concurrently offer a number of courses that are either absolutely identical in nature or that have a number of common features. For instance, while students at the University of Mauritius (UOM) are reading for their B.A. (Hons) English on a full-time basis, so are other students following the same course in a similar full-time mode at the Open University of Mauritius (OUM). In addition, located in between these two aforementioned institutions, the Mauritius Institute of Education (MIE) offers to its B.Ed. (Hons) full-time English students, a number of literature and linguistics modules that are identical to those being offered as part of the BA English programmes at the UOM and the OUM. Moreover, the BA (Hons) English programmes at the two universities both comprise language didactics modules, the teaching of which

constitutes the speciality of the MIE. This scenario stands as an illustration of a market-oriented approach prevailing in the local sphere, whereby institutions bank upon fields of study that are deemed to be lucrative. In Mauritius, teaching is viewed as an attractive profession as at times, it is the only option for students in the field of Humanities due to restricted job prospects on the island. Consequently, tertiary institutions offer courses that will guarantee a steady flow of intake irrespective of the fact that it may lead to duplication and, hence, not be financially viable for a small country.

Figure 1: Google Earth snapshot view depicting the geographical proximity of public institutions of higher learning in the area of Réduit, Mauritius.

Whilst it may be argued that with the modern-day realities of the academia – governed by the logic of liberalisation – there is nothing objectionable per se with such a practice, yet the issue of rationalisation of resources brought about by considerations of size for a small island state like Mauritius cannot be overlooked in the present circumstances. This is crucial when we consider that the majority of the teaching resource persons of OUM are privately hired part-time lecturers who often work for other local public institutions of higher learning. We are concerned that instead of adopting an

approach whereby the specific needs of individual institutions of higher learning are solely catered for on a case-to-case basis (Antoine 2017), regulatory bodies for the tertiary sector are silent about aligning programmes to student progression and career prospects, e.g. from university to teacher education institute for those contemplating teaching as a career. However, there is growing evidence of the opposite situation occurring, especially in the field of Teacher Education, as will be discussed later.

Nonetheless, amidst these manifestations of unresponsiveness at the level of transition from one tertiary institution to the other, the Open University of Mauritius constitutes an interesting case. Despite being a relative new comer[1] in the local academic landscape, the university markets itself as 'the fastest growing public university in Mauritius'. It has attracted more than 4000 students after just three years of operation (Open University of Mauritius 2017). Some of the characteristic features of this university include offering courses via distance mode with emphases on employability skills, optimal exploitation of the system of prior or experiential learning accreditation as defined by the Mauritius Qualifications Authority (MQA)[2], and offering foundation courses for prospective students who might not possess the required qualifications to enrol for certain courses. In this sense, the university appeals to quite a large segment of the tertiary education clientele who might not be able to meet admission criteria imposed by other local institutions or who might not be able to afford the high costs associated with foreign universities. Consequently, the university's student enrolment rate is on the increase, recording a twenty percent rise for 2015 compared to the previous year. This

[1] The Open University of Mauritius was initially known as the Mauritius College of the Air, a parastatal body that operated under the aegis of the Ministry of Education since its inception in 1985 and that aimed at the promotion of arts, science and culture 'through mass media and distance education.'
(http://colfinder.net/materials/Supporting_Distance_Education_Through_Policy_Development/resources/worldbank/countries/mauritius/coa.htm)

[2] Functioning under the aegis of the Ministry of Education, the MQA is the local regulatory body that establishes and upholds regulations and provisions governing the validation (as per local and international standards) and accreditation of qualifications for employability and lifelong learning, in line with the National Qualifications Framework.

situation even affords the university the capacity to generate the revenues needed to cover its operational costs, as government grants account for only ten percent of the university's budget (Antoine 2017).

Another key feature of the OUM seems to be its capitalisation on top-up programmes that are meant to add up to previously earned qualifications either from the university itself or from other service providers. Two such examples concern the B.Ed. (Hons) Primary programme and the B.Ed. (Hons) in Early Childhood Education and Care. Whilst it is true that OUM provides an extended route for those applicants who need to start 'from scratch' with only 'A' level qualifications in hand, it is obvious that it targets the holders of the Diploma in Primary Education and the Diploma in Early Childhood Education (ECE) issued by the MIE as is evident from the profile of those who enrol on these courses. The practice of recruiting MIE diploma graduates may change as the MIE, which could until now offer qualifications up to diploma level only, was recently granted the much sought after 'degree awarding' status. Holders of the MIE Diploma in Primary Education and of the Diploma in ECE, indeed, constitute a select target profile for these degree programmes in what seems to be some sort of win-win situation for both the students (who could finally earn the much-awaited qualification) and the institution, whose student intake is boosted.

Viewed from a particular angle, OUM seems to be seen as providing tailor-made solutions that are in line with the genuine academic and professional aspirations of individuals seeking socioeconomic advancement. Whilst the absence of coordinated and articulated efforts for the whole tertiary education sector in Mauritius often leads institutions of higher learning to consider themselves as competitors rather than partners, it does seem that a few recent players in the field have managed to take advantage of the current situation by proposing courses and learning modes that complement offers made by other service providers. These new courses and learning modes seem particularly suited to the needs of the labour market and of the prospective labour force as well. The tendency for top-up programmes for students continues and is being strengthened, as yet another recently established institution, Université des Mascareignes[3], has also positioned itself as an important provider of industry-relevant training (Betchoo 2016).

[3] The Université des Mascareignes (UdM) has been founded in 2012 as a merger between the 'Institut Supérieur de Technologie' and the Swami

Higher Education in Mauritius: A Constantly Evolving Landscape

With more Mauritian students now being able to afford studying abroad, a rise in the number of those who do so has been noted (Antoine & Laurent 2017). Added to this trend, is increased competition from the private sector, which has led to admissions in most public institutions to experience a fall or sluggish intake (Tertiary Education Commission [TEC] 2016). Cost effectiveness in the public higher education sector then becomes a major preoccupation. A cursory look at student enrolment on certain courses at the Mauritius Institute of Education, the only institution that is officially mandated for teacher education on the island, reveals that figures can be as low as four students on certain programmes, e.g. the Full Time Teacher's Diploma Secondary (English) course, making it costly in terms of financial and human resources.

In many respects, a significant alignment of course offer and course content from one public institution of higher learning to the other could have been deemed a strong and sound response to the proliferation of private international academic service providers in Mauritius. Indeed, over the last decade, higher education institutions in Mauritius have flourished at an unparalleled rate. The vision of the previous government to have one graduate per home by 2020 and to transform the island into a knowledge hub for the region (Gouges 2011) has led to the liberalisation of tertiary education and to an increased access to it. Not only was the Open University of Mauritius set up to encourage enrolment through distance education, but a number of foreign universities such as Middlesex University, Aberystwyth University and Mauras College of Dentistry were allowed to open local branches. This was in addition to a number of institutions like the Mauritius Institute of Education, Charles Telfair Institute and the Médine Education Village establishing memoranda of understandings with foreign universities to run courses in a bid to attract those who wish to acquire foreign certification at a reduced cost. In 2015, there were no less than 45 Private Post-Secondary Educational Institutions (PESIs) on the island, out of which five were International Branch

Dayanand Institute of Management (http://udm.ac.mu/). It offers courses in areas like Business Management, IT, Engineering, and Sustainable Development, often in the form of double degrees awarded by the UdM itself and by its international partner, the University of Limoges, in France.

Campuses and 92 overseas awarding bodies (TEC 2016) [4].

A scrutiny of statistics published in the *TEC Participation in Tertiary Education Report 2015* (TEC 2016) reveals that despite the proliferation of institutions and courses, there was a 3.3% drop in enrolment rates in 2015. This can be explained by the fact that, as pointed out earlier, more Mauritian students are now choosing to study in reputed foreign institutions. Moreover, it would appear that the country has been unable to attract the targeted number of foreign students. Despite Mauritius's ambition to become a knowledge hub, of the 48970 students registered, only 1524 were foreigners, far less than the projected number of 100,000 foreign students by the year 2025 (Le Mauricien 2014). It is also worth pointing out that 40% of the foreign students are enrolled in the field of medicine. Unsurprisingly, the percentage of registered foreign students in local tertiary institutions fell when private institutions offering medical programmes[5] were prohibited from running their courses due to accreditation issues either with the local regulatory bodies or with those of the country where the parent university is found, and because of various irregularities pointed out by students enrolled there (Le Mauricien 2014a). The drop in foreign student enrolment indicates that when it is hard to secure university admission in their home countries for a high status qualification like medicine, students turn to higher education institutions in Mauritius, which provides a ready market to meet their aspirations. When this ready market for medical studies shrinks, student enrolment falls as well. By contrast, areas of study that are more easily accessible elsewhere fail to attract foreign students and therefore, enrolment does not rise. The study by Kalla and Mootoocurpen (2015) sheds light on other factors that draw students to Mauritius. For example, some students are attracted to the intrinsic features of the country such as the good quality of life, personal safety and lower cost of tuition rather than the reputation of some universities, which often fail to emphasise the importance of research (Kalla & Mootoocurpen 2015). We argue that the prevailing situation suggests that the Mauritian higher education sector is not being managed efficiently to reach its projected objectives.

[4] Some of foreign universities that agreed to partnerships and memoranda of understanding with local institutions are: University of Brighton, the University of KwaZulu-Natal, the University of Paris II Pantheon Assas, Curtin University and the University of Northampton.

[5] Mauras School of Dentistry and D.Y. Patil are two well-known cases in point.

Curricular Responsiveness: A Case Study of Educational Transition at Level Three

In this part of the article, we take a closer look into curricular responsiveness at tertiary level (Griesel 2002; Ogude *et al*. 2005) by studying the phenomenon of educational transition at level three, namely from university to a teacher education institute in Mauritius. As pointed out by Van Schalkwyk (2010: 4), 'university responsiveness is variously understood and applied' and 'there have been no concerted attempts to resolve the conceptual confusion that surrounds the notion of responsiveness in higher education' (Van Schalkwyk 2010: 33). For instance, responsiveness is often taken to mean the extent to which higher education courses offered: i) answer the needs of the labour market; or ii) help in achieving society's aspirations, or iii) manage in fulfilling policies defined by the State. When coupled with the notion of transition (e.g. from secondary schooling to tertiary studies), responsiveness is associated with the relative degree of ease with which students effect the shift to a new learning paradigm as they leave high school to embark upon university studies. In addition, university responsiveness in the 21st century obviously encompasses the notion of relevance to macro orientations that are directly or subtly imposed by global forces, since all institutions of higher learning operate as players within a broader field of local, regional and international service providers.

In line with the idea spelt out by Jongbloed *et al.* (2008), Van Schalkwyk (2010) also points out that more and more, the concept of responsiveness is being substituted by that of engagement, in the sense that the latter includes the notion of accountability. Far from being just desirable (as is the case with responsiveness), engagement constitutes a more forceful petition in favour of the necessity for institutions of higher learning to fulfil a set of duties towards the society and country within which they locate themselves. In the context of the present discussion, there is scope to consider the element of engagement, given that the notion of transition here relates to the move that graduate students make to embark upon a teaching career in an institution dedicated to Teacher Education. Moreover, as tertiary institutions under consideration are financed by public funds, it is expected that they operate in ways that optimise the utilisation of available resources.

As we embark on the case study, we are driven by the economic rationale behind curricular alignment, given the emphasis laid by the Ministry of Education on the need for private tertiary institutions to be cost-effective.

Consequently, our focus is crucial since the sector is plagued by a number of weaknesses, such as limited capacity of post-secondary education institutions locally, lack of infrastructure and related amenities (e.g. accommodation on campus), shortage of expertise in emerging and new thrust areas, difficulty with recruitment and retention of high-level faculty, and over reliance on state funding in a context where the economic downturn on the international scene is impacting negatively on the local economy *(TEC Strategic Plan 2007-2011*. 2007).

The institutions under scrutiny are the Mauritius Institute of Education and the University of Mauritius. Set up in 1973, the Mauritius Institute of Education is a parastatal body that operates under the aegis of the Ministry of Education and Human Resources. The institution is mandated to engage in educational research, curriculum development and teacher education. It runs a plethora of programs, namely Ed.D., Ph.D., M.A., B.Ed., PGCE, Teacher's Diploma, and Teacher's Certificate.

The University of Mauritius was founded in 1965 and its main activities comprise research, consultancy, and teaching. During the last two years (2015-2016), the university ran no less than 180 programmes at both undergraduate and post-graduate levels. The two courses under scrutiny here are the PGCE Full Time (English) offered at the MIE and the B.A. Honours (English) offered by the UOM.

The PGCE Full Time course targets pre-service English teachers and has been conceived as a top-up certificate which aims to equip language graduates with pedagogical know-how, given that in the local context, as mentioned earlier, most language graduates contemplate a career in teaching due to the dearth of alternative prospects. It can be said that it is essentially in response to this market demand that the UOM incorporated didactics modules in its BA Honours English and French Courses. The reason for which we have focused on language and literature programmes is because most of those who enrol on these courses identify teaching as their first preference when it comes to charting the course of their professional career. Much more than for other fields of study, the correlation between language and literature learning at university level and the ensuing prospect of later teaching the subject is a strong one. The correlation explains why modules of language and literature didactics feature prominently – sometimes as core items – in most undergraduate language programmes on offer at university, contrary to the situation in other fields of study. The B.A. languages programmes therefore constitute a very

appropriate case study for the discussion of transition from university to Teacher Education institution.

Moll's (2004) multi-faceted model of curriculum responsiveness (see figure. 2), which examines curricular responsiveness at the economic/policy, institutional & cultural, disciplinary, and pedagogical/learning levels, will be used to determine the extent to which the two institutions are responsive to the socio-political context. This model is deemed to be appropriate because it encompasses the main factors that the literature on curricular responsiveness foregrounds (Ogude *et al*. 2005; Van Niekerk 2009). For the purpose of the case study, however, we chose to focus on economic/policy responsiveness, institutional & cultural responsiveness, as well as disciplinary responsiveness, which are more relevant to the phenomenon we are examining. Due to the macro perspective of the argument we are advancing, we did not engage with the pedagogical/learning responsiveness, which required specific data from lecturers and students.

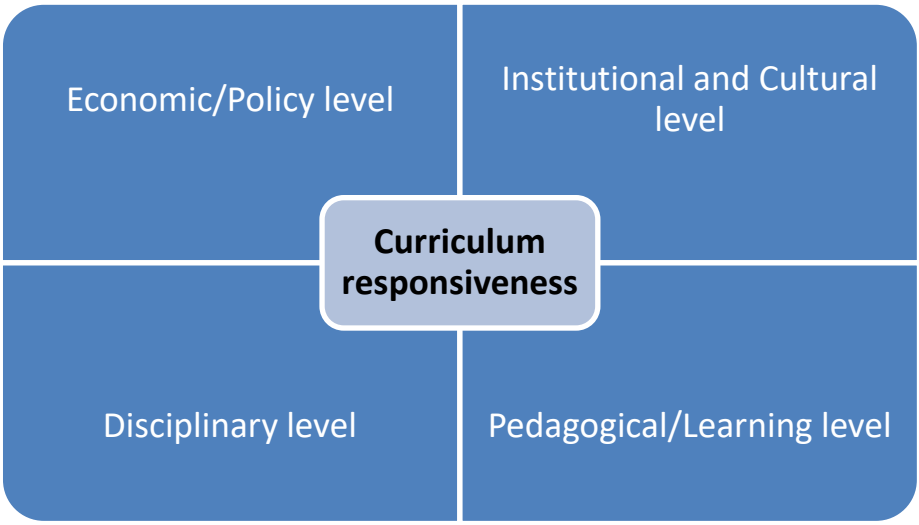

Figure 2: Moll's multi-faceted model of curriculum responsiveness.

Discussion

Economic/policy responsiveness refers to the extent to which universities are addressing the needs of the labour market by producing qualified and skilled

human resources. A comparison of the aims of the PGCE Subject Didactics I (English) module and those of the B.A. (Hons) English Language Teaching: Theory and Practice module reveals the high degree of similarity between the two modules (see Annex 1 for aims of modules). It is evident that both institutions are catering for the labour market by enabling prospective teachers to be adequately equipped with the requisite knowledge, skills and attitude to become effective practitioners. The provision of such programmes, or components within programmes, certainly contributes to the professionalization of the teaching personnel in schools. Previously, in Mauritius, graduates without pedagogical know-how were recruited as teachers. Now, there is little doubt that developing knowledge of pedagogy prior to embracing a teaching career impacts positively on the classroom, as it helps the teacher to gear his/her approach towards learners' needs.

Insights afforded by the case study clearly reveal that the two institutions of higher education are not adequately responsive to the situation in the education sector. There is a need for inter-institutional dialogue and partnership to ensure the optimisation of resources available and enhance economic responsiveness, especially in a context where internationalisation threatens to undermine public sector service providers. The echoes noted with respect to such elements as course content and school placement can be eliminated through the alignment of courses and or modules offered, and close inter-institutional collaboration can lead to the promotion of disciplinary responsiveness. In short, the indications are that institutions should adhere to the fields in which they specialise instead of crossing boundaries in a SIDS with a small target population.

Moreover, the extent to which applied practice by both institutions is similar (e.g. instance, placement in schools ─ especially in a situation where most of the trainees who enrol on the PGCE FT course are UOM graduates), prompts us to question the economic viability of these courses from the perspective of the State, which provides funding to the two teaching institutions. The duplication of content is clearly indicative of a waste of logistics at various levels, namely human resources, infrastructure and material. Furthermore, placement in secondary schools is becoming increasingly problematic given the limited number of schools and the increasing number of trainees that the MIE and UOM send every year on traineeship. Thus, while on the one hand the two institutions appear to demonstrate disciplinary responsiveness by providing knowledge and developing skills that are highly

relevant to the needs of the trainees, the movement from a mono-disciplinary to a multi-, inter- and trans-disciplinary focus becomes questionable, precisely in terms of such duplication and wastage.

A consideration of institutional and cultural responsiveness leads us to an observation by Ekon and Cloete (in Ogude *et al*. 2005: 7) that '(i)nstitutionally and culturally responsive curriculum at tertiary level should lead to 'new types of knowledge production and dissemination' with a view to contributing to 'productivity and competitiveness''. The case under scrutiny confirms observations made earlier in the paper since, by mirroring the content of their courses, the MIE and UOM are increasing the already existing competition in a small saturated market with regard to both student intake and academic productivity. Conversely, inter-institutional collaboration could have paved possibilities to broaden the scope for students, meet varied market needs more effectively, as well as promote institutional and cultural responsiveness by allowing for more flexibility in shaping the course according to students' needs and areas of interest. It is therefore imperative that institutions are guided by the national agenda rather than their individual agenda in strategic planning. Institutions should engage in dialogue and operate in line with the socio-political context in order to contribute to the advancement of society rather than, as pointed out earlier, adopt a territorial attitude and compete with one another. While a 'survival of the fittest' situation can benefit a few institutions, devising complementary programmes will certainly ensure the optimal use of available resources, thereby enabling the national agenda to progress. These observations will surely be enriched by findings from the forthcoming stages of the ongoing study on language education in Mauritius and also from similar endeavours being undertaken locally, e.g. to investigate the phenomenon of transition at level 3 for Science students moving from university to teacher education.

Conclusion

Given the limitations with regard to the student population and available resources, small island developing states, we deduce, cannot blindly follow in the footsteps of large states. The Ministry of Education and other regulatory bodies have a primary role in ensuring the effective running of public institutions, especially in the face of fierce competition from the private sector. By failing to devise policies that foster collaboration and concerted effort,

policy makers are in fact sharpening the spirit of competition that turns out to be detrimental to state economy and any attempt made to meet the students' needs. A higher education curriculum that is more responsive in the different respects spelt out in this article will ensure clearer and more serene growth perspectives for individuals envisaging a smooth progression along the education professional development continuum as well as for institutions, in full compliance with their mission, vision, mandate and specificities as educational service providers. At macro level, this could warrant a secure pathway to achieving the country's vision of becoming a regional hub for higher education by tapping on the best possible utilisation of the human and financial capital available. As long as this is not deemed desirable and feasible domestically, it seems almost unthinkable to envisage partnership initiatives with neighbouring countries sharing similar socioeconomic imperatives and geopolitical features, in the way that it has been done elsewhere by other small island states.

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Annexure 1

MIE English Subject Didactics I	UOM English Language Teaching: Theory and Practice
Aim To provide trainees with an overview of main approaches underpinning the teaching, learning and assessment of English language at secondary level. **Learning Outcomes** Trainees should be able to: • Demonstrate an understanding of theories pertaining to language acquisition/learning • Situate English language teaching at secondary level within the linguistic contexts prevailing in Mauritius • Describe the different approaches for the teaching of English and literature	**Aim** Familiarize students with some of the literature on second/foreign language teaching **Objectives** • Encourage students to explore, analytically and critically, some curricula/reports/articles on English and English language teaching in Mauritius; • Introduce students to the notion that as potential teachers, they can make informed choices and carefully select from the panoply of existing approaches and methods in order to respond to the needs of their students and to the challenges of their English language teaching contexts;

• Demonstrate awareness of different types of tools used for assessment in English language and literature.	• Consider some of the key decisions that teachers make and key issues that they have to deal with.

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Assessment and Cognitive Demand in Higher Education Accounting Textbooks

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Abstract
Driven by requirements prescribed by professional bodies, the accounting curriculum in many higher education institutions in South Africa and Nigeria demands high cognitive attributes from graduates. Advancing the proposition that assessment drives learning, the authors contend that cognitive demand can be determined by analysing the assessment tasks in students' textbooks. Using a conceptual framework based on Bloom's revised taxonomy and levels of difficulty theory, this article analyses the cognitive demand of assessment tasks in selected chapters of level one Financial Accounting textbooks in South Africa and Nigeria. The findings indicate that the bulk of the assessment tasks in the selected texts are pitched within middle and lower cognitive hybrids with limited tasks at higher levels. The article offers new insights into graduate attributes, assessment tasks and cognitive demand. It also suggests an alternative approach to assessing cognitive skills, specifically within the discipline of accounting to ensure a closer fit between training and the demands of the work place.

Keywords: assessment tasks; accounting textbooks; cognitive demand; layered framework; Bloom's Revised Taxonomy; level of difficulty; higher education; professional bodies

Introduction
Professional accounting institutions expect entry-level accountants to possess a range of high-level intellectual, technical, ethical, professional and personal competences that will prepare them to be life-long learners and enable them to

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a8

respond effectively to demanding workloads in diverse environments (South African Institute of Chartered Accountants [SAICA] 2014; IFAC 2010). As a member of the International Federation of Accountants (IFAC), the Institute of Chartered Accountants of Nigeria (ICAN) pursues the same goal (ICAN 2014). In the same vein, South Africa's National Qualifications Framework (NQF) requires assessments to be conducted in an integrated manner to foster higher-level cognitive skills (SAQA 2012; Bezuidenhout & Alt 2011). It therefore follows, that accounting degree programmes should equip students at all levels of study (Stokes, Rosetti & King 2010) with appropriate cognitive attributes to prepare them for the world of work (Gupta & Marshall 2010). One way of achieving this is via textbooks, which remain pivotal in pedagogical processes, especially in developing countries with limited access to technology. The textbook defines the curriculum (Crawford 2003), providing sequence, content and assessments (Benavot 2011) to aid teaching and learning.

Despite recognition that textbooks play a vital role in education, few studies have addressed the cognitive demands of assessment tasks in accounting (Davidson & Baldwin 2005) even though learning is largely driven by assessment (Biggs 2003). While Stokes, Rosetti and King (2010) examined the cognitive demand of assessment tasks in introductory accounting textbooks in the United States, there is a paucity of such research on the African continent.

This article analyses the assessment tasks in two Financial Accounting textbooks used in Higher Education Institutions (HEIs) in in South Africa and Nigeria. Using evaluation criteria drawn from Bloom's Revised Taxonomy (BRT) and Levels Of Difficulty (LOD) theory, the article seeks to understand the cognitive demands inherent in selected textbooks as it answers the following question: To what degree do first-year accounting textbooks develop cognitive skills/abilities amongst first-year students? The article is divided into four sections: 1) A review of the relevant literature and concepts; 2) Methodology; 3) Data presentation and discussion of the findings; and 4) Concluding remarks and suggestions for future research.

Literature Review

Background

Amongst other professional attributes, the South African Institute of Chartered

Accountants (SAICA) expects entry level members to possess high level intellectual and technical skills, including cognitive attributes that will enable them to examine and interpret information critically, solve problems and communicate effectively (SAICA 2014). The content of the accounting academic programme is thus expected to develop students' understanding of fundamental concepts and principles while cultivating the ability to adapt and apply these in various contexts (SAICA 2010). Specifically, accounting graduates are expected be able to 'analyse, and interpret financial and non-financial data, … and use data, exercise judgment, evaluate risks, and solve real-world problems' (Sudem & Williams 1992: 57) that require higher-order thinking skills. These intellectual abilities which are linked to Bloom's taxonomy (IFAC 2003; 2010) are expected go beyond recall levels to include higher cognitive skills (Gupta & Marshall 2010) at any level of study (Stokes, Rosetti & King 2010; Ngwenya 2012). Having highlighted the cognitive requirements, this article now reviews some of the relevant seminal and contemporary literature on textbooks.

Textbooks in Developing Countries

Textbooks are considered a vital component of the curriculum, as they are regarded as the principal medium for delivering content (Pingel 2010). This is especially true in developing countries, where textbooks tend to be the most cost-effective means of providing access to teaching and learning materials (Mbuyi 1988; Agrawal, Gollapudi, Kannan & Kenthapadi 2011). The role of the textbook is even more crucial in contexts where teachers are alleged to have inadequate subject knowledge and have limited access to curriculum documents (Greaney 2008). Even though scholars have identified concerns relating to quality, clarity of language and sufficiency of information in some textbooks, they remain the primary means for transmitting knowledge to students and improving the quality of education (Agrawal, Gollapudi, Kenthapadi, Srivastava & Velu 2010; Crossley & Murby 1994).

Accounting Textbook Research

To date, much of accounting textbook research has focused on two key domains: **content** (Bracken & Urbancic 1999; Aisbitt 2005; Hoffjan & Wompener 2006; Stokes 2008; Ferguson *et al*. 2009, 2010; Gordon 2011) and

readability (Plucinski & Hall 2012; Plucinski 2010; Chiang *et al.* 2008; Davidson 2005). The few studies that have been conducted on the cognitive demand of assessment in accounting textbooks (Davidson & Baldwin 2005) generally focus on developed countries using Bloom's taxonomy to evaluate the extent to which the cognitive skills in End-Of-Chapter (EOC) materials in intermediate textbooks align with the requirements of the curriculum or professional bodies (Davidson & Baldwin 2005; Gupta & Marshall 2010). The general conclusions from these studies suggest that EOC materials do not adequately focus on cognitive skills at higher levels of the taxonomy, and may therefore not prepare students adequately to meet the requirements of professional institutions or the workplace. Furthermore, the bulk of the assessment tasks address the middle level cognitive abilities of application and analysis. At the introductory level, Stokes, Rosetti and King (2010) reviewed commerce textbooks inclusive of financial accounting to ascertain the congruence between the cognitive levels of the learning objectives and EOC materials and found low levels of cognition with low levels of congruence. In Africa, O'Reilly-Bargate (2008) investigated the readability of third-year accounting textbooks and later examined the criteria used in the selection of prescribed textbooks in 2012. Bezuidenhout and Alt (2011) analysed student examination papers to determine the cognitive levels tested.

Cognitive Demand

This phenomenon is viewed differently by different scholars. Park (2011: 5) views cognitive demand as the 'amount of intellectual activity required to perform a task'. Others perceive it in terms of the 'kind of thinking processes entailed in solving the tasks' (Henningsen & Stein 1997: 529). Drawing from both views, this article describes cognitive demand as including both the *quantity* of thinking and the *type* or *level* of the thinking processes involved in successfully resolving an assessment task in order to gain a rich understanding of the phenomenon. By examining the cognitive demand, one is able categorise the thinking that occurs in the mind of the student.

As noted earlier, one of the tools that researchers in accounting have employed to investigate cognitive demand is Bloom's taxonomy of educational objectives (Bloom *et al.* 1956). Following its revision in 2001, this study draws on the Bloom's Revised Taxonomy (BRT) by Anderson *et al.* (2001) to provide theoretical insight into the phenomenon of cognitive demand. Premised on the

notion that learning takes place progressively from simple to complex and from concrete to abstract, the taxonomy occurs in two dimensions (Anderson *et al*. 2001). The cognitive process dimension addresses the verb/verb phrase of an instruction whilst the knowledge dimension later relates to the noun/noun phrase (Anderson *et al*. 2001). The former consists of six levels starting with Remember in level one. Tasks in this level assess students' ability to retain that which was learned either via recall from long-term memory or identification (Anderson *et al*. 2001). Assessment tasks in this level may require students to name the five users of the financial statements. At the second level is the category Understand which assesses one's ability to make meaning of learned information (Anderson *et al*. 2001). An assessment task at this level could demand that students explain the straight-line method of depreciation. The third level, Apply is described by the authors as the ability to execute or implement procedures in a new situation such as the preparation of general ledger accounts. The fourth level pertains to the ability to break down information; find the relationships between the different parts and determine how the structure fits together (Anderson *et al*. 2001). Reconciliation of various accounts fits into this level. At the fifth level is the ability to make sound judgements based on criteria which may require students to justify their choice of a particular investment decision. At the top of the echelon is the ability to think creatively to address problems which may be familiar or unfamiliar.

The authors describe four different categories of knowledge within the knowledge dimension as summarised in table B below. Factual knowledge aids the acquisition of disciplinary language which the novice first-year accounting student needs to be acquainted with in order to converse and solve problems within the discipline (Anderson *et al*. 2001; O'Reilly-Bargate 2008). Also termed disciplinary knowledge, conceptual knowledge is more concerned with interrelationships between different knowledge elements and serves to advance disciplinary expertise (Anderson *et al*. 2001). While these two categories of knowledge are generally referred to as the knowledge of 'what', procedural knowledge is referred to as the knowledge of 'how' as it helps to equip students with the skills required to perform diverse accounting functions (McCormick 1997; Anderson *et al*. 2001). The authors of the taxonomy describe meta-cognitive knowledge as including general strategies for learning and also including one's self-awareness of one's cognitive abilities in addition to contextual knowledge.

While the BRT provides insight into the level of thinking in successfully resolving a task, the LOD theory (Leong 2006) offers insight on the demand on cognition arising from quantity and other variables. He describes four parameters involved in varying the difficulty of a test item, namely, Task, Content, Stimulus and Expected Response. This article draws on elements of the task and content parameters in providing an understanding of the cognitive demand embedded in assessment activities. In relation to task, Leong (2006) posits that the difficulty of an assessment task can be varied by the number steps required to accomplish it. Assessment tasks that require more steps are usually more difficult than those that require less. Moreover, those that provide clear instructions are generally easier to complete than those that do not. Amongst other variables, Leong (2006) states, that the content parameter relates to one's level of familiarity with the task and the number of knowledge elements assessed. Tasks that assess familiar content are generally less difficult to accomplish than those that involve unfamiliar content. Similarly, the author asserts that it is relatively easier to solve questions involving one knowledge element than those involving more.

This article, which is part of a larger on-going study, analyses the cognitive demand of assessment tasks in selected textbooks using a content analysis methodology that is explicated in the following section.

Methodology

This article adopts a qualitative content analysis methodology to understand the representation of cognitive demand in level-one financial accounting textbooks. This approach uses analytical constructs or guidelines to infer meaning from text by making deductions from the text to the context (Marsh & White 2006). The analytical tool for this article was developed drawing on the six levels of the cognitive dimension (Table A) and four levels of the knowledge dimension (Table B) of the BRT (Anderson *et al.* 2001) in addition to the task and content parameters from the LOD theory (Leong 2006) (Table C). The analytical tool is not simply a combination of two theories; rather, it is a layered framework, which provides some deep insights into the nuances in the comprehension of cognition embedded within these assessment tasks as represented in figure 1.

Table A: Structure of the cognitive dimension (Adopted from Krathwohl's 2002:215 Table)

1.0 **Remember** – Retrieving relevant knowledge from long-term memory. The two sub-categories are recognizing and recalling

2.0 **Understand** – Determining the meaning of instructional messages including oral, written and graphic communication. Seven sub-categories: interpreting, exemplifying, classifying, summarizing, inferring, comparing and explaining

3.0 **Apply** – Carrying out or using a procedure in a given situation. Two sub-categories, namely, executing and implementing

4.0 **Analyze** – Breaking down into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose. Three subcategories – differentiating, organizing and attributing

5.0 **Evaluate** – making judgments based on criteria and standards. Sub-categories are checking and critiquing.

6.0 **Create** – Putting elements together to form a novel, coherent whole or make an original product. The subcategories are generating, planning and producing.

Table B: Structure of the Knowledge dimension (Adopted from Krathwohl's 2002:214 Table)

A. **Factual Knowledge** – Basic ideas that students need to be acquainted with in order to function within the discipline and resolve problems in it. Two subcategories – knowledge of terminologies; and specific details and elements.

B. **Conceptual knowledge** – Interrelationship among elements within larger structures that allow them to operate together. Subcategories include knowledge of, classification and categories; principles and generalization; and theories, models and structures.

C. **Procedural Knowledge** – How to do things. Included are subject-specific skills and algorithms; techniques and methods; and criteria for determining when to use appropriate procedures.

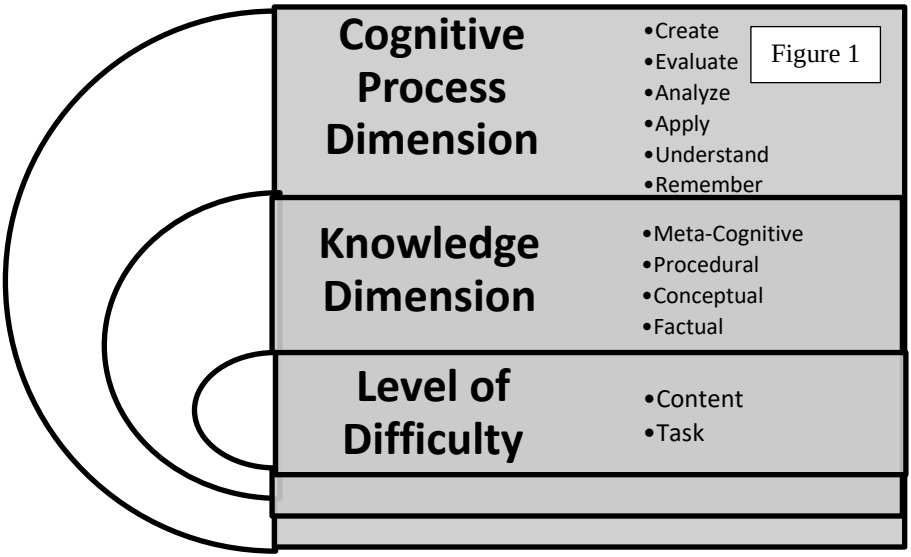
D. **Metacognitive Knowledge** – Knowledge about cognition in general as well as awareness and knowledge of one's own cognition. Three subcategories – strategic knowledge; knowledge about cognitive tasks including appropriate contextual and conditional knowledge; and self-knowledge.

Table C: Level of difficulty (Leong 2006)

i. **Content Difficulty** – This relates to the difficulty of the subject matter (facts, concepts, or procedures) which could be basic, adequate or advanced depending on familiarity, number of knowledge elements or types of knowledge.

ii. **Task Difficulty** – Difficulty encountered by students as they try to work out a solution to the problem. It is related to the cognitive process and the criteria include number of steps and level of guidance

In selecting the level-one financial accounting textbook used in two African countries, consideration was given to the textbook used by top ranking institutions in both countries in 2014. Coincidentally, in South Africa, the selected text was also the most widely used. The South African text was labeled Textbook A and the Nigerian text Textbook B.



In the selecting the chapters for analysis, we aimed to incorporate a broad range of cognitive attributes by including chapters that are both textual and computational, because it was not realistic to examine every question in the textbooks (Davidson & Baldwin 2005). Therefore, we categorised all the chapters into four broad groups and selected one chapter from each group in line with the strategy used by Chiang *et al.* (2008) and detailed below in table D:

Table D		
Group	**Text A (Chapter selected)**	**Text B (Chapter selected)**
1. Introduction	4. Conceptual framework (42)	2. Introduction to financial statements (17)
2. Basic content of accounting	6. Adjustments (65)	8. End of year adjustments (19)
3. More technical content	11. Property, plant and equipment (73)	3.Understanding some relevant (IFRS) (12)
4. Financial statements	15. Financial analysis (77)	16. Interpretation of financial statements (21)
Pages covered	257	69

While the titles of the chapters in the texts do not necessarily correspond in groups one and three, some topics contained therein are quite similar. In each textbook, we examined intertextual assessment tasks, EOC materials and those contained in the question book. Each part of a question with more than one part was treated as a separate question, based on the cognitive process requirement. To promote trustworthiness of the claims in this article, repeated reading was undertaken and member checks were carried out through the University of KwaZulu-Natal (UKZN) higher education doctoral cohort and supervisors. Details of our findings and discussion thereof are presented hereunder.

Data Presentation and Discussion

Our analysis of the assessment tasks using the criteria drawn from the BRT and LOD set out in our layered framework gave rise to the multiple hybrids presented in table E.

Table E	Texts A & B - Hybrids						
	Hybrids	Variables	Sub-Hybrids			Total	Knowledge
			Basic	Moderate	Advanced		
BRT / LOD	Remember / Content / task	Familiarity	17	50	1	68	Factual 76% Conceptual 24%
		No of K Elements	66	2	0	68	
		No of steps	65	2	1	68	
		Level of Guidance	67	1	0	68	
BRT / LOD	Understand / Content / task	Familiarity	25	80	7	112	Factual 56% Conceptual 44%
		No of K Elements	95	17	0	112	
		No of steps	94	17	1	112	
		Level of Guidance	110	2	0	112	
BRT / LOD	Apply / Content / task	Familiarity	35	149	13	197	Procedural 100%
		No of K Elements	105	73	19	197	
		No. of Steps	97	49	51	197	
		Level of guidance	162	16	19	197	
BRT / LOD	Analysis / Content / Task	Familiarity	3	34	3	40	Factual 35% Conceptual 65%
		No of K Elements	31	7	2	40	
		No of steps	20	7	13	40	
		Level of Guidance	32	2	6	40	
BRT / LOD	Evaluate / Content / Task	Familiarity	8	31	1	40	Factual 13% Conceptual 87%
		No of Knowledge	27	11	2	40	
		No of steps	0	25	15	40	
		Level of Guidance	15	17	8	40	
BRT / LOD	Create / Content / Task	Familiarity	0	1	0	1	Conceptual 100%
		No of K Elements	0	0	1	1	
		No of steps	0	0	1	1	
		Level of Guidance	0	1	0	1	

Of the total of 458 assessment tasks analysed, the Apply-Task-Hybrid (ATH) in the middle cognitive range is the most significant, accounting for 43% of the entire task spectrum. This is followed by assessment tasks in the lower cognitive range with the Understand-Content-Hybrid (UCH) at 25% and the Remember-Content-Hybrid (RCH) at 15%. However, as the graphical

overview in figure 2 below shows, the representation is not quite the same across both textbooks.

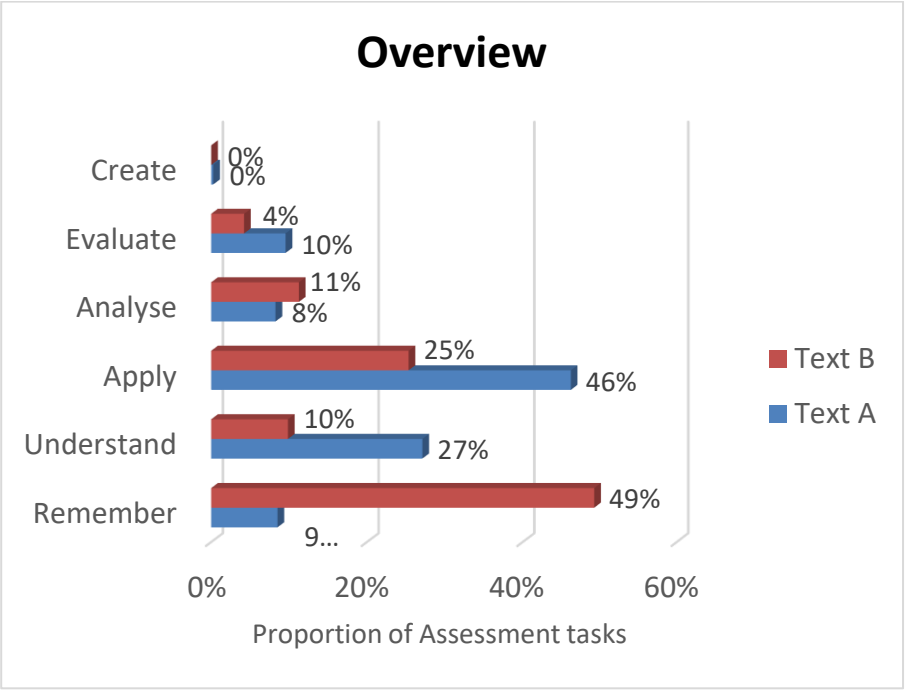


Figure 2

In text A, the dominant hybrid is the ATH while the RCH accounts for about half of the cognitive representation in all the assessment tasks reviewed in text B.

Apply-Task-Hybrid (ATH)

Assessment tasks within the Apply cognitive level entail the use of steps, rules, formulae and processes to find solutions to exercises and problems (Anderson *et al.* 2001). This could involve the use of known processes to solve familiar exercises that are fairly routine – subcategorized as 'execute' or the development of processes based on one's understanding of the underlying

concepts to resolve unfamiliar problems – subcategorised as 'implement'. The following examples are used to discuss the cognitive representation in the ATH.

Example 1 – EOC A10 – Text B

The equity of a business is one-third of its total assets. The total of its liabilities amounts to 3,000,000. What is the amount of its total assets?

A. 1,500,000
B. 3,000,000
C. 4,500,000
D. 6,000,000
E. 9,000,000

Example 2 – QB 7.2 – Chapter 11 – Text A

Based on the information provided, users were required to:
Calculate the depreciation expense for the oven for the year ended 31 August X2 using

a) Straight line method
b) *Diminishing balance method at a rate of 20% per annum* (p. 111)

Example 3 – IT7 – Text A

Based on the information provided, students were required to:
Prepare all the necessary journal entries to record the transactions that occurred between 1 January X1 and 31 December X3 (p. 364).

Example 1 is a Multiple-Choice Question (MCQ) that requires students to determine the total assets. This entails the application of previously learnt methods and principles in a different context. Similarly, example 2 requires students to 'calculate' depreciation expenses using two different methods. Using known formulae on the information relating to Simbani Chips' business, the accurate depreciation expense can be derived. In example 3, students are required to 'prepare' journal entries to record transactions relating to a machine. To answer the questions correctly, students follow the steps required to prepare journal entries by applying the rules of debit and credit, drawing on the accounting equation. Since the methods for all three questions are known and the solutions are fairly fixed, this question is subcategorized as *execute* un-

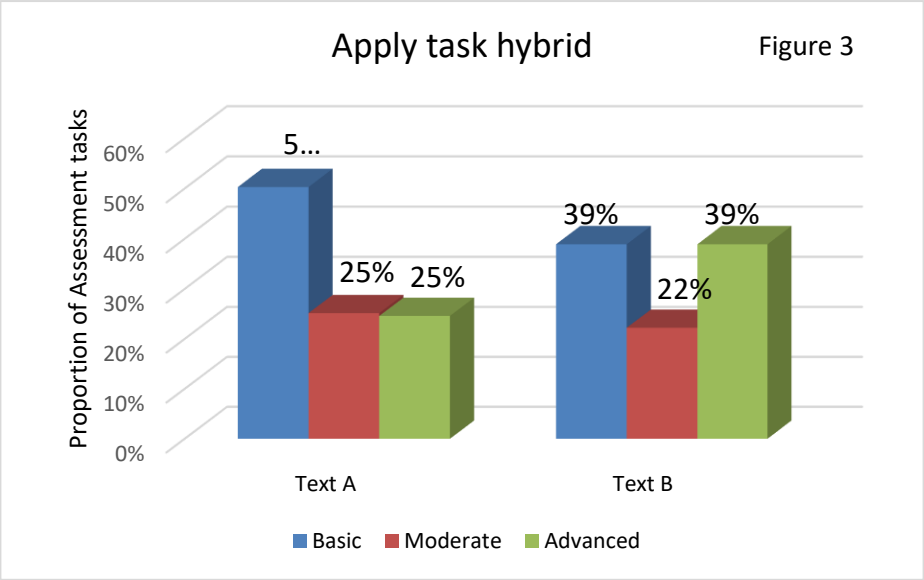
der the cognitive level *Apply*.

In almost all the questions in the Apply category, there is an element of task difficulty relating to the number of steps required to provide a solution. Example 1 requires one step, which is the process of using mathematical calculations to derive the total assets. In example 2, students are required to calculate depreciation for an oven in the second year of operation using two methods. After deriving the depreciable value, they can apply the formulae for the straight-line method and the diminishing balance method to obtain the expense. In total, this will entail four steps, as the latter method requires different amounts for the two years. For example 3, students need prepare all the journal entries pertaining to the purchase, upgrade and impairment of an oven from 1 January X1 to 31 December X3. For the three years under consideration, a total of seven sets of journal entries will be made. In most cases, the variables required to prepare the journal entries were not readily available. Furthermore, for each change, the depreciable amount together with the annual depreciation expense needs to be re-calculated. In total, this assessment task requires 18 steps.

Using the lens of BRT, all three examples fall within the Apply cognitive level. However, the number of steps involved in obtaining the correct solution varies from one task to another. While example 1 requires one step, example 2 requires four, and the third example calls for 18 steps. Using the layered framework, it is apparent that the demand on cognition is not the same due to the extent of intellectual activity involved. More time and thinking is required in deriving the correct amounts for each journal in example three. The student works with more information and has to be systematic in his or her approach because there is a greater propensity to err. The work involved in accomplishing the task becomes increasingly more complex as one set of information feeds into another. Indeed, the student's capability to process large quantities of information is highly associated with the degree of cognitive complexity (Davidson 1996). Scholars such as Jones and Wright (2012) found that individuals with high cognitive skills are more proficient in working through / with voluminous information than others. By inference, the amount of activity involved in fulfilling a task is crucial in defining the cognitive demand of an assessment task.

In this article, we further classify assessment tasks that entail one or two steps as 'basic'; those involving three to four steps as 'moderate' and tasks that require five or more steps as 'advanced'. Following from these sub-

categories, our results show that the bulk of the assessment tasks in this category in text A fall within the Basic-Apply-Task sub-hybrid while text B seems to have an even spread of assessment tasks at the basic and advanced sub-sets as shown in figure 3 below.



In mathematics, assessment tasks that involve the use of simple algorithms with one step are classified under the lowest level of learning – 'recall', based on Webb's depth of knowledge classification (Schneider, Huff, Egan, Gaines & Ferrara 2013). By implication, assessment tasks in text A, which is dominated by the Basic-Apply-Task sub-hybrid, are relatively easier to resolve, as the demand on cognition is low even though they fall within the ATH. The basic sub-hybrid may assist in developing basic transfer skills, but the advanced sub-hybrid goes further to assist students to handle voluminous data, thereby equipping them with skills to address complex situations.

Our findings from the analysis of text A contradict the work of Davidson and Baldwin (2005) who concluded that EOC materials in intermediate accounting texts facilitate the development of analytical skills partly because the preparation of journal entries was classified in this category.

However, our findings in text A affirm prior research (Davidson & Baldwin 2005; Gupter & Marshall 2010; Stokes, Rossetti & King 2010) that concluded that accounting texts mainly focus on promoting middle level skills and do little to equip students with high cognitive attributes. This could be attributed to the rule-based nature of the discipline (Gupta & Marshall 2010). If the discipline is indeed akin to assessment tasks at the Apply level because of its very nature, students' exposure to voluminous tasks will aid the development of the high-level skills required to manage complexities. With a more balanced spread of assessment tasks at both the basic and advanced sub-hybrids, it would appear that text B is better poised at this level to equip students with skills to manage complexities than text A.

As stated earlier, the noun or noun phrase depicts the knowledge element. In example 1, the noun phrase is the 'amount of total assets'. While the amount may appear to be factual knowledge because it is an element or attribute of an asset, it has to be derived using mathematical calculation because it is not readily given. Therefore, this assessment task does not intend to assess the knowledge of 'what', 'that' or 'why', but the knowledge of 'how' because the correct procedure determines the answer. The same applies in example 2, where the focus is on the two methods (straight-line and diminishing balance) of calculating the depreciation expense of the oven. An alternative method would yield an incorrect answer. Example 3 requires different journal entries for three years. In as much as there is a fixed format for journal entries, the student has to derive the correct amount to post to the journals. S\he has to exhibit skills that show 'how' to obtain the correct amount and 'how' to prepare journal entries. In all three examples, if the steps or processes are implemented correctly, the result is one correct answer that can be predetermined and fixed. Consequently, these questions fall within the *Knowledge of Subject specific skills and algorithms* sub-category within *Procedural Knowledge* in the knowledge dimension in the BRT. As seen from the hybrid analysis in table 1, the underlying knowledge element in the ATH is procedural knowledge as all the assessment tasks within this category seek to equip students with the skills required to process journal entries, adjustments, general ledgers, financial statements, etc.

Assessment tasks pitched at the Apply-Task-Hybrid seek to measure the extent to which the student is able to use previously learned concepts, facts, formulae, processes, or theories in a different / new situation. Since learning is largely driven by assessment (Biggs 2003), these tasks enable students to

acquire skills that aid the transfer of learned procedures. Ultimately, learning at this level paves the way for the student to use academic and general knowledge in the world of work to address challenges that may be familiar or unfamiliar. This category is particularly important because the bulk of what is learned is intended for application in the real world (Bloom *et al.* 1956:122). It would therefore appear that this level provides the base for future accountants to thrive in that world. However, it is only the base. To succeed in their professional endeavours as required by professional bodies and HEIs, they need to transcend application. Students are expected to develop high cognitive attributes that will enable them to examine and interpret information critically, exercise judgment, evaluate risks, solve real-world problems and communicate effectively (Sudem & Williams 1992; SAICA 2014). Consequently, assessment tasks that mainly assist students to develop skills that promote transfer of learning do not sufficiently equip them with the high cognitive skills expected of accounting graduates to enable them to make a meaningful contribution to society. By implication, text A, where the dominant cognitive hybrid (ATH) promotes transfer of learning, may not adequately prepare students for the world of work.

Remember-Content-Hybrid (RCH)

As noted earlier, our findings reveal that the RCH accounts for 15% of the total assessment tasks examined in both texts. These tasks seek to examine the extent to which students can remember what was taught (Anderson *et al.* 2001). This could either be done via the recall of information from long-term memory or by recognising the required information when prompted to do so. Examples of such assessment tasks are given below.

Example 4 – IT12 – Text A

Can you list the fundamental and enhancing qualitative characteristics which financial information should have to make the information useful to the users when making economic decisions? (p. 119)

Example 5 – EOC 1 – Text B

A company is said to be highly geared when the company has:

A. More of equity capital in relation to fixed interest capital
B. More fixed interest capital in relation to equity capital

C. *No fixed interest capital*
D. *More of current assets in relation to current liability*
E. *More of current liabilities in relation to current assets* (p. 300)

Example 6 – EOC B2 – Text B

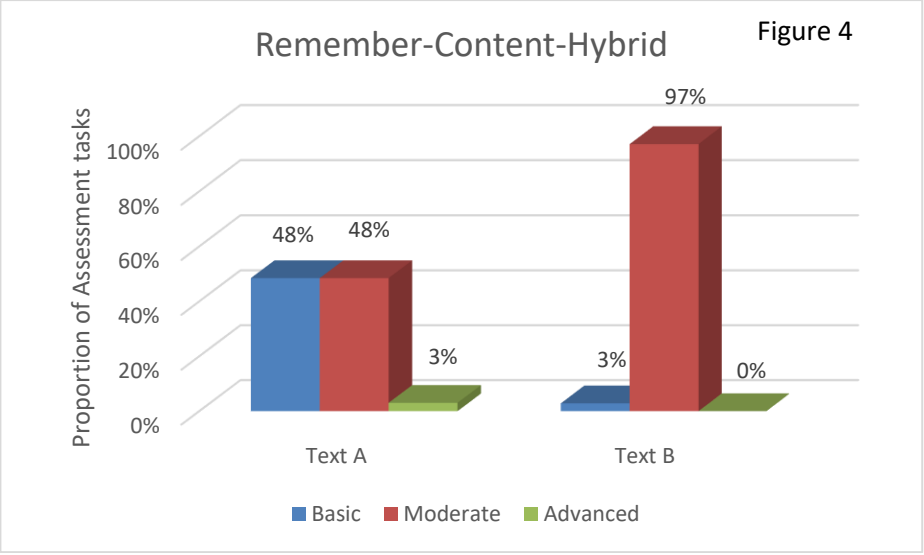
What are the main costs to be included in the initial cost of an item of PP&E? (p.42)

The active verb 'list' in example 4 involves retrieving already learned information from memory and repeating it as taught or learnt from the textbook. It is more or less regurgitating that which was learnt. Such tasks are classified under the sub-category *recalling* within the cognitive process *Remember*. Similarly, example 6 which requires students to state the main costs entails recall of learned information. The difference between these two examples and example 5 is that the latter presents options that serve as prompts to assist the remembering process. By looking through the options provided, the student can identify the correct answer based on what was retained in memory. Thus, this example is subcategorised as *recognising* within the category *Remember*. The task element of the LOD provides little insight into variations in cognitive demand in this category because the assessment tasks do not necessarily involve a number of steps. The following section focuses on the knowledge dimension.

The noun phrase or subject matter in example 4 – 'fundamental and enhancing qualitative characteristics' are attributes or elements financial statements should possess to make them more beneficial to users. Similarly, the components of the initial cost of a tangible asset in example 6 refer to the cost of the various elements that make up its initial cost. Such elements fall within the subgroup *knowledge of specific details and elements* under *Factual knowledge*. The Knowledge element in example 5 focuses on gearing. To answer this question, one needs to understand the concept of gearing, and what makes a business highly geared. This falls within the subset of *knowledge of principles and generalisation* within *Conceptual* knowledge.

Research has shown that familiarity can vary the cognitive demand of assessment tasks (Berger, Bowie & Nyaumie 2010). Where the student has encountered this knowledge element in previous chapters, s/he would have had sufficient time to practice related questions and would be generally familiar with the subject matter. These reduced demands on cognition tasks are termed

'basic'. However, where the student has only been introduced to the topic in the current chapter, s/he may not have had sufficient opportunity to practice the assessment tasks related to the topic and may therefore experience some degree of difficulty in answering these questions. These are termed 'moderate'. Where the assessment task precedes the discussion of related topics the student is likely to find such a task more cognitively demanding because of lack of familiarity. Assessment tasks in this category are termed 'advanced' because they are more challenging. Our classification aligns with that of Leong (2006) and O'Callaghan *et al.* (2004) where assessment tasks relating to previous grade content were classified in level 1; those relating to the current grade in level 2, and others of a more complex nature and those requiring insight in the upper levels (Schneider *et al.* 2013: 105). Based on this criterion, the knowledge elements in examples 4 to 6 were considered moderately demanding because the task relates to topics that were introduced earlier in the same chapter. A similar pattern was observed in text B where 97% of the assessment tasks were found to be of moderate content difficulty as seen in figure 4 below. In text A, the representation was more evenly spread with 48% at both the basic and moderate levels of cognition. In both texts, the advanced level was not represented in this hybrid.



The objective of learning in the RCH mode is to promote retention of concepts /content. Assessment tasks in this hybrid seek to assess the extent to which students can remember accounting terms, facts, concepts, methods or processes learned in class or from a textbook via recall or identification. This is a primary educational objective, especially for subjects like accounting, where some foundational ideas such as the double entry system do not change and have remained the same for centuries. Promoting retention is also important because it provides the cognitive foundation for learning at higher levels (Anderson *et al.* 2001). However, retention in itself is insufficient to facilitate any meaningful learning as the student practically learns to regurgitate what was learned. In other words, retention promotes memorization and rote learning which is grossly deficient in preparing the future accounting graduate for the work place.

By implication, text B can be said to be deficient in meeting the cognitive requirements of the HEI curriculum and the expectations of professional accounting bodies. With about half of the assessment tasks at the lowest level, the text appears to prepare students for retention of accounting terms and facts at rote learning level. The big question is why an accounting text that is expected to equip students with high cognitive skills is focused on the lowest cognitive attributes. To answer this question, we consider different possibilities. First, unlike the other text where there are none, 56% of all the assessment tasks reviewed in text B are MCQs. Generally, MCQs lend themselves to questions that require identification at low levels of thinking (Schneider *et al*. 2013). Although some of the MCQs in text B address higher levels of cognition, such as example 2 above, the majority require students to recognise the correct answers from the options provided. Secondly, it is possible that the producers of the text support the mastery of retention of basic accounting terms, concepts and procedures at foundational year in HEI. In addition, it could be argued that novice accounting students should be taught basic accounting concepts at low levels in order to encourage them to continue their accounting studies because many first-year students are unsure of what they wish to major in. However, other scholars argue that the accounting education programme, including textbooks, should assist students in developing high cognitive attributes irrespective of the level of study (Stokes, Rosetti & King 2010; Ngwenya 2012) to prepare them for the world of work. Indeed, if the secondary school curriculum in South Africa requires that middle and higher cognitive levels should make up 40% and 30%, respectively of the cognitive representation of assessment tasks, the first-year accounting pro-

gramme in HEIs should not demand less. Having discussed the most signify-cant hybrid in the two textbooks, we now briefly present our findings on second dominant hybrid in both texts.

Understand-Content Hybrid

Of the total of 485 assessment tasks analysed, 25% fall within the Understand-Content-Hybrid. Using the BRT, questions in the Understand category require students to make meaning of what they have been taught or learnt from the textbook (Anderson *et al.* 2017). The underlying knowledge elements in this hybrid were factual and conceptual knowledge. Overall, factual knowledge accounted for 56% of the content in this hybrid while conceptual knowledge comprises 44%. Having discussed factual knowledge at length in the RCH, this section focuses on the latter.

Conceptual knowledge embodies the 'concepts, principles, models, or theories' (Anderson *et al.* 2001:42) of a domain or discipline. It goes beyond the acquisition of a large number of facts or bits of information and focuses on the interconnectivity amongst the facts (McCormick 1997). Conceptual knowledge is the content base of the domain and is also termed disciplinary knowledge (McCormick 1997; Anderson *et al.* 2001). Educators aspire for their students to have a deep understanding of conceptual knowledge because it usually signifies expertise in any field (Anderson *et al.* 2001). By implication, assessment tasks that examine accounting concepts and principles in an integrated manner are more likely to promote the development of deeper conceptual understanding and expertise. Our findings indicate that the composition of the knowledge element in text A (57%) in this hybrid is tilted slightly in favour of factual knowledge while the reverse is the case in text B where conceptual knowledge accounted for 57% of the knowledge assessed. In effect, it would appear from the proportions, that in this hybrid, the two texts have equal chances of fostering the acquisition of disciplinary language and disciplinary expertise, respectively.

Other Hybrids

The other hybrids linked with the top three cognitive levels – Analyse (9%), Evaluate (9%) and Create (0%) together account for 18% of all the assessment tasks in both texts. These levels equip students with the ability to analyse and

interpret data, make decisions and develop creative solutions to problems. While the percentage representation in text B is higher than that of text A in the analyse level, the reverse is the case at the evaluate level. In addition, no assessment tasks demand creative solutions in text B. On the other hand, text A has only one assessment task at the highest cognitive level that required students to write a letter to management incorporating some ratios in view of a planned issue of a prospectus for new shares. The task is placed under Create because it requires learners to engage in letter writing, which is something new and relatively different. Developing a prospectus would involve synthesizing information into an integrated whole.

Conclusion

Amongst other outcomes, the accounting programme of education in accredited HEIs aims to equip students with high cognitive attributes in line with the requirements of professional bodies. In the African context, the textbook remains a key resource in the pedagogical process in equipping students with these skills, especially in the large classes associated with first-year courses. This article examined the assessment tasks from four chapters in two level-one financial accounting texts with a view to understanding the representation of cognitive demand embedded therein using a layered analytical framework specifically designed for it. Our results indicate that the assessment tasks in both textbooks did not adequately prepare students to meet the demands of the work place as expected by HEIs and professional bodies. More specifically, text A was dominated by assessment tasks in the Apply-Task-Hybrid in the middle cognitive level. With about half of the assessment tasks in this hybrid, it aims to promote transfer of accounting procedures at very basic levels of learning. However, as revealed through our layered framework, tasks that involve voluminous data, though few, assist students in developing the skills required to handle complex problems in the work place. On the other hand, text B facilitates the retention of accounting facts and terms, although also at very basic levels as the majority of the assessment tasks fall within the Remember-Content-Hybrid in the lowest level of cognition. Furthermore, the cognitive demand in both texts appears to be concentrated in the lower half of the hierarchy while tasks addressing the top three hybrids only account for 18% of the total. The minimal representation at the top three levels implies that the texts do not adequately equip students with the skills required

to analyse financial information, make judgements and proffer creative solutions to complex real life issues.

These findings have implications for HEIs and professional bodies, which expect accounting graduates to possess high cognitive skills (SAICA 2014). Academics that rely on textbooks should be more circumspect in selecting assessment tasks to aid learning. Where possible, they could consider developing their own assessment tasks or incorporating appropriate tasks from other sources to augment those in the texts. Producers of textbooks should consider developing and incorporating assessment tasks that require voluminous steps and those that address higher levels of cognition to promote higher levels of learning. This is particularly important in the African setting, where access to other sources of assessment materials may be limited. In countries confronted by an erratic electricity supply, poor internet connectivity and low per capita income, the options are limited as academics and students depend on practice questions and EOC materials in textbooks to consolidate learning. The need to enhance the quality of textbooks to facilitate higher levels of learning can thus not be over-emphasised.

Finally, in presenting these findings and conclusions to the academic community, the authors raise some caveats: Firstly, this analysis is derived from two textbooks used in two different African countries that were not randomly chosen. A more random selection could reveal different results. Secondly, we reviewed assessment tasks found in four chapters of each textbook. While we aimed to incorporate chapters that are both conceptual and computational to obtain wide coverage of the cognitive spectrum, a bigger sample size might produce a different outcome. Thirdly, we used a layered analytical framework that provided deeper insight into nuances in cognition that may not be observed via other frameworks. Finally, our assumption that the average first-year accounting student has not been exposed to accounting in an academic capacity may not apply to all students. To test the veracity of the findings and conclusions in this article, future studies could seek to answer the following questions:

1) Does the first-year Financial Accounting curriculum lend itself to assessment tasks at higher levels of cognition?
2) How does the cognitive representation of assessment tasks compare across all levels in the financial accounting and reporting textbooks in the African context?

3) How does the cognitive representation of assessment tasks compare amongst financial accounting textbooks used by HEIs in one country?

Acknowledgment: Our sincere thanks to the UKZN PhD higher education cohort, Writer's Retreat Workshop and the 2016 UKZN CWWM programme for their invaluable critique, training and motivation that contributed to the generation of this article.

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Transcending Solely Print-based Texts through Blogging – A Multimodal Approach

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Abstract

Students are often exposed solely to print-based texts as the primary sources of communication. In South Africa, English Additional Language (EAL) students struggle to engage conceptually with English-medium academic material and, in most cases, they transition to other forms of engagement such as imagery. This study from which this article derives explores the use of various modes of communication such as audio, imagery, and reading text in a scaffolded language that EAL students can better associate with. As literacies change to simultaneously incorporate new ways of communication, this paper examines the impact a blog could have on how EAL students understand text across a variety of different methods of communication. This study employs multimodality (Kress 2010). A case study design approach is used with a small sample of Extended Curriculum Programme first-year mechanics students and their lecturer at a South African university of technology. From the findings, the author reflects on mediating teaching and learning strategies to promote conceptual understanding of course material. Furthermore, the findings contribute to the debate that aims to find viable solutions for suitable teaching and learning practices to promote learner-centeredness in EAL contexts in higher education.

Keywords: epistemological access; English Additional Language; multi-literacy; multimodality; mode; medium

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a9

Introduction

In South Africa, many higher education institutions (HEIs), such as the Cape Peninsula University of Technology (CPUT), are still grappling with developing teaching and learning strategies to address the educational demands of securing an exponential increase in the number of graduates in a setting where students, especially English Additional Language (EAL), are struggling to 'read to learn' (Pretorius 2000). The Council on Higher Education (CHE) report (2013) emphasises the need to develop more appropriate academic literacy and other language-related interventions within the context that HEIs are showing an increase of undergraduates who speak English as a second or third additional language.

Subsequently, HEIs have evolved various initiatives, such as Writing Centres, multilingual glossaries, academic literacy units, extended curriculum programmes, etc. However, HEIs have not sufficiently problematise the development of academic literacy of its new student demographic (Antia & Dyers 2017), especially mechanical engineering students (Fontenelle 2013), around teaching and learning methods. Its ineffective achievements reverberate in the low throughput and high dropout rate of first-year students. Independent study for students appears to be very challenging as they struggle with the 'language of textbooks and journals' (McDonough in Hirvela 2013: 88).

Although we could posit various other reasons why EAL first-year students display this response, two factors present major challenges for students when accessing the epistemologies[1] of their respective courses, i.e. linguistic factors and diverse learning styles. These challenges are highlighted by researchers who concur that students enter the tertiary world with various limitations inculcated by their poor conceptual literacy[2] (Rodrigues & Abrahams 2017; Antia & Dyers 2017, 2016; Carstens 2016; Mkonto 2015; Madiba 2014; Boakye 2012). In addition, Bozalek, Garraway and McKenna (2011: 8) rephrase the cause of this conceptual divide as 'the gap between the

[1] Morrow's (1993) notion of epistemological access appears valuable 'as it is anchored in fostering a pragmatic fit between institutional values and personal epistemological orientations' (Rambe & Mawere 2011: 7).

[2] In this regard the following is included: socio-affective factors, learning styles, background knowledge, reading comprehension, cognitive abilities, and different literacy levels in English.

ways of knowing which students come with from school and those which the (university) curriculum exposes them to'.

Current conventionalised practices at universities indicate that knowledge is mostly transferred via mono-modality, i.e. presenting knowledge through printed text in English, and to a lesser extent printed text in translation form (Millar & Barris 2017; Rodrigues & Abrahams 2017). As tertiary students are mostly exposed solely to print-based texts as primary sources of communication, one could have an opinion that the source of the problem is linguistic in nature as English is in effect the *de facto* language of learning and teaching (LoLT) (Carstens 2016; Heugh 2007; Alexander 2003). Reading texts produced in English could present various challenges for EAL students to be successful in their efforts in the academic environment (Rodrigues & Abrahams 2017).

A longitudinal sector-wide study, conducted over a five-year period by the Department of Education (DoE), aimed at establishing academic performance patterns of first-year students at HEIs, concluded that approximately 70% of EAL students drop out. In addition, the study indicated that 14% of the rest complete their studies by spending more years than required to complete their degree and less than 5% of the 20 to 24-year old cohort graduate. The study also showed that the graduation rate for first degrees in key subject areas like engineering was around or below 50% (Scott 2009: 20-24). A National Benchmark Test (NBT) conducted by Higher Education South Africa (HESA) in 2009 with 13,000 students also correlates to this argument. This academic literacy test highlighted that only 47% were proficient in English for general purposes (EGP). It indicated that students were most proficient in answering the multiple-choice questions but struggled to construct cohesive and coherent sentences.

However, with the emergence of digital media over the last few years, new educational challenges presented themselves. Firstly, the fundamental mode of representation shifted from paper-based text to the recent use of imagery. Bateman (2008) accentuates that paper-based text is just one way of presenting information. A natural trend where students would frequently transition from isolated texts to other forms of engagement, such as imagery, became a common practice to learn. As people learn differently, concerns like the 'best practices to transmit information, and how to represent and display information so that it is both understandable and learnable' (Resnick 2001: 32) were highlighted. HEIs, however, were left underprepared to deal with the normal state of human communication (Kress 2010) that is a daily occurrence for many.

This state of communication includes alternative communication methods, i.e. gestures, posture, gaze, font choice and colour, images, video, and even the interactions between them. Although these have always existed, they were not always recognised as legitimate or culturally accepted forms of communication. Learning theorists who advocate multimodality accentuate that people communicate in diverse ways, and that these communication methods are mandatory to completely understand someone. This correlates with the argument of psychologists and educational researchers that 'learning is an *active* process in which people construct new understandings of the world around them through active exploration, experimentation, discussion, and reflection' (Resnick 2001: 33). Against this backdrop it becomes essential to observe and recognise these diverse ways of communication to negotiate the meaning-making process (Jewitt & Kress 2003; Kress 2000a).

The rationale for conducting this study was to explore an alternative approach to teaching and learning and to improve the epistemological access to the language of mechanics. This rationale arose from the pedagogical marginalisation of EAL students which was (and is still) further problematised by mono-modality in the teaching and learning context, thus incarcerating their conceptual development even further. The aim of this paper is to reflect on a multimodal approach that employs teaching and learning strategies that are sensitive to the real multi-literacy demands employing a multimodality framework.

The following critical questions guided this research:

- How would a multimodal approach, using a blog, contribute to a better conceptual understanding of the language of mechanics on the part of EAL Extended Curriculum Programme (ECP) first-year mechanical engineering students?
- What is the impact of various methods of communication on the epistemological access of the language of mechanics?
- How do various methods of communication affect the learning preferences of students?

This article commences with a literature review, followed by a theoretical framework and methodology. Findings from the data collected are then analysed and discussed.

Literature Review

Written material designed for mechanical engineering students is written in English. The intention of such texts, according to publishers, is to help EAL students to gain access to, and develop a proficiency in the language of mechanical engineering (Fontenelle 2013). However, EAL students enrolled for courses in English for science and technology (EST), like mechanical engineering, experience far greater constraints with gaining access to knowledge as reading in EST demands much more than texts in English for general purposes (EGP) (Hirvela 2013).

EST written texts do not take into account the social and cultural backgrounds and literacies of the diverse group of potential users. Swales (1980: 11) reiterates as follows: 'ESP[3] textbooks have been in many respects an educational failure'. Therefore, EAL students and their teachers are required to negotiate visual and verbal-visual meaning-making expressions in academic texts (Hyland & Hamp-Lyon 2002). Hyland (2009) elaborates that academic material, including all visual information, figures, and tables, depicts the objective world and presents an overview of how a discipline views itself. Furthermore, that it is only possible to gain a clear insight into written academic discourse by engaging with the written word and images. The neglect to experiment with multimodality in mechanical engineering created a mismatch between what higher education institutions (HEIs) offer and what EAL students require, and insinuates that we lost out on potential engineers.

Hyland and Hamp-Lyon (2002) highlight linguistic issues as one of the difficulties inherent in incorporating multimodal meanings in discipline-specific texts. Kress (2000b: 337) parallels this observation by pointing out that English language professionals present a false impression when they say that 'language fully represented the meanings they wish to encode and communicate'. Dealing with comprehension problems when engaging with text, students would adapt their 'environment in increasingly effective and successful ways' (Van Lier 2004: 97) by converting their linguistic skills by employing their entire semiotic repertoire and draw upon various sets of language features from different languages or other semiotic systems (Carstens 2016). These multicultural literacies are developed at secondary school to make sense of difficult content and provide them with equal opportunity in the academic environment (Hibbert & Van der Walt 2014). In this regard, a clear

[3] English for specific purposes.

and active relationship between language users and their environment in all physical, social and symbolic functioning can be observed (Van Lier 2004). Koda (2004) attests that using a language to which students relate best would scaffold their encounters with new texts and facilitate epistemological access. In addition, this will add value to their (meta)cognitive, pedagogical and even non-pedagogical development (Blackledge & Creese 2010).

With regard to the second barrier, Mkonto (2015) argues that an awareness of learning preferences (modalities)[4] is mandatory in order to provide epistemological access to tertiary students. Gilakjani (2012) proposes an all-encompassing teaching style or mode in a diverse classroom as it could improve their academic achievement (Abidin, Ziegler & Tuoli 2012). Furthermore, Veena and Shastri (2013) accentuate multimodality to support students in adjusting to different teaching styles and learning environments. What makes these suggestions feasible is the increasing transformation of learners to engage with more complex and integrated screen-based text other than only engaging with page-based text. As a common practice they use various digital means to communicate, be it texting, blogging or through social media (Vaniti & Towndrow 2010; Selfe & Selfe 2008). Needless to say, they would also attempt to understand information through various other non-linguistic methods of communication, including sound, images, video, gestures, and animation (Selfe & Selfe 2008).

With the emergence of digital media in the 21st century, the fundamental mode of representation has shifted from text to the recent use of imagery. This rise in digital and Internet literacy effected the notion that the spoken and written word is only one mode of communication (Kress 2003) and that alternative methods beyond the paper-based text to convey meaning should be considered (Vaniti & Towndrow 2010). Kress (2000b: 337) accentuates as follows: 'It is now impossible to make sense of texts, even of their linguistic parts alone, without having a clear idea of what these other features might contribute to the meaning of a text'. The 'other features' refers to the multi-literacies which acknowledge the importance of non-linguistic features in the meaning-making process.

Against this backdrop multimodality effected a broader understand-

[4] Four basic perceptual learning preferences (modalities) are identified: visual learning, auditory learning, reading learning and kinaesthetic learning (Fleming 2014).

ing of what literacy entails (Bezemer & Kress 2008; 2009; Jewitt 2008; Hyland 2006; Kress & van Leeuwen 2001). Instead of literacy only referring to reading and alphabetic writing or being extended to other fields, it now also includes multiple 'social and cultural shaped resources for making meaning' (Kress 2010: 79). Subsequently, literacy has transitioned to include methods such as visual, technological and other social uses among others (Kress 2003), including text messaging tools like WhatsApp, social media like Facebook, podcasts and blogs (Murray 2013; Shepherd 2010; Selfe & Selfe 2008). In addition to the written word, students use multi-literacies which enable them to simultaneously incorporate it into communication (Selfe & Selfe 2008) providing those with a more interactive experience (Shepherd 2010).

Multimodality, however, is more than just the combination of multiple technologies. It creates meaning by integrating multiple resources. The form the message is represented in, be it in written, spoken, visualised or in some other semiotic system, plays a vital role in meaning-making (Jewitt 2008). The traditional literacies, like reading and writing are therefore not replaced but rather integrated with these new multi-literacies (McVee & Miller 2012). This generates new ways of communication and opens the door to a variety of different ways to access information. Storyboarding is an example of this new way of communication which highlights the integration of learning outcomes such as – but not limited to – reading, writing, and language skills (Essley 2013; McVee & Miller 2012). However, the option to integrate multimodal forms in the classroom is not fully driven by all at institutions despite its functionality to prepare students for the 21st-century work environment (Vaniti & Towndrow 2010).

Based on the notion that learning has changed and that educators should now consider the educational and affective needs of students a great number of educators are reluctant to embrace a culture of multimodality in their classrooms (McVee & Miller 2012). Within the current educational crisis South African HEIs are embattled with, it exacerbates the outcry for a strategy that could assist students to negotiate meaning within the conventionalised system in which they study.

The eclectic use of different resources, i.e. a blog post accompanied with images and an embedded video, promote layered communication that is spread across a medium using multimodality. What multimodality implies is the transformation of the original mono-modal message into another way of communication, i.e. transforming a text into a video (Kress 2003). Kress (2003:

36) coins this reshaping process as 'transduction'. During this process the original message is changed often by adding more information to it. The added resource can therefore be regarded as a supplement to the meaning-making process. In essence, the way the revamped text is understood across the variety of different means is attributed to multi-literacy.

Pinkman (2005: 12) suggests a blog as a support to students as it allows them to 'reflect, comment, question, review, and communicate – outside the classroom in an authentic environment'. Apart from their authentic, collaborative learning potential and interesting nature (Pinkman 2005), blogs enhance and supplement the learning environment promoting reflective thinking, interactivity and deep learning where students interpret information and apply their knowledge (Cashion & Palmieri 2002). What makes blogs even more appealing is the fact that users or bloggers can use their own linguistic and literacy practices (Rodrigues & Abrahams 2017; Hibbert & Van der Walt 2014) to operate in a non-judgemental educational environment. Blogging is a media form where bloggers respond immediately, and publish more frequently, as users do not spend time redrafting or revising their posts and are more willing to express their opinion because their writing is not judged by fellow bloggers (Rettberg 2009). Offering the possibility of uploading and sharing multimedia, i.e., documents, videos and audio files, blogs promote the negotiation of meaning, create new semiotic networks and engage students in a language of their choice. In the context of promoting accessibility, blogs correlate with a constructivist approach to learning by highlighting learner- and activity-centeredness (Van Lier 2007).

To scaffold this meaning-making process by using blogs, translanguaging[5] could be employed as a viable mechanism to support the notion of language as a resource (Carstens 2016), and thus address the linguistic barrier mentioned earlier.

Theoretical Framework

This paper draws on a multimodal approach (Kress 2010). The rationale for

[5] Lewis, Jones and Baker (2012: 641) refer to translanguaging as 'two languages [that] are used in a dynamic and functionally integrated manner to organise and mediate mental process in understanding, speaking, literacy […] and learning. Translanguaging concerns effective communication, function rather than form, cognitive activity, as well as language production'.

using multimodality is that it provides us with a lens that teaching and learning should be an activity that takes place in a meaningful environment that produces the highest possible quality of related learning and teaching activities.

Multimodality

Multimodality is a theory of communication and social semiotics. It describes communication practices in terms of textual, aural, linguistic, spatial, and visual resources or modes used to compose messages (Murray 2013; Kress 2010). The multimodal approach is rooted in an assisted learning paradigm which caters for the linguistic and literacy needs and learning modalities of students by means of technology and through creating a symbiotic relationship between teaching personnel and students (Hornberger 2005; 2008).

In simple terms, multimodality refers to the application of a collection of modes to enhance a person's reception of an idea or concept and to affect different rhetorical situations. These modes are ultimately set in motion to enhance the *meaning-making* process. This theory is relevant as technology tools and access to multimedia-composing software is constantly increasing. This in turn has resulted in people effortlessly using different methods of communicating in the contexts of art, music, and dance and every-day interactions among themselves (Kress 2010).

In the context of multimodality one should distinguish between two apparently related terms, i.e. mode and medium. The former refers to 'a socially and culturally shaped resource for making meaning. Image, writing, layout, speech, moving images are examples of different modes' (Kress 2010: 79). Kress and Van Leeuwen (1998: 35) also refer to semiotic modes that are 'shaped by both the intrinsic characteristics and potentialities of the medium and by the requirements, histories and values of societies and their cultures'. This implies that every mode has a different modal resource which can be broken down into various smaller elements because it has 'distinct potentials [and limitations] for meaning' (Kress 2010: 1).

As mentioned above, modes such as writing, can be broken down into its modal resources, i.e. syntactic, grammatical, lexical and graphic resources. The latter resource can be broken down even further into font size, type, etc. These resources have a historical and cultural connection. Kress (2010: 114) accentuates this as follows: 'Mode is meaningful: it is shaped by and carries

the "deep ontological and historical/social orientations of a society and its culture with it into every sign". Mode names the material resources shaped in often long histories of social endeavour'. Modes transition into multimodal ensembles and over time they culminate into familiar cultural forms like film which combines visual modes, dramatic action and speech, music and other sounds (Bateman & Schmidt 2011).

Modes shape and are shaped by the systems in which they operate. A mode is determined by its 'shared cultural sense within a community of a set of resources and how these can be organised to realise meaning' (Vaniti & Towndrow 2010: 321). Communication is often dependent on the way cultures extract meaning from resources of knowledge, understanding, and representations. Signs that are visual modes, for example, will be determined by our daily necessities.

The other term, medium, refers to a component in which meaning is realised and the channel through which it becomes available to people. The modes of delivery take the current and future contexts into consideration by using components such as video, image, text, audio, etc. Within a social context it includes semiotic, sociocultural, and technological practices such as film, newspaper, a billboard, radio, television, theatre, a classroom, etc. Multimodality motivates a clear transition from a solely print-based knowledge to a screen-based presentation of it which stimulates a developing relationship between the speaker and the recipient. Multisensory perception is thus provided to the end user in different modes, i.e. visual, auditory, and written stimuli in their preferred language, to negotiate meaning. This in turn allows the recipient to transform the information into signs, objects, words, gestures, and emergent mental representations. Based on the aforementioned, it appears that multisensory perception could assist receivers to make the correct interpretation when words or concepts are foreign or strange. Applying a combination of semiotic elements spurred on by auditory and visual information could support the conceptual understanding of a term or word that is unclear at first. The constructivist nature of a multimodal approach strikes a balance between the pedagogical knowledge and facilitation of teaching personnel and the independent learning of students.

Research Design and Methodology

This study followed a qualitative case study design approach within the inter-

pretivist research paradigm. This research design coincides well with the proposed theoretical framework. On the basis of the particularistic nature of a case study design that relies heavily on inductive reasoning in handling multiple data sources (Siyepu & Ralarala 2014), the researcher embarked on this study using a questionnaire, observations, and focus group discussions.

Method

In this study, conducted at the Cape Peninsula University of Technology between July and September 2015, participants included 20 ECP first-year Mechanics students, one lecturer and one tutor. The objective of the study was to investigate the impact of various modes of delivery on students' epistemological access of Mechanics 1 concepts. The sample was randomly selected from a group of 70 registered ECP students. The Standardised Assessment Test for Access and Placement (SATAP) used at the university revealed that 75% of this ECP group scored below 50% for English reading and comprehension.

During the June mid-term and September tests, only 13% and 12% respectively of the entire ECP group had passed. Based on the unacceptably high failure rate and the dissatisfaction of the cohort of students, gleaned from an initial interview, the researcher embarked on providing an intervention by designing a blog that could help to address their challenges.

This study interrogated the teaching and learning practices of teaching personnel, as opposed to the teaching and learning preferences of the participating student cohort. After ethical clearance was obtained, data collection procedures were carried out over three months from June to September of the academic year. Various research instruments were used:

(1) first, a questionnaire was administered to obtain participants' perceptions around their current teaching practices and their learning preferences;

(2) then contact sessions were observed over a period of two months (before and after the intervention), which were video- and audio-recorded, transcribed and then analysed, and subsequently; and

(3) focus group interviews were conducted to verify the preliminary findings.

The distribution of mother tongue speakers in the ECP group who responded to the questionnaire was as follows:

Table 1: Distribution of mother tongue speakers in ECP group

English	isiXhosa	Sesotho	Afrikaans	SiSwati	isiZulu	Tshi-venda
24%	55%	8%	4%	4%	4%	1%

The study was conducted with a diverse group of 10 EAL students hailing from indigenous and Afrikaans-speaking communities. The participants were observed during lectures and tutorials while being subjected to a particular teaching practice. After the questionnaires, observations and focus group interviews based on their activity on the blog were administered. For the second phase of the study, a blog[6] was designed on Blogger – a blog-publishing service developed by Google in 2003. A blog was chosen because it is public, allows easy access and maximum learning opportunities. The comments were moderated by the researcher, who has administrative rights, before it is made public. Other reasons why the researcher opted to use a blog were as follows: (1) blogs allow for posts to be made using personal labels and can therefore be categorised quite easily, and (2) older posts are situated at the bottom and recent posts appear at the top in the post section. The blog was designed to have a customisable interface, i.e., a representation of the entire blog. Currently, the blog has a navigation bar, header, cross-column pages, and sidebar on the right, main posts section, a comments section, and a footer to promote participation of the users. In addition to these features, the blog also has label gadgets personalised for each blog page/content, i.e., home, motion, energy, gravity, forces, and friction. Each post allows for multimedia to be added together with the content.

The participants were subjected to this blog and multilingual tutorials which addressed their diverse learning styles, multi-literacies and linguistic

[6] This blog is currently hosted at a subdomain on blogspot.com.

needs in three modes, i.e., visual, audio and written text using hybridised versions of Afrikaans, isiXhosa and Sesotho. The curriculum on the blog was prepared and produced by senior mechanical engineering students using five of Mayer's principles to clarify multimedia text design which could enhance learning (Mayer 2008)[7]. The final products, i.e., calculations and presentations, were verified by a BTech student who was, coincidently, also appointed as a teaching assistant in the Mechanical Engineering department. The blog covered all the themes in Mechanics 1 with the gamut of related concepts in isiXhosa, Afrikaans and Sesotho presented in written, visual and auditory formats.

Findings

In the questionnaire, students were asked whether discipline-specific language was a challenge to them and what practice they use to make it easier for them to gain access to the content. Nearly three-quarters of the cohort (70%) confirmed that they did not have a good understanding of Mechanics concepts. Approximately two-thirds of them (60%) felt less confident that they would be successful if they were only to rely on their English notes and lectures. The entire cohort preferred a hybridised version of their home language to deepen their conceptual understanding. However, they indicated that they would explore English as part of their linguistic repertoire when engaging with academic material, especially as it is still the language of assessment. In this regard, they preferred that their prescribed paper-based material should contain an explanation of English terms stated in parenthesis to allow them greater access.

Preliminary findings indicated that students had different learning preferences that needed to be addressed. Three learning styles were identified: reading, auditory and visual. Close to three-quarters of the cohort (70%) confirmed that they were visual and auditory learners, while the remaining

[7] These principles include the following: (1) *coherence principle* where unnecessary words or pictures are omitted; (2) *signalling principle* which highlights essential information; (3) *spatial contiguity principle* which places related words and pictures closely together; (4) *segmenting principle* which breaks information into small parts; and (5) *retraining principle* which explains the operation of parts first.

group (30%) identified themselves as reading learners. Approximately two-thirds (60%) preferred a combination of the three learning preferences used, i.e. visual, reading and auditory. The cohort, in turn preferred podcasts and video material as a learning support when unpacking concepts. They also opted for it to be in the three languages i.e. Afrikaans, isiXhosa and Sesotho.

The researcher noticed during his observations that the cohort of this study could not effectively objectify the language of Mechanics through English, the LoLT. A clear mismatch between the LoLT and the language of Mechanics was evident during the attempts of the struggling EAL students to engage effectively with the academic discourse at hand. As a result of that difficulty, EAL students appeared reluctant to ask questions as the lecturer appeared unsympathetic towards their needs (e.g., he did not provide them with alternatives modes of access to the epistemologies of mechanics).

During the lectures, EAL students misinterpreted and incorrectly applied formulae, revealing the poor interconnectedness of their current mechanical knowledge and the new knowledge presented prior to the intervention. As a result, it seemed that students reverted to their default disposition of passive disengagement. During pre- and post-lecture discussions with the lecturer, the researcher sensitised the lecturer to the language and literacy needs of the cohort and proposed a multimodal approach to support epistemological access (which was not evident in the classroom at that point).

When the lecturer used a multilingual approach characterised by students' demonstrating their linguistic hybridity and drawing on examples from their own cultural domain, the EAL cohort engaged with more confidence and willingness. Video footage revealed how two students from different language communities explained their solution on the chalkboard using their home language. This resulted in improved class participation and a peer assisted learning scenario ensued in which students conversed in their respective home languages. Similar findings were also revealed during tutorials where students even grouped themselves into specific language hubs to mediate their comprehension of the language of mechanics and improve its comprehensibility for one another.

Focus group interviews conducted as part of the intervention revealed that EAL students had memorised concepts without developing conceptual understanding. Students noted that the lecturer had negated their literacy level by making them feel superfluous and uncomfortable when they posed questions. Furthermore, they commented that he disregarded their ECP status

when he covered the content without providing them with the necessary links between concepts. The students attested to not relating well to the teaching approach of the lecturer. They explained their discontent: he seemed reluctant to address their questions; he dismissed the troublesome concepts as relevant to secondary school work; he did not provide any background knowledge; and he gave superficial explanations and examples to which they could not relate.

The cohort expressed a need for different modes of instruction to meet their diverse learning preferences and language needs. Engaging with the language of Mechanics by means of visual representations in textual terms, diagrams, illustrations, practical explanations from their culture or every day activities (Kress & van Leeuwen 1998) enhanced their learning experience. These semiotic resources were well received by the cohort as they commented that the combination of auditory and visual information spurred their attention and enhanced their conceptual understanding. The cohort regarded the multimodal approach as meaningful as it promoted learning as constructive and active. They voiced their opinion that it encouraged them to participate in learning independently as the blog provided them with an explanation of concepts in their preferred language, while English terms were retained for assessment purposes.

Despite their acceptance of English as the LoLT, they preferred explanations in a language with which they were comfortable. Furthermore, they felt encouraged to interact on the blog with their peers and tutors as they viewed the blog as a non-threatening environment to test their conceptual understanding and applications of formulae to solve mechanical problems. They preferred the blog over other forms of technological tools like Facebook where they are far more prone to be distracted by incoming posts. The blog restricted them from engaging with other stimuli other than the academic material at hand. They would have preferred that the lecturer also engaged with them on this platform.

Discussion

There was a strong correlation between the low SATAP English scores and poor academic performance of the EAL student cohort of this study. Their poor scores during assessments in their 2015 academic year were mainly the result of their literacy and linguistic rights and their learning preferences not being

addressed. Memorising terms without understanding the concepts in the field of Mechanics had resulted in a 13% and a 12% pass rate in the June and September mid-term tests respectively. These memorisation practices could be related to the fact that a great number of previously disadvantaged students 'did not have the opportunity to develop strong academic literacy skills in their mother tongue, which is not surprising, given that English is the LoLT' (Parmegiani & Rudwick 2014: 115).

From observations and the questionnaire, the researcher noticed that a clear mismatch existed between the learning needs of the cohort and the teaching practices of the lecturer and tutors. Epistemological access to the discipline was therefore denied, as students, who are equally responsible for making meaning, could not fulfil their role as learners in this mono-modal learning environment. Given the above, the study utilised multimodality (Kress 2010) to describe, understand and provide viable solutions to give the student cohort access to the epistemologies of Mechanics. Using this framework allowed the researcher to:

- describe the perceptions of the student cohort and made a conceptual analysis of their language and literacy needs within a multimodality framework (Kress 2010). The study indicated that this specific cohort required access to the academic discourse mostly by using their hybrid language in and outside the classroom but not negating the value of English as an added resource;
- interrogate the teaching practices of the teaching personnel and the students' learning preferences (Mkonto 2015; Fleming 2014) of the cohort of this study. Focus group interviews attested to the creation of an empathic learning environment where their semiotic resources and knowledge sources are employed as part of the meaning-making process; and
- suggest viable solutions to bridge the conceptual gap caused by conventional teaching practices (Muller 2012; Bozalek, Garraway & McKenna 2011; Boughey 2010; Morrow 2009) that do not take the literacy needs of historically disadvantaged students and their transformation as digital learners into account.

The lecturer not making the necessary links among concepts, coupled

with the cohort's poor background knowledge and limited English proficiency, created a barrier to the students' access to the epistemologies of Mechanics 1. After the teaching personnel had been sensitised to the various diverse pedagogical needs of the student cohort, a symbiotic relationship that promoted confidence and participation ensued. Respecting the pedagogical rights of students and elevating them to the status of partners in the construction of meaning were demonstrations of social justice, equity and redress. A blog was tailor-made according to the students' specific learning styles and language needs. In order to actualise their understanding fully, the blog was created to stimulate students' multisensory perception by providing users with different modes, i.e., visual, auditory and written stimuli in their preferred language, to negotiate meaning. The cohort of the study noted that they understood the concepts better, having all these modes to select from.

The blog thus provided the cohort of students with auditory and visual information so that they could transform the information into signs, objects, words, gestures and emergent meanings, as outlined in multimodality (Kress 2010). The blog, designed using Mayer's (2008) principles to clarify multimedia text design, employed a combination of various modes that facilitated epistemological access. Multimodality emphasises the notion that conceptual understanding is dependent on both linguistic information *and* a variety of other communications methods.

The presence of all modes of communication is mandatory to construct meaning (Fontenelle 2013). The effects of poor academic performance on the part of cohort are evident when only engaging within a mono-modal structure. Fontenelle (2013: 99) accentuates that 'it is not possible to remove, or almost remove, a mode and maintain the same meanings'. The overall impression of the cohort emphasises that English paper-based material does not achieve its intention to develop their competence in the language of Mechanics. The information according to them is not visually and spatially integrated. The text and its visual elements are at times non-existent or on different pages and at best very limited in negotiating meaning as the examples are outside their cultural domain. They therefore struggled to make the necessary connection required to make meaning.

Applying Mayer's (2008) visual design principles in the blog, this apparent divide in reading material provided to the cohort could be addressed. The visual and text and even other modes of communication were integrated. What other multimodal layouts and presentations do not present, were in fact

expounded on in the blog. The cohort could engage in various modes in the language of their choice. This enhanced the learning of the cohort who previously had a negative impression of the teaching and learning practices they were experiencing on a daily basis. The learning gaps experienced in contact sessions and in paper-based material were addressed by a blog that provided multimodal ensembles required for their successful study in Mechanics. Providing the cohort with multimodal ensembles prepared on the *spatial contiguity principle* which places related words and pictures closely together (Mayer 2008), and even adding videos in the language of choice, addressed the mismatch created by paper-based material. Retrieving and finding information on the blog was easier and more accessible than the other mono-modal paper-based material they were exposed to.

Limitations of the Paper

Two limitations exist in this paper:

- The result was based on a small sample of students. The same positive results with a larger group would validate the use of a multimodal approach.
- No impact study was conducted to validate the positive perceptions of the cohort, as the academic year came to an abrupt halt owing to student protests.

Conclusion

The study highlights the impact a multimodal approach could have in providing *assisted learning* specifically to EAL students at CPUT. Using a blog where students can operate in an unthreatening learning environment in the language and mode of their choice, this study demonstrates how students' understanding of threshold concepts deepened. Using various modes and mediums provides all participants with an enabling teaching and learning environment. The blog with its variety of communication modes provided a learning space where students could assimilate their diverse semiotic resources and knowledge sources with the language of mechanics. This clearly shows the advantage a multimodal approach has for the teaching and learning spaces,

especially where English is still used in paper-based material and as the only LoLT.

By highlighting multisensory perception through various modes, the end user is now enabled to transcend the paper-based text to negotiate meaning. This study suggests that Mechanics students could gain access to complex applied sciences concepts if they can transform paper-based information into signs, objects, sound, images, and emergent mental representations. A developed multisensory perception could therefore scaffold them in making the correct interpretation when words or concepts are foreign or strange.

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Linguistic Rights and Conceptual Incarceration in African Education[1]

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Abstract

In 2014 the cultural agency of the United Nations issued a dismal assessment of education in Africa. The report noted that while, globally, a quarter of a billion children are failing to learn basic reading and math skills, resulting in an education crisis that costs governments $129 billion per year, the situation in Africa could only be described as catastrophic. Education on this continent had failed so miserably in its mission that 'four in 10 African children "cannot read a sentence"' (cited in *Daily Nation* 2014: 1). This equates to 40% of children, compared to 25% in other poor countries. The report attributed this situation to the fact that 'fewer than three-quarters of existing primary school teachers were trained to national standards, while 120 million primary age

[1] This paper was prepared as an invited keynote presentation in the Language Panel at the 10th Annual Conference on Teaching and Learning in Higher Education, University of KwaZulu-Natal, South Africa, 20-22 September, 2016. I thank Zehlia Babaci-Wilhite, Herman Batibo, Hatem A. Bazian, Langa Khumalo, Patricia Kwok, and David Kyeu, for comments. I am grateful to Jarvis Givens, Jessie Kabwila, Monica Kahumburu, William Kamkwamba, Pascal Kishindo, Wokomaatani Malunga, Francis Moto, Thoko Mtchona, Al Mtenje, John Mugane, Deo Ngonyani, and Matthews Sapemba Tisatayane, for discussions. Thanks to Judith Khaya and Renée Khaya for comments on education in Malawi. All views expressed are my own. In American Canyon, California, Flora Suya provided emotional support; Collin Domingo, José Flores, Savannah Garcia, Carole Lonzanida, Nicolas Rapacon, Scott Turnnidge, Teri Urrutia, and Vilma Wakin have always offered cheer when I needed friends.

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a10

children across the world had little or no experience of school.' It concluded that the African education system does not equip the children with the desired literacy and math skills or scientific knowledge. However, it is silent on the role that language might play in attaining these goals and a well-rounded education. The operative assumption is that African education is delivered in ex-colonial languages due to their centrality to math, science, and technology. This article focuses on the fallacies behind such an assumption and argues that the retention and entrenchment of European languages as languages of instruction serve to solidify the 'conceptual-cum-linguistic incarceration' of African education.

Keywords: language of instruction; colonial education; context of education; culture and identity; science and math education; rights in education; vernacular languages; globalisation

Introduction

Knowledge and the use of natural language is a uniquely human endowment in that people are the only creatures endowed with the cognitive structures or neural mechanisms involved in language (cf. Chomsky 1993). Ordinarily, language, that facilitates the transmission of knowledge and culture, is manifested through speech. Education, involved in citizenship training, imparting morals, practical skills, cultural or religious practices, intellectual development, etc., is conducted through the vehicle of language.

With oral knowledge, innovations are integrated into the knowledge repository and are modified as conditions change. There are no recognised authors and knowledge preservation depends on oral transmission to younger generations.

The oral tradition that requires personal interaction to exchange information tends to deal with the current, inevitably informed by the past. Crucially, the knowledge remains 'local', only spreading through migration or 'missionary' ventures. It is thus no surprise that education based on orally transmitted knowledge remains embedded within the context of the culture.

This article argues for a valorisation of educational programmes that utilise local African languages as languages of instruction (LoI), with an emphasis on math and science education.

Literacy and Knowledge Preservation

The advent of writing systems radically altered the creation, preservation, and transmission of knowledge. The invention of writing systems facilitated the representation of language in a medium that profoundly affected aspects of culture and communication, eliminating dependence on individual memory. Florian Coulmans quoted in Connor-Linton (2006), noted that writing was probably 'the single most consequential technology ever invented…Writing not only offers ways of reclaiming the past, but is a critical skill for shaping the future' (Connor-Linton 2006: 403).

The cultural changes ushered in by writing systems included the elimination of proximity or physical contact between the author and the audience. The written text cannot be modified based on readers' reactions. Once a text is written and formally or informally disseminated, it is fixed. In addition, since the writer works in relative isolation without the benefit of immediate feedback from a participating audience, he/she depends on language and other literary devices to convey the totality of the meaning.

Writing was a social skill that eventually became definitional of the concept of 'literacy'. While every society has a spoken language, only some had their languages reduced to written form. Speech is part of the biological endowment of humans, a human birthright. On the other hand, writing is a social skill rather than a biological attribute. As such 'every normally developed person in a society that uses writing learns to speak, but not all learn to read and write' (ibid: 402). The centrality of reading and writing to literacy profoundly shaped the concept of 'education' that became a programme of knowledge acquisition in diverse disciplines codified in written form (cf. Mchombo 2014). The central role of literacy in education unwittingly contributed to a negative evaluation of African Indigenous Knowledge Systems (AIKS), or Traditional Knowledge (TK), and of African languages. This arose from its predominance in colonialist education in Africa, focused on imperialist domination.

Literacy and the power relations of colonialism endemic in 'formal' education, very quickly relegated the oral tradition to the status of inferior or, worse still, non-existent knowledge and intruded in the characterisation of the notions of 'language' and 'literature'. Language was viewed as 'national' while dialect is 'local'. Furthermore, language was defined as 'the standard, written form; dialect as the nonstandard, substandard, or unwritten form'

(Nurse & Hinnebusch 1993: 37). This characterisation degrades unwritten (or recently written) languages as 'less' than languages, mere 'dialects', a term imbued with connotations of lack of political and/or economic empowerment, or intellectual acuity. The less charitable construal of the term 'dialect' projects it as denoting 'primitive' systems of communication that are totally lacking in grammar (cf. July 1992). The written tradition also influenced the notion of 'literature', characterized as '1 The body of written works of a language, period, or culture. 2. Imaginative or creative writing, especially of a recognized artistic value. 3. The art or occupation of a literary writer. 4. The body of written work produced by scholars or researchers in a given field' (*The American Heritage Dictionary of the English Language, 4th edition*: 1022)

These characterisations undermined the recognition of African languages as 'languages' or of oral literature as 'literature'. The racist attitudes that accompanied colonialism and imperialism aggravated the situation.

Furthermore, the written medium was credited with being the primary driving force behind Western civilization. Biakolo claims that Western civilization:

> ... owes its origin to writing. With the Greek invention of the alphabet, the organization of knowledge was radically transformed. In oral cultures, the poets, sages, and thinkers depend on poetic rhythm and narrative structure to ensure the remembrance of past utterances. With the introduction of writing, this mnemonic function is most effectively served by the medium itself, making the storage and retrieval of knowledge so much easier (Biakolo 2003: 14).

With this medium communication underwent a paradigmatic shift from a 'time-oriented focus of communicative consciousness to a space-oriented one. Even more importantly perhaps, there was a change in the style of knowledge presentation resulting in a dominance of discourses that were more and more definitional, descriptive, and analytical' (ibid.). Western science and philosophy owes its genesis to this medium. Biakolo quotes Havelock as stating that 'without modern literacy, which means Greek literacy, we would not have science, philosophy, written law or literature, nor the automobile or the airplane' (ibid).

Philosophy gained prominence through writing because, ostensibly, all elaborate, linear, so-called 'logical' explanation depends on writing. This

is not readily achievable in the oral tradition. In oral cultures a person might be wise or endowed with great capacity to provide some explanation of things, but 'the elaborate, intricate, seemingly endless but exact cause-effect sequences required by what we call philosophy and by extended scientific thinking are unknown among oral peoples, including the early Greeks before their development of the first vocalic alphabet' (Ong 1986: 42). Thus, the technology of writing came to exert powerful shifts on conceptions of language, literature and, especially, scientific knowledge.

Conceptual Incarceration of African Education

The centrality of literacy to colonialist inspired education translated into acquisition of Western knowledge systems dutifully recorded in the colonialists' languages. The knowledge represented colonialists' history, systems of government, culture, science, beliefs, etc., and was identified with intelligence and civilization. Combined with 'the premise of a superior race and the premise of a superior culture' that undergirded 'European arrogance' (Mazrui & Mazrui 1998: 14), the 'context of learning' was decidedly non-African. Education so enhanced and maintained power relations that it became the most powerful weapon to suppress African values. Thus, education cannot be distinguished from politics (cf. Freire 1970, 1998). In Africa, it was central to European domination of Africans and, '… colonization by Europeans destroyed much of … indigenous knowledge and replaced it with the European educational and political system that consequently devalued what was left of it' (Iaccarino 2003: 4). This devaluation of AIKS contributed to the view that African peoples had no science (see Maddock 1981). Elliot (2009), quoting Peat (2002), comments that, 'a dominant society denies the authenticity of other people's systems of knowledge' (Elliot 2009: 285). In Africa, as elsewhere, the reality is that '…indigenous languages, knowledges and cultures have been silenced or misrepresented, ridiculed or condemned in academic and popular discourses' (Tuhiwai-Smith 2012: 21).

The emphasis on Western knowledge systems under the guidance of European teachers or 'appropriately' trained Africans, made African education Eurocentric in content and language as well as elitist, training those who would eventually assume the reins of power in independent Africa (cf. Bunyi 2008). This paralleled the education of African Americans who were forced to:

> adopt the European cultural heritage that dominates the educational milieu and thereby abandon their own cultural ties. Inevitably, as African Americans began to separate from their cultural tradition and assimilate into the dominant culture, they lost a degree of cultural identity and unity (Hill 1993: 682).

It gives rise to the general perception that public education in the United States embodies the dominant systems that~:

> … have overwhelmingly supported the ideals and goals of white supremacy and are not arbitrary; they have been strategically crafted and executed. Schooling systems have functioned as channels through which members of the African Diaspora could be inundated with ideology that would stunt their political, economic, and social progress; thus, supporting the goals of white supremacy (Givens 2015: 1).

This constitutes the crux of Wade Nobles' (1986) notion of 'conceptual incarceration' that denotes 'the state of intellectual imprisonment in European value and belief systems occasioned by ignorance of African and Native American philosophical, cultural and historical truths' (Hotep 2003: 6). The elite that emerged from African education were victims of such cognitive incarceration. They assimilated European values, with corresponding alienation from their own culture and knowledge systems.

On Linguistic Incarceration in African Education

African languages and culture were deemed deficient in the linguistic resources requisite for the codification of, especially, scientific knowledge. When their existence was acknowledged at all, TK systems were relegated to the non-scientific, pre-logical or superstition.

The language of instruction is significant because it directly impacts the degree of comprehension of the material learned, and incorporates cultural information. The sad commentary on African education is that 'there are pronounced incongruities between the language the child understands, the language of the parent, and the language of schooling. Often the language of the child is also different from that of the teacher and both do not have

command of the language of instruction' (Mugane 2006: 14). Proscription of the child's first language in favour of an unfamiliar one reduces learning to rote memorisation, with minimal comprehension. Mugane refers to the non-use of the child's first language as 'linguistic incarceration', an echo of Nobles' 'conceptual incarceration'. Mugane observes that the 'first language of the child is incarcerated, reducing education to the pursuit of fluency in English mediated by markedly non-proficient instructors'. In brief, African education provided the forum for the dominance and spread of European knowledge systems and languages. It was appropriately sanitised as a civilizing programme. In 1897, Senegalese Governor General Chaudié had this to say concerning a French education:

> The school is the surest means of action by which a civilizing nation can transmit its ideas to people who are still primitive and by which it can raise them gradually to its own standards. In a word, the school is the supreme element of progress. It is also the most effective tool of propaganda for the French language that the Government can use (Crowder 1962, cited in Mchombo 2017: 184).

The Eurocentric curricula of Africa's education, together with the use of European languages for instruction, effectively incarcerated the African student both cognitively and linguistically.

Post-independent Africa inherited this educational system and various countries' educational and language policies have virtually maintained it. Bamgbose termed this the 'inheritance situation', the retention of policies that have to do with '…how the colonial experience continues to shape and define post-colonial problems and practices' (Bamgbose 1991: 69). In the case of language in education policies, Bamgbose states the obvious fact that '…all former British colonies have English, all former French and Belgian colonies have French, all former Portuguese colonies have Portuguese and the only former Spanish colony has Spanish' (ibid.)

Language and Rights in Education

The 'inheritance problem' did not entirely undercut efforts to review the content of African education. As the political objectives of nation building,

national unity, and cultivation of national identity gained ascendancy in independent African countries, the question of national language(s) and/or LoIs in schools came under review. The first president of Tanzania, the late Mwalimu Julius Nyerere, formerly a teacher himself, proposed 'Education for Self-Reliance' (*Elimu ya Kujitegemea*) (Nyerere 1968). A crucial aspect of the programme was the introduction of Kiswahili, the main language of the country, as the country's national and official language and as the LoI in schools. The programme included revision of the content of education to include the nation's political ideology of Ujamaa (African socialism). Thus, Tanzania is an example of a country adopting one language, Kiswahili, not merely as a national and official language, but also as the LoI in primary schools (cf. Mchombo 2014; Rugemalira *et al*. 1990). The changing fortunes of the policy have to do with the politics of aid from international organisations such as the International Monetary Fund (IMF), the World Bank, or the former colonial regimes and more industrialised nations, the core countries that effectively place African countries on the periphery (cf. (Mazrui 1997; Phillipson 1992). Dependence has impacted policies on language in education. Political will is also required to drive the policy (cf. Ngonyani 1995). At the opposite extreme is the case of countries where ex-colonial languages remain official-cum-national languages and LoIs, as is the case with Portuguese in Mozambique (cf. Firmino 1995; Henriksen 2010).

While catering to African children on African soil, colonial education practically excluded connections with African culture, epistemology, history, and beliefs, as well as African languages, insulating it from the cultural context. It effectively constituted the domain for indoctrination of, and conversion to, Western knowledge systems and values, all delivered in European languages.

Furthermore, the exclusion of local languages in the curriculum or the school environment that required children to adjust to instruction and communication in foreign languages constituted denial of a basic human right (cf. Kiramba 2017; Ngugi 1986). UNESCO enunciated this right categorically:

> We take it as axiomatic that every child of school age should attend school and that every illiterate should be made literate. We take it as axiomatic, too, that the best medium for teaching is the mother tongue of the pupil (UNESCO 1953: 6).

More than 60 years later, this right appears to be accorded minimal, if any, recognition in the conduct of education in many erstwhile colonised countries where, by and large, it is not even part of common knowledge.

The non-use of African languages in education subjects the child to the twin disadvantages of mastering foreign knowledge while, simultaneously, trying to understand the foreign language in which it is delivered. This is a denial of rights in education (cf. Babaci-Wilhite 2014). A report by the UN cultural agency in 2014 on dismal literacy rates in African education noted that, 'four in 10 African children 'cannot read a sentence' (cited in *Daily Nation* 2014: 1). However, it was notably silent on the languages in which sentences are written. Clearly, the report's unstated, but understood claim is that the children cannot read sentences in European languages, especially English.

African education continues to strengthen the use of European languages, especially English because of their presumed relevance to science, technology, and modernisation. This bestows economic value on ex-colonial languages, especially English, since they are viewed as necessary for gainful employment. However, this reasoning is fallacious considering that '…there is little empirical evidence demonstrating that English-language teaching brings any benefits or is cost-effective in developing countries' (Coleman 2011: 15). Nonetheless, policy makers valorise it as the LoI because 'globalisation' and 'competitiveness' are identified with knowledge of English[2].

The Republic of Malawi provides an apt example. The perennial under-performance of school children is blamed on poor standards of English. To improve results, in 2014 the Ministry of Education resolved to make English the LoI from Grade 1. Making the announcement, the then Minister of Education, Dr Lucius Kanyumba, claimed that this would be in line with 'a

[2] Langa Khumalo (p.c.) remarked on the complexity of the problem. He observed that (i) African governments (viewed as liberation movements) that took over from colonial settlers, have largely maintained the colonial linguistic status quo; (ii) their governments have failed to wean themselves from foreign funding with their fiscal activities largely dependent on the erstwhile colonisers; (iii) they are themselves largely contemptuous of African languages, thereby perpetuating the fallacy that African languages are devoid of logic or science.

new Education Act which will see pupils being taught in English right away from Standard 1' (*Nyasa Times* 2014: 2). The objective was to ensure better performance in math, science, and technology. Strictly speaking, the country's Education Act did not articulate anything novel. Education has traditionally been delivered using English as medium of instruction, with even greater emphasis on its use in official settings. The use of Chichewa, the main local language, as the medium of instruction, let alone in government or official duties, was either proscribed, certainly in parliament (cf. Matiki 2002; Mtenje 2002) or muted.

The prevalent view of African languages is that they are not suited for scientific discourse with all the mathematical concepts and calculations or logical inferences involved in its formulation. This is curious, since it is unclear '…where the belief that science is better learnt in English than in other languages originates. While it is a belief one often comes across in Africa, the claim seems so unsubstantiated' (Brock-Utne 2012: 9)**.**

Language and Power in Math/Science Education

In 2014, the Ministry of Education in Kenya decided to enforce the language policy that had been in place for three decades that children in lower primary schools be taught in a mother tongue (*Daily Nation* 2014a). The rationale was as much political as it was pragmatic (cf. Babaci-Wilhite 2013, 2014; Babaci-Wilhite & Geo-JaJa 2014; Brock-Utne 2007; Prah 2008). The pragmatism was that it would contribute to improvement in educational achievement and cultural preservation. Mother tongues contribute to the maintenance of children's cultural grounding. A strong argument in support of using the vernacular or a community's own language in the educational system is that:

> It provides a means by which the linguistic and cultural wealth of the community can play an essential role in the formal education of its children, thereby enabling knowledgeable members of the community to participate in ways which might not otherwise be open to them (Hale 1974: 3).

Besides, educating children in a language they do not understand results in poor outcomes (cf. Romaine 2015).

The then Cabinet Secretary of Education in Kenya, Professor Jacob Kaimenyi, cited these points to support his call for the implementation of mother-tongue education in lower primary grades, noting that 'the use of local languages in the formative stages of child development was critical and had scientifically been proven to be productive' (*Daily Nation* 2014b: 1).

Despite all these considerations, the directive faced opposition, primarily from teachers. The arguments ranged over the usual terrain of lack of instructional materials in local languages, to the lack of qualified teachers, and the perennial argument about exacerbating ethnic divisions and thereby undermining the political goal of national identity and unity. Furthermore, the policy was criticised for being myopic or retrogressive in that it failed to factor in the knowledge required for economic and technological advancement in the 21st century, etc. (cf. Gacheche 2010; Kioko & Muthwii 2001 for more general observations).

The last point constitutes the main objection to mother tongue education in Africa, viz., that it would undermine efforts to impart or acquire knowledge in math and science, with negative effects on development. Indeed, in Zanzibar, one of the countries that promoted the use of Kiswahili as the LoI in primary education as its population is monolingual in that language, a new Education and Training policy was introduced to 'increase the use of English and change the language of instruction in science and mathematics' (Babaci-Wilhite 2012: 17). As noted by Babaci-Wilhite:

> The pressure to use English in mathematics and science subjects is a reflection of how much attention those subjects are now receiving in the international sphere, and how nations are struggling to balance their desire to gird students for the global job market against issues of national pride and the desire to preserve and promote the use of a local language (ibid: 28).

This statement outweighs nationalistic sentimentality about using local languages as LoIs (cf. Neke 2003).

Students' performance in math and science remains largely dismal. This should provide impetus for a continued search for more credible solutions including the role of language (cf. Mazrui 2004). Math and science will continue to dominate views on development, industrialisation, etc., and English remains the language of globalisation. What is not self-evident is the

utility of teaching math and science, and much else, in English or, conversely, of 'bludgeoning of indigenous African languages from the education system' (Mugane 2006: 13), based on their presumed inferiority and inability to articulate concepts and theories in science and math, a bizarre viewpoint at best. What is its basis?

Math and Science as Culture-independent Knowledge

Science and math, as well as logic, are intertwined, sharing the aura of being culture-free, objective, and universal. Science traverses cultural and national borders and seeks universal truths using unique methods that, ostensibly, are not shackled to any culture-specific beliefs or practices. The scientific enterprise is, ostensibly, concerned with 'a search for explanatory laws or principles' that have the unique property of being 'testable (or "refutable" or "falsifiable") predictions' (Smith 2005: 31). Scientific hypotheses or theories are rooted in, and supported by, empirical data that is, putatively, publicly accessible. In other words, science thrives on the formulation of claims, hypotheses, theories, etc. that are supported by reasons or empirical data, and are susceptible to refutation.

Logic, science and, especially, mathematics, are routinely equated with profound thinking and reasoning. In general, math is accorded more culture-free knowledge than science because its statements are assumedly universally true (cf. Bishop 1990).

Granting science and math those qualities does not constitute a basis for the preference of one language over another for their instruction. Technical vocabulary is associated with the scientific enterprise or mathematical reasoning and 'English has acquired the summit position as the language of choice for communication…in Science' (Mishra 2009). Such technical language abstracts from ordinary language to reduce the ambiguities or vagueness that are rampant in the latter. Symbolic notation may be deployed for representation of concepts and '… symbolic systems created in scientific enterprise differ radically from natural languages in their fundamental formal properties, as in their semantic properties, it appears. To call them 'language' is simply to adopt a metaphor' (Chomsky 1993: 29).

Symbolic systems are elucidated and communicated in ordinary language and are hence expressible in all languages. Put bluntly, the prevalence of English in science and math education has less to do with the

intrinsic aspects of science and math or those of the African linguistic structure and more to do with power or prejudice.

Advocates of the use of African languages in science and math education normally appeal to the translatability or adaptability of scientific vocabulary (cf. Rugemalira *et al*. 1990). This response evades doubts about the translatability of scientific concepts into African languages. Dalvit, Murray & Terzoli, citing others, note that the African linguistic structure might pose difficulties for science education. It is claimed that:

> African languages make little use of logical connectives, which are a common feature of scientific writing. African languages do not use the English articles 'the' and 'a', hence 'copper is a metal which conducts electricity' and 'copper is the metal which conducts electricity' could cause confusion when written in an African language (Grayson, cited in Finlayson & Madiba 2002: 48). (Davit, Murray & Terzoli 2009: 41).

Thus, African languages, that lack definite/indefinite determiners comparable to those in English, and make 'little use of logical connectives, which are common to scientific writing,' (ibid.) are not ideal for science education. When one considers the 'objectivity' and 'universality' of the knowledge embodied in science, the inexorable conclusion is that African languages are inherently inadequate to express universal or objective knowledge and hence cannot express 'explanatory principles'. Policy makers can, therefore, be excused for resorting to further marginalisation of African languages in education.

In reality, the emergent language policies derive from politics and economic dependency. Their political nature is exemplified by recent uproar about the use of Afrikaans as a LoI in South Africa. When demands were made in 2015 to eliminate Afrikaans as a language of instruction at Stellenbosch University the arguments did not invoke the alleged grammatical or lexical deficiencies of the language in expressing science or technology concepts (BBC News 2015: 1). Rather, they were presented as a crucial '…part of a movement to "decolonize" higher education'. Afrikaans was difficult for non-native speakers to learn and understand as a LoI through which to acquire content. Technically, the argument was disingenuous given that the use of non-indigenous languages as LoIs is standard practice in African education (cf. Mchombo 2017). The problem with Afrikaans was political; it is mired in the

racism and politics of exploitation, dehumanisation, and domination of the apartheid era. Stellenbosch University was criticised for remaining '…a little enclave protecting the interests of the architects of apartheid - and by extension the language of the oppressor, Afrikaans' (ibid.).

In June 2016, the issue of Afrikaans as a LoI arose at another South African university. A commentator on local TV defended its retention by invoking linguistic rights; its elimination would violate the rights of some students to receive education in their mother tongue. While this is a laudable point, this right is routinely violated when it comes to investment in African languages of non-European origin, except when it suited the politics of inequality and exploitation.

Science Education and Vernacular Languages

Bishop (1990) expresses doubts about the cultural independence of math and science, pointing out that, as a subject domain, science or mathematics is not acultural, without context or purpose, including the political. The reality is that mathematics is a discipline that has thrived within some cultural contexts and mathematics education is no different from other societal contexts characterised by power relations. As such, they are components of epistemologies of societies, theories of knowledge that make basic claims about the nature of knowledge, who can know, what we can know; epistemologies that are '…situated within political, historical, and economic contexts that can provide power and legitimacy to their knowledge claims' (Hunter 2002: 120).

The power relations inherent in science are masked through its treatment as comprising 'objective' knowledge. Feyerabend noted that:

> *The idea of objectivity*, however, is older than science and independent of it. It arose when a nation or a tribe or a civilization identified its ways of life with the laws of the (physical and moral) universe and it became apparent when different cultures with different objective views confronted each other (Feyerabend 1987: 5).

In brief, claims of objectivity are basically political statements about the values of those who dominate others. Science fits into that paradigm. It is not value-free, but embedded in the value system of a particular cultural milieu, viz., that

of white middle-class males that, in the name of objectivity and value-neutrality, can impose its ideology on society, perpetuating 'racist' assumptions about the agents of knowledge production and of legitimate knowledge. In the cultural invasion that characterised colonialism, education was a crucial component:

> … promoting western mathematical ideas and, thereby, western culture. In most colonial societies, the imposed education functioned at two levels, mirroring what existed in the European country concerned … [and] … in some of the mission schools and in the later years of colonialism when elementary schooling began to be taken more seriously, it was, of course, the European content which dominated (Bishop 1990: 55).

Part of the problem with math and science education is that the LoI gets confused with the technical jargon or abstract symbols and rules used for manipulation and transformation that adhere to special formulation of the meanings. In communication studies, a distinction is drawn between basic interpersonal communicative skills and cognitive academic language proficiency. The former pertain to basic communication in discussion of everyday things and concrete events in situations where context provides relevant cues for total comprehension of the verbal interaction. It is 'contextualized communication' (cf. Cummins 1984). On the other hand:

> Cognitive academic language proficiency…is the type of language proficiency needed to read, to dialogue, to debate and to provide written responses …. Learners who are yet to develop their cognitive academic proficiency could be at a disadvantage in learning science and other academic subject matter (Asabere-Ameyaw & Ayelsoma 2012: 56)**.**

Significantly, the varieties of proficiency indicated here are intra-lingual, easily identified with diglossia (cf. Ferguson 1959). The distinction may correlate with different languages used for the different modes of communication but this would derive from independent factors. This prevails in African education where the diglossic situation is identified with African languages used for contextualised communication and English or ex-colonial

languages for cognitive academic language proficiency. Again, this derives from the colonialist origins of formal schooling in Africa.

The identification of logic and science with wisdom or knowledge has led some scholars to subject African proverbs to logical analysis or coherence. Kazeem (2010) examines the logic of Yoruba proverbs, looking at their adherence to the rules of logical inference. Ngalande (2011) engages in a comparable analysis of some proverbs in Nyanja. The analyses have intrinsic intellectual value but the propaganda component is to show that the wisdom in African proverbs has a logical basis. Ngalande adopts the view that:

> … logic, ordinarily understood as intelligence, is the basis for wisdom. In logic, wisdom is equated with the appropriate use of syllogisms. Thus, a wise person is expected to use syllogisms that are valid and sound to a greater degree than would an ordinary person (Ngalande 2011: 105).

He concludes with the observation that his analysis shows that 'proverbs contained the highest percentage … of valid and sound syllogisms'; they thus, 'truly represent the wisdom of the people' (ibid.). Equating logic with intelligence and his demonstration that Nyanja proverbs contain sound and valid syllogisms underscores the intelligence inherent in African wisdom.

There is imminent danger in conflating wisdom with logic since wisdom regards holistic situations and operations in the density of real life rather than abstractions. Logical inference may not always be germane to, let alone a criteria of, wisdom. The latter is defined as the ability to discern what is true, right, or lasting, comprising the sum of learning through the ages. Wisdom includes precepts that guide individuals in dealing with issues of life and living based on experience, not necessarily matters of formal logic.

The Role of Literacy in African Languages and Education

Problems with traditional African education and knowledge systems have been attributed, in part, to the lack of literacy in pre-colonial Africa. Adeyemi & Adeyinka observe that pre-colonial Africa suffered from:

> ... the inability of the people to write and keep records, which would have enabled local teachers and master-craftsmen and herbalists to

> preserve their wisdom and knowledge for the use of the younger generation … A situation where a master in a profession dies with his knowledge should not be allowed to continue (Adeyemi & Adeyinka 2002: 237).

The centrality of literacy to modern education raises, yet again, the issue of the languages in which to assist children to acquire the social skills of reading and writing, a fundamental goal of primary education. Alphabetic writing that is basic to literacy is independent of any particular language and, once mastered, does not require re-learning when a new language is learned. Therefore, it makes sense '… to teach this principle to a young child in his own language. And it makes no sense whatsoever to teach it to him first in a foreign language, thus placing on him a double learning task' (Hale 1974: 2).

Hale's point receives further support from the observation that the principle of alphabetic writing is more effectively delivered to a learner who is in full control of the phonology of the language for which the writing system is designed, since he/she can grasp the relationship between the alphabetic symbols and the phonological segments of the language.

Such arguments call for a re-examination of language in education policies that decry the use of the mother tongue that is crucial to the child's growth and development.

Dhano Ipuonjo Nyaka Tho

The proverb or saying above, from the Luo of Kenya, is rendered in English as follows:

(i) A person is taught until s/he dies;
(ii) Education is a lifelong process; and
(iii) No one person in the world has monopoly of wisdom and knowledge.

The proverb indicates that education is a lifelong process, embedded in the cultural context of a society. Circumscription of formal schooling from the cultural context, and disregard of the linguistic and cultural endowments of a society, with a focus on foreign knowledge systems and languages, not only condemn societal values and resources to the insignificant or inferior, but

eliminate the society's involvement in educating its youth while promoting an education that deprives learners of basic rights and produces 'cultural misfits'.

Arguments in support of the use of local languages in education are criticised for disregarding multilingualism in Africa. This obscures the fact that when the Europeans started the colonisation of Africa in the last quarter of the 19th century, they introduced their languages to serve specific communicative functions, viz., communication among themselves, and communication and book-keeping in the higher sphere of the colonial administration, the judicial system and law enforcement, and industry. The European colonisers typically communicated with Africans:

> … through a small class of colonial auxiliaries that they trained. The schools that the colonizers set in place thus had the primary function of forming these colonial auxiliaries (including secretaries, teachers, and nurses) who learned the European language, so that they could function competently as intermediaries/interpreters (Vigouroux & Mufwene 2016).

In brief, education had the narrow objective of co-opting locals (elites) to serve as intermediaries between the colonisers and the colonised.

Arguments that invoke the lack of instructional material or appropriately trained teachers in African languages have to do with politics and economics. It is fallacious to maintain that, because of its centrality to world affairs, English is crucial to economic development and technological advancement; sustaining the belief in its necessity to improve economic performance[3].

Conclusion

Like other non-indigenous languages, English should be taught as a foreign language. It could serve as a medium of instruction at appropriate stages where it facilitates comprehension of particular material (cf. Babaci-Wilhite & Mchombo 2016). Local languages should not be eliminated by fiat.

[3] Langa Khumalo (p.c.) noted that economic progress would be better served if the scientific progress were accessed through African languages. This would bring in about two-thirds of local people as active economic participants.

Chronic failure rates largely resulting from a lack of investment are blamed on poor proficiency in foreign languages. Ngonyani points out that changing attitudes towards Kiswahili and English in education in Tanzania are simply:

> … a symptom of the political and economic crisis in Tanzania. People blame Swahili for the decline in education while the actual causes are neglect to the education system and the empty rhetoric of politicians insensitive to people's needs. The desire to bring English back is symptomatic of the dependence syndrome so evident in our economics (Ngonyani 1995: 91).

Persistent criticism of education in Africa revolves around its resistance to 'decolonisation'. It excludes Africans' concerns and world views and prevents research being conducted from an African perspective for Africans' own purposes. African education should thus desist from insulating foreign languages, cultures, and knowledge systems from African values and cultures in schools.

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The Intellectualisation of African Languages for Higher Education

Kwesi Kwaa Prah

Abstract

This article was originally presented as a keynote Address at the University of KwaZulu-Natal's Language Planning and Development Office (ULPDO) language symposium from 19-20 October 2015 at the Unite Building, Howard College, Durban, on the theme: *Advancing the Intellectualization of African Languages in Higher Education*. The position paper examines the challenge of how to intellectualise African languages and bring them up to speed with the linguistic techniques of modernity and advanced contemporary thought.

Keywords: Intellectualisation, African languages, Higher Education

Introduction

In recent times, the centrality of African languages in transforming society has been acknowledged across the continent and beyond in various contexts and on different platforms. It is also recognised that, without the intellectualisation of our languages, there is little hope of Africans achieving sustainable development. In my view, these are most welcome developments. Ultimately, our languages as intellectualised media are culturally the single most important instrument for the empowerment of society and the optimisation of human capital in Africa.

For those who have long been converted to the belief that African languages are crucial to African social and economic development, there is little need to argue that we need to swiftly and effectively enable our languages to develop scientific and technological capacity, rational, logical approaches,

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a11

and analytical techniques. The real challenge is how to intellectualise African languages and bring them up to speed with the linguistic techniques of modernity and advanced contemporary thought. As with many other human considerations, in principle the solutions are universal, but should be grown in African cultural conditions. We do not have to reinvent the wheel and should not regard ourselves as unique. However, while we should learn from the experience of others, such lessons should be adapted to African historical circumstances, cultural characteristics and contextual situations.

The experience of Europe and Asia in particular speaks volumes on this matter. Post-colonial Asia may offer us a great deal that we can learn from, not by crude imitation or indiscriminate adoption, but by adaptation that recognises the primacy of our cultural heritage; builds on what we already have; recognises our historical genius and creates variations on comparative universal themes. The primary stumbling block is the inhibiting effect of cultural neo-colonialism in contemporary Africa which causes many to believe that if something is not done in the Western way, specifically the way the colonialists did it, it is doomed to failure.

Asian societies have also battled with these stumbling blocks and have made more consistent progress in the past 70 years than African countries. In the first place, post-colonial Asia has moved away from the colonial language. This process has been a democratic one that embraces broad social goals and involves planned and carefully timed cultural empowerment where people's languages take centre stage in their lives.

This has not meant that Asian societies have completely rejected Western languages. Rather, they have replaced the role of colonial languages in education and development with native languages and cultures. The shift from Western linguistic and colonial tutelage to autonomous indigenous languages of education and social intercourse has enabled the development and transformation of Asian societies that we see today. In countries like Vietnam, Malaysia, Indonesia and Korea, indigenisation of the language of development in education has opened the doors to development and emancipation.

Intellectualised Language

A simple but apt definition of an intellectualised language is a 'language which can be used for educating a person in any field of knowledge from kindergarten

to the university and beyond' (Sibayan 1999:229). Nolasco (2009) argued that, in the Philippines, where society has been grappling with the intellectualisation of Tagalog for decades, '…we will never be able to develop our languages for higher thinking unless we begin basic literacy and education in them. It isn't a matter of first intellectualizing a language before using it. We can only intellectualize a language by using it' (cited in Multilingual Philippines 2009:1). The first condition for the intellectualisation of a language is that it must have a literate social base; it must be written. Literacy is thus a primary condition for intellectualisation.

As a technique, language expresses itself in two historical forms; it is orally constructed and also manifests as literate rendering. Historically, the first has preceded the second. However, these two forms of language-use overlap and co-exist. Apart from historically preliterate societies, there are hardly any societies in which orality and literacy do not co-exist and interact. However, as societies advance technologically, scientifically and otherwise, literacy and its related practices supersede orality. Literacy has enabled and enhanced the deposition and accumulation of knowledge and information. It has also minimised personal communication and printing has created a space between communicators. It can be argued that without literacy, human societies' capacity to technologically and scientifically transform is limited. The work of the 'great divide' theorists over the past 50 to 60 years offers useful insights on the dialectics of orality and literacy (Ong 1982; Havelock 1963; McLuhan 1962; Lévi-Strauss 1966; Goody 1963; Goody 1987). In sum, it is argued that, in broad terms, the difference between literate and oral societies represents the gap between 'civilization' and 'barbarism' (Prah 2015).

The notion of the 'great divide' has been the subject of intense debate over the years. The main criticism is that it lends itself to simplistic and crude binarism and that the relationship between literacy and orality is more interactive and inter-connected or more historically continuous. These critical views are thus frequently described as 'continuity theories' (Prah 2015; Street 1986; Finnegan & Horton 1973; Finnegan 1988; Chandler 1995; Scribner & Cole 1981).

Beyond the primary requirement of literacy, intellectualisation depends on a number of other enabling conditions. The first is availability and access to all knowledge, past, present and future. In other words, we should know what we have; what exists as knowledge, and where it is to be found. All such information must be captured in retrievable form, i.e., in print, audio

visual, the World Wide Web, digital storage, etc. These are all literate forms of storage. Secondly, society and all its constituencies should appropriate and use the intellectualised language; these include government organisations; the education system at all levels; business, commerce, and industry; professions such as engineering, medicine, law, agricultural sciences, etc.; mass communication and creative writing; foreign relations and international business banking, trade and commerce; and information technology (Sibayan 1999).

The development of discipline-specific terminology is crucial to the intellectualisation of a language. The paucity of such specialised terminology is often cited as the reason why African languages cannot be used as languages of teaching and learning. In South Africa the University of KwaZulu-Natal (UKZN), through the University Language Board (ULB), has devoted considerable resources to the development of terminology in Administration, Architecture, Psychology, and Nursing (to name but a few disciplines). It should be noted, however, that the process of developing terminology is a complex and arduous one, which has to be carefully and competently managed (Khumalo 2016).

The sectors cited above are specialised ones, with knowledge and information couched in specific technical language, i.e. registers. It is important to note that such specialised sectors are institutionally supported by structures such as academies, schools, universities etc.; governmental structures; business, banking and commerce, and a societal base which has a collective interest in the production and reproduction of such knowledge.

The development of registers is one of the most taxing features of the intellectualisation of languages. A central or centralised institutional base must exist or be created to serve this purpose. In its absence, different people and institutions might easily and inadvertently work at cross-purposes. A crucial part of the work that needs to be undertaken under the auspices of such a body or bodies is the creation and formulation of terminology for new areas of knowledge and reality. This work must not be done with an overly elitist ethos. When society uses its own creativity to collectively coin a term that becomes part of everyday language, it is disingenuous to attempt to impose unknown and unpopular coinage.

Grammar books, dictionaries and glossaries are vital to the success of language intellectualisation. Particular emphasis needs to be placed on the production of monolingual dictionaries. Throughout modern Africa, mono-

lingual dictionaries are valued less than bilingual dictionaries featuring an African and a colonial language. The implication is that our prime concern is to communicate with the rest of the world and not with ourselves. Higher educational institutions are best suited to the tasks involved in many of the above areas of work.

As the present rolls into history, societies change from present to past tense. Language comes to terms with social metamorphosis, finding new words to comprehend these realities. Social development is marked in the dynamics of language, and ultimately in words. The evolution of language maps social transformation. When science and technological changes occur, the vocabularies of science are absorbed into society's vocabulary. The development of meta-language, i.e., a language or symbolic representation or information about a language which is used to discuss, explain or analyse another language or symbolic system, mirrors the growth of science and technology in society. In other words, the thematic emphasis that may exist or emerges in meta-language in the given society refers directly to new conditions and realities in the scientific and technological culture of that society. Over time, meta-language is slowly colloquialised and mainstreamed.

Local languages are also the repositories of indigenous knowledge. When extraneous knowledge is absorbed and incorporated into local languages, it becomes part of the fund of indigenous knowledge; i.e., it is indigenised. Indigenous knowledge thus can be and is intellectualised. When we use our languages for education and import intellectualised capacity to them, the social gap between the colonially received knowledge constituency and indigenous knowledge constituency is bridged. The use of our languages for education and general social practice therefore implies the intellectualisation of indigenous knowledge.

Harmonisation and Standardisation of Orthographic Conventions

In recent decades, it has also been acknowledged that if we want to produce literature and related materials in large, economically viable quantities, we first need to harmonise existing orthographies. When the Centre for Advanced Studies of African Society (Cape Town) was created in 1997, the immediate issue it addressed was the bases for the contention that a huge number of

languages are spoken on the African continent; the *1980 Lome Seminar on the Problems of Language Planning in a Bi- or Multilingual Context* estimated that the figure amounted to between 1,250 and 2,100. This explained the argument that Africa is a 'Tower of Babel' (Prah & Miti forthcoming).

However, the veracity of this conclusion has been called into question. Indeed, when Africa's size is taken into consideration, as the second largest continent after Asia, the variation in speech forms across most of the continent hardly exceeds those found elsewhere. The largest degree of variation is found in what is called 'the fragmentation belt' which roughly runs from the Senegambia to Ethiopia and down to the latitude of North Tanzania. More importantly, the overwhelming majority of so-called languages in Africa are in fact dialectal variants of 'core languages'. Due to the fact that these mutually intelligible variations were introduced as written forms by different, often rival missionary groups keen on preserving 'their flock' from evangelical poaching, on paper there appear to be differences in speech forms that can easily be written in the same way, enabling their accessibility to larger literate communities.

A network of academics, language activists and language practitioners numbering about 150 throughout Africa has succeeded in harmonising and standardising the orthographies of over 80% of the population of sub-Saharan Africa. To date, monolingual dictionaries have been produced for nine languages: Akan, Ateso/Nkarimojong, Ciyawo, Dhopadola, Silozi, Kikaonde, Acholi, Luvale and SiSwati and 39 language clusters have been harmonised. Numerous monographs using the new orthographies have been produced for a wide variety of languages. These cover issues like sanitation, water, women's rights, democracy, health, disease, etc. and can be used for adult literacy classes and to empower marginalised populations with knowledge that is crucial in their lives. The harmonisation and standardisation of orthographies is the first step towards a rational approach to the intellectualisation of African languages. It addresses the chaotic and fluid counts of African languages that are frequently offered and, on hard linguistic grounds it classifies these languages on the basis of structural, lexical affinities and mutual intelligibility.

The example of Bahasa in Malaysia is salutary. A significant development on the road to the intellectualisation of Bahasa Melayu (BM) occurred in 1972 with the formation of a committee and the subsequent Malaysia-Indonesia Spelling Agreement to standardise the spelling system for the two countries. This simplified the assimilation of scientific terms from

foreign sources (especially English) into BM and paved the way for the intellectualisation of Bahasa (Muhamad, Kamis & Junoh 2003). Like most British colonial territories in Africa, Malaysia inherited an education system based on English. In 1965, the oldest university in the country, the University of Malaysia, adopted a bilingual system, with BM for Arts subjects and English for Science and Technology. Over time, this became a completely monolingual system, using only BM. By 1983, all subjects including the sciences could be conducted in BM in all public universities. In 1969, a national language policy was implemented, based on the premise that, if the status of the Malay language was not upgraded, Malays' political and economic status would never improve and national cohesion would not be achieved. One of the main developments was a memorandum to the government regarding the establishment of a public university that solely uses BM as the medium of instruction. This led to the birth of Universiti Kebangsaan Malaysia (the 'National University of Malaysia') in 1970. Following this development, all other universities that were established were required to use BM as the medium of instruction, in keeping with the National Education Policy (Gill n.d.).

Steps to be Taken

Overall language planning should precede the creation of the many institutions and steps I have identified as necessary for the intellectualisation of our languages. The plan would set out a vision and outline the broad steps to be taken as well as a strategy to utilise local languages for education and development. The vision should be geared towards the emancipation and empowerment of the populace so that people are better able to fulfil their aspirations and perform to their full potential free from existential constraints.

From the onset of colonialism to date, language planning in Africa has been unduly favourable and accommodative of the status and place of colonial languages in our lives. We need to reverse this and move in the direction of language policies that take us forward in developing improved life conditions with conceptual tools drawn from and equipped with data rooted in the African experience and realities.

Notions like bilingualism that are borrowed from Western sources with limited applicability and relevance to African societies are unfortunately frequently applied. Together with Birgit Brock-Utne we have in the past

criticized these crude conceptual importations that are employed to explain and analyse African realities (Prah & Brock-Utne 2009; Makalela 2015). Prah and Brock-Utne write that; 'even if an African child were to be trained in school, in two African languages, s/he would not be called bilingual. The concept of bilingual teaching in the African context seems to be reserved for a situation where one of the languages is an ex-colonial language. It is my experience that this situation contributes greatly to the "stupidification" of African children' (Prah & Brock-Utne 2009:19).

In the same volume, I note that peddling the myth of the feasibility of additive bilingualism as language in education policy for Africa is misplaced. It is frequently made to appear as if this is a new tailor-made paradigm. In matter of fact, in as far as its objective of effective dual-language acquisition in education is concerned, it has been offered in different shapes and forms since the early years of colonialism and missionary-led education in Africa. In its more recent reinvention, it is a paradigm borrowed mainly from Western and particularly Canadian social circumstances, which is now being presented as a model for African educational conditions. Justification for bilingualism in African education is inherently unsound and defective. Africans are for the most part multilingual (Prah & Brock-Utne 2009).

Multilingualism is a hallmark of Africa and its growth has been spectacular in the past few decades, particularly in urban areas. This reality is an enormous advantage which can be utilised in our collective African interest. Most Africans speak more than one language and many have acquired languages in primary group situations; they can thus be treated almost like 'home languages'; a term which in many instances better reflects African realities than 'mother tongue'. The multilingual character of African society should be factored into language planning in such a way that from primary to secondary and tertiary levels, people are sufficiently exposed to the range of languages in the locality, region and further afield. If languages are taught over extended periods of plus or minus six years as classroom subjects and not as the language of instruction, by the sixth to seventh year of exposure, learners will be able to demonstrate sufficient working knowledge to be able to pursue academic studies in them, once again, not as the language of instruction. This occurs in European countries such as The Netherlands, Belgium, Switzerland, Norway, Sweden and Germany.

A major component of the organisation of an intellectualised language-based society is the creation of a translation industry. Modern socie-

ties have a large body of translation intelligentsia who are able to render foreign ideas and literature into local languages. The depth and extent of this capacity determines the degree to which foreign-derived knowledge is or can be 'domesticated'. Closely allied to this issue is the question of the economic profitability of literature production in local languages. Where there is a premium on literature in all academic disciplinary areas in local languages, the use of local languages is societally treasured. Such literature should not be restricted to scholarly materials but include popular literature and news publications.

As the pinnacle of the education system, higher educational institutions should take the lead in enabling the intellectualisation of African languages. Departments should be established to provide instruments and materials and dedicated specialist posts should be created. With its superior infrastructure, South Africa is well-placed to lead this endeavour. If we succeed, others will follow. We have also the advantage in that Afrikaans offers a technical example of how to go about this task.

Afrikaans developed from standardisation to successful intellectualisation between 1913 and the mid-1930s. I have often described it as one of the three linguistic miracles of the past 100 years, with the others being Bahasa and Modern Hebrew. Over a period of little more than 20 years, the Afrikaans language was transformed from primary standardisation to a language capable of discussing the most advanced contemporary scientific knowledge. When the National Party came to power in 1948, more resources were devoted to this exercise. Much can be learnt from the practical process of this effort.

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The Centrality of the Language Question in the Decolonization of Education in Africa[1]

Kwesi Kwaa Prah

Abstract

This paper draws attention to the relevance of decolonization as a notion and process for education in our times. It points to specific instances of Eurocentric biases which affect the structure and content of contemporary education in Africa. These include the historical periodization scheme which is utilized across the board in the social sciences and humanities in African education and also the notion of 'African Studies' in African universities. It is argued that societal relevance is a crucial factor for education to be meaningful. The author argues that the language question; the need to use local languages that are shared by the masses of specific societies is essential for development and emancipation. It provides better bases for the upliftment of people; the requirements for knowledge production and the development of human capital. The paper points to historical and contemporary examples from Europe and Asia to explain how and why language is central to all attempts to create knowledge-based and knowledge-producing societies.

Keywords: Decolonization, Language, Education, Imperialism, Culture

Introduction

In the last two years (2016-2017), the challenge of decolonizing education in Africa has found voice, expressed with a great deal of emotion, noise and fanfare by university students in South Africa. Noticeably, the initial fervour

[1] Keynote Address: 8th University of Zululand, Humanities and Social Sciences Conference, 18 - 20 October 2017.

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a12

of the call appears to have considerably abated. What happens next? Early this year, 2017, during a visit to the University of Venda, one of the Deans remarked to me that; 'we have been here before, in the 1990s,after the formal end of Apartheid, there had been calls in the university for changes which amounted to the same thing, as the calls for decolonization that are being made now.' Nothing happened then. A decade and a half later, there is again danger of the current enthusiasm of the times petering out.

A good part of the lack of application in addressing the issue is due to the fact that, although the idea of decolonizing education is immensely suggestive, understanding what this should mean and entail, beyond superficialities and resounding mantras, remains for many vague and analytically unclear. Oftentimes, there are sweeping, radical, but empty calls which equate almost everything which does not sound directly African as Eurocentric anathema. The decolonization of knowledge and education does not and should not mean a philistine rejection of Western-derived knowledge and argumentation. It suggests divesting the content of education of the inherited Western vestment. It signifies that we must construct knowledge that speaks to our cultural and linguistic distinctions. We must stop looking at ourselves with the optics of outsiders. It means in short that education must directly address the issue of societal relevance. This implies in practice modifications in the existing class basis of knowledge production and the deployment of knowledge. I have elsewhere indicated that there is need for substantive identification of the component features, in terms of concepts, terminologies, methodologies and disciplinary justifications which need interrogation and specific address (Prah 2017). This requires in-depth examination of what precisely needs to be revised, reformed, altered, overhauled or removed in the various disciplinary pursuits in the academy. Some of these inadequacies have in the past been fingered (Ibid.).

For example, in our education systems, the periodization of African history runs from the precolonial, colonial and post-colonial periods. This colonialist historiography affects other disciplines in the social sciences and humanities. The implication of this periodization format is that, the whole of African history is pigeon-holed into three slots; each of them conceptually revolving around the colonial encounter. The arrival of the West in general and colonialism in particular are treated as the most pivotal features in the whole of African history. This periodization schema locks us into Western colonial history and reduces us to the footnotes of this Western colonial history. It

places Africans on the borders of this history as luckless add-ons and innately rationalizes and justifies Western imperial ascendancy. This tri-layered periodization is actually an outline of Western history in Africa. Africans are through this schema made oblivious products of the West. As a conceptual tool, this representation is so analytically overriding that as a scientific narrative it completely disables Africans of any option for free historical agency. Apart from its unambiguous Eurocentric bias, it has also critical scientific incongruities (Ibid)[2]. Another anomaly is that, the ghettoization of African Studies as a separate area of quasi-disciplinary concentration in African universities implies that the rest of the other schools, departments and faculties in our universities do not study African realities (Ibid). Equally absurd is the notion of African literature in European languages (Ibid). All these scholastic irrationalities in the structure and substance of African education point to the fact that contemporary African scholarship is riddled with Eurocentric paradigms and lacks the projection of sovereignty in our endeavours. The result is that we have Western universities in Africa, not African universities in Africa.

[2] I add that, 'The only period in this tri-layered history which can in some form be given authentic chronology, is the colonial period. The precolonial period which accounts for over 90% of African history is fossilized and rendered analytically inert. For now, it is cognitively unyielding and devoid of any attempt or possibility for further detailed chronological differentiation. When reference is made to the precolonial period in African history, we do not know where we stand, it could be a hundred years, two hundred years, a thousand years or ten thousand years. The construction of an "ethnographic present" – the putative description of a culture to establish its features prior to Western contact – in fact only invents an ahistorical image of the past where sociocultural realities with diverse depth in time are treated and regarded without historical differentiation. It implicationally assumes a static, "pre-contact/ precolonial" view of African societies. The cultural traits that were found on the eve of colonialism are treated as if they were timeless and reified phenomena that have no origins in specific periods or junctions in African history. How do we methodologically negate this a-historicism embedded in this Eurocentric periodization scheme? We must in the first instance conceptually place Africans in the centre of history in general and African history in particular'.

In this lecture/ address I want specifically to look at the significance of language in the discussion of the decolonization of education in Africa. My argument will be that it should be the starting point and the pre-eminent feature which needs to be engaged, if any success to the efforts of decolonizing education is to be registered. Without address of the language question, any attempt at the 'decolonization of education' is futile.

Locating Language

In the larger order of nature, *homo sapiens sapiens* distinguishes him/herself from the rest of the animal kingdom through the production and reproduction of culture; in terms of the entirety of both the tangible and intangible expression of the human genius. No other animal produces culture as a continuous, ceaselessly changing, generationally transferred and constitutionally altered product. The tangible products are for all to see as an assemblage of the creation of *homo faber*. The intangibles; language, religion and ritual, customary practices and mores, values, beliefs and tastes are incorporeal, but real in the roles they play in our lives. Of all these material and non-material constituents of culture, language is the most decisive constituent of the totality. It is the central pillar on which the edifice of the reality we call culture is constructed.

Language is the transactional grid through which what is recognized and knowable, presented vocalically or represented in systematically organized symbols of sounds is shared as a collectively held medium on which basis we conduct rational social interaction. Its groundwork lies in the underlying logical order which rhymes with natural processes. Thus its ultimate foundations transcend vocalic expressions and can attain and be represented as abstract mathematical notation. Steiner makes this point well when he says that, when mathematics turned modern and began exhibiting its vast scope for autonomous conception … translation become less and less possible;

> The great architectures of form and meaning conceived by Gauss, Cauchy, Abel, Cantor, and Weierstrass recede from language at an ever accelerated pace. Or rather, they require and develop languages of their own as articulate and elaborate as those of verbal discourse. And between these languages and that of common usage, between the mathematical symbol and the word, the bridges grow more and more

> tenuous, until at last they are down. Between verbal languages, however remote in setting and habits of syntax, there is always the possibility of equivalence, even if actual translation can only attain rough and approximate results. The Chinese ideogram can be transposed into English by paraphrase or lexical definition. But there are no dictionaries to relate the vocabulary and grammar of higher mathematics to those of verbal speech. … I have watched topologists, knowing no syllable of each other's language, working effectively together at a blackboard in the silent speech common to their craft (Steiner 1970:14-15).

This silent language of mathematics to which Steiner makes reference is indeed language which goes beyond vocalic expression; language at its barest and most unadorned. It is language set in the stark nakedness of the natural order; the order on which the primary logic of the cosmos is founded; the laws governing materiality. Thus, technically it should be possible to reduce all vocalic language into non-vocalic notational mathematical expression. It is the height of abstraction to which the usage of sounds become irrelevant to our understanding of the logical argumentation underlying notational mathematics. For the present, it is extremely difficult, but in my estimation not inconceivable, to move in the opposite direction of expressing, for example, topological notation in sound expressions. Its phonological range, phonemic composition and lexical complexity may be quite unlike anything we currently know, as verbal language.

Another interesting case is musical notations. These have varying histories, different symbolic representations in different cultures, but which through conventions, share universal meanings; in each instance they represent systems of logic which can be mathematically constructed and are therefore to varying degrees predictable. Different types of music and different notational forms have varying logical orders which are systematic in as far as the specific types of music and variant notational conventions are concerned.

All languages are learnt, although as Chomsky, has explained; the underlying 'cognitive capacity' to acquire a speech form is based on an inherent biologically founded human development which enables the operation of a 'universal grammar'; 'the system of principles, conditions, and rules that are elements or properties of all human languages not merely by accident but by necessity … biological, not logical, necessity' (Chomsky 1975:29). The fact

that languages are learnt, by extension, means that culture is learnt. But the capacity for this is founded on the biological complexities of *homo sapiens sapiens*. In other words, the human language facility is not exclusively experientially drawn. It must be largely inborn. It is not inferred from instructive examples but 'triggered' by the environment to which the language learner is exposed.

It has been argued that; the decisive step in the advancement from ape to man ensued when tree-climbing led to the variation in the functionality of the ape's hands and feet, standing upright, thus leaving the hands free when walking, i.e. the evolutionary emergence of bipedalism and hence the facilitation of an upright carriage. The fore-limbs as hands became in time specialized for different and novel purposes like eating, the fabrication of shelter, and physical defence; the ability to 'grasp cudgels.' Yet most importantly, 'no ape's hand has ever fashioned the crudest stone knife… the development of labour necessarily helped to bring the members of society closer together by increasing cases of mutual support and joint activity, and by making clear the advantage of this joint activity to each individual. In short, men in the making arrived at the point where they had something to say to each other. Necessity created the organ; the undeveloped larynx of the ape was slowly but surely transformed by modulation to produce constantly more developed modulation, and the organs of the mouth gradually learned to pronounce one articulate sound after another. Comparison with animals proves that this explanation of the origin of language from and in the process of labour is the only correct one …. First labour, after it and then with it speech – these were the two most essential stimuli under the influence of which the brain of the ape gradually changed into that of man' (Engels 1950::7 – 13). The ability to produce labour and speech provided the means to create culture.

Thus, historically, in the social evolution of humanity, the two most consequential factors in human progress have been labour and language; as humans we are unique in two ways, we are tool-bearing and talkative animals (Bodmer 1943:17). These two conditions have been however contingent on the production and reproduction of human life itself. But this relationship is dialectical, or more simply stated, interdependent. Labour has determined the material basis for the maintenance of human life and the proliferation of the species, while language has been the prime cultural product of humanity which has enabled the creation of a social communication system on which the rest of culture is constructed. Language carries and expresses culture.

Defining Education

Language is the primary tool for education and education is at heart a system of inculcating ideas and bequeathing the heritage of knowledge and cultural practices in a given society to its people. In general, it is a process that starts as early as possible in the human life-cycle, when mental fertility is in its most active and primed condition; as soon as the young members of society are deemed to have the ability to respond meaningfully to teaching and systematic influence.

In sociological usage, education cannot be separated from socialization. The effect of education is to adapt members of the society, steadily, to the norms, beliefs and usages of a given culture. But, up and above this, an educational system seeks to teach its target-group skills and techniques, which enable such groups to operate adeptly in the production and reproduction of life in the society and the circumstances surrounding this. In this sense, there is a degree of specificity in the content of education for any society. Education answers to needs and conditions in specific societies. For education to be effective in addressing societal needs, as societal conditions change, the structure, content and form of education systems must also change. Issues of societal relevance are thus important in the formulation and development of educational systems and content.

Decolonizing education implies a search for a new system and content for new societal challenges. There are subjects for which the implication of decolonization is relatively minimal. These are in the natural and hard sciences. In the social sciences and humanities, the issue is much bigger. But whatever area of knowledge production we consider, the language question remains fundamentally germane. What is a leading and treasured value in one society may have a different premium in the next. No educational system can serve all societies all the time. No educational system has total universal value. This implies for example that, to learn someone else's history when you do not know yours is a colonial or neo-colonial condition. It is equally true that, in any society where the language or languages of minorities or foreigners are languages of power, official business and education there is in place a colonial, neo-colonial or internal colonial situation.

It is now common knowledge that education is best conducted and most effective when undertaken in the mother-tongue; that where different cultures and people huddle together in common citizenship a spacious

multiculturalist and multi-lingual approach to education allows better the cultivation of tolerance and coexistence. Furthermore, we know that the acquisition of knowledge is most successfully developed when it builds on what people already know, that is, knowledge that is indigenous. Indigenous knowledge is knowledge that is inherited by a language-group, knowledge which is rooted in the culture and history of the people; it is expressed in the language of that particular cultural group. It is impossible to conceive of a society with some historical depth and cultural peculiarities, which is bereft of any indigenous and societally relevant knowledge. Naturally, the members of a particular society refer and relate to such knowledge in their social interaction through the indigenous languages.

In neocolonial societies, the colonially imposed language of the colonizer is maintained in the post-colonial period. The educational process, preserves the pre-eminence of the language of the colonizer, this way it persists in bypassing indigenous knowledge systems and continues to construct and impose novel ideas without respect, reference and acknowledgement of the viability of the knowledge which Africans already have, and which has been generationally passed on over the centuries. One of the correctives which need to be made in African educational systems as part of the effort to decolonize education is the acceptance of the need to build on African indigenous knowledge systems with these latter as credible points of departure. New and modern knowledge is best absorbed if adapted to the cultural and knowledge basis of the people, the speech-community or communities concerned.

Since language captures and describes everything in culture, it reflects continuously technological transformations and developmental changes in societies. Knowledge which is organically embedded in the language of a culture, whether originally adapted from an extraneous cultural and societal source or homegrown and autonomously developed, is indigenous to the speech community who 'own' the language. In short, indigenous knowledge is quintessentially located in the language of a specific culture. It is knowledge generated, used and developed by a people. It is not limited to indigenously and autonomously produced knowledge; it can include knowledge originating from elsewhere that has been linguistically internalized and 'domesticated' by local people through local processes of learning, testing, adaptation and absorption. Although, indigenous knowledge is rooted in and derives from local practices; it is an open system. What this implies is that we can and indeed do add to our indigenous fund of knowledge inputs from outside our cultural

systems. All societies do this, but for the process to reach the masses, and be owned by the masses, it must be integrated into the languages of the masses. Then, it becomes part of the fund of the culture in question. Another way of making the point is that if we learn in languages other than the languages of our societies, the languages closest to our hearts and minds, culturally that knowledge does not automatically enter our cultures. Such knowledge enters our indigenous knowledge systems when we translate such data into our languages. Using a language means entering the cultural world which that language represents. It is through language that cultures are developed.

Educational systems generally reflect the dominant thinking and value system in a society, and are expressions of the society's interests as perceived by the ruling or influential groups in the society, in a given historical period. In other words, educational systems are not constructed to negate the values or interests of the dominant groups in the society. The educated are expected to be products that adjust to the value systems that prevail. Conformity and social functionality are therefore implicit goals of educational systems, although, history is replete with examples of individuals and groups whose historical records demonstrate that revolt against authority and the challenge of canon is often the intellectual hallmark of the best educated.

The relevance of African culture to any system of effective education in Africa needs to be particularly emphasised not because of its bearing on the development of the politically glorified populist notion of a 'national culture' but because of the logic of building on what people have with respect to their history, and not denying their histories and cultures and operating as if they are entirely creations of colonialism. Obviously, cultural divergences exist not only synchronically but also diachronically. But, by and large, Colonialism did not build education on our indigenous knowledge heritage, rather, it usurped, undermined and dismantled this.

Current Context; African Elites in Neocolonial States

It needs to be emphasized that, the issue of the decolonization of education which has come forcefully to the fore and become the immediate conundrum in South African education is not restricted to the South African realities. It is applicable throughout the whole of former colonial Africa. It is indeed even more remarkable that many are countries which have decades of post-colonialism behind them, without having ever addressed the question of the

decolonization of education in any serious way. There are some countries on this continent which have hardly voiced any disputation with the structure and content of education as a colonial legacy. In the light of this, current South African preoccupations with the issue and the search for answers are socially pregnant and noteworthy concerns not only for South Africa, but for the whole of post-colonial Africa.

The matter raises a number of queries. Some of these are; what are we doing in response to the issue? Are we going to address the questions attendant on the need to decolonize education in South Africa or are we, like most of the other countries in Africa, going to eventually turn a blind eye to the issue and allow the persistence of the legacy of colonialism in our educational life to linger on? Will African post-colonial elites, as they are currently constituted, ever rise to the occasion, towards the decolonization of education? What do we precisely mean by, the decolonization of education? What concrete steps do we need to make towards this objective?

We know that for most of the emergent countries of post-colonial Africa, with the end of colonialism, the new African states in fact seamlessly morphed into neo-colonial order. The latter is a condition in which the assumption of sovereignty is for all intents and purposes a hoax; where meaningful power and influence, in most respects, particularly in the economic, political and cultural spheres, are determined by external sources, interests and forces (invariably the former colonial masters). In Africa after colonialism, a new principally native elite came into power, but by and large, in almost all areas of human endeavour, the heritage of the colonial structure and experience was passed on without serious interrogation, self-examination and transformation. No real attempt was made anywhere to bury the denationalizing effects of colonialism. These new elites were, ideologically and educationally, native replicas of the colonial administrators. In the decades of post-colonialism they have effortlessly reproduced themselves. In the settler-colonial areas, the settler-ruling classes have been joined as junior partners by indigenous elements.

The nativization of colonial and post-colonial elites, with hosts of bureaucratic and political offices, national anthems, flags and other emblems of novel statehood to match, provided a gloss of freshness and newness which is only skin-deep; more appearance than reality. As creatures of a successful colonial project, the new elites of these colonially-engendered states were in vision trapped by the perspectives of the colonial masters.

Imperialism and Culture

The effects of colonialism on the native cultures of the colonized was to dismantle or dismiss them as atavistic representations of human progress. As Horne idiomatically described it; 'In these colonies the imperialists, in the name of preventing anarchy, caused it. Taking advantage of the native's powerlessness, they imposed their own civilization within the native's civilization but as something apart... attempting to change it but mocking it and eroding it, walking through it as if it were not there, and pulling off any bits that got in the way' (Horne 1969:108).

Everywhere colonialism was established, it abused the culture of the indigenes and grafted upon it cultural forms and structures which enabled the control and assimilation of native peoples. Principal amongst these were language and religion. These have been the most successful instruments of dislocation and assimilation. Indeed, this pattern is not restricted to the Western colonial experience in Africa, Asia and Latin-America in the last half millennium. It is a feature which is reproduced every time political, economic and social hegemony with the attributes of colonialism and overlordship is established on subject peoples. The imposition of the language of the colonizer is the supreme instrument in the effort to control the culture and mind of the colonized. Sowell observes that; '... absorption of the language and culture of the conquerors typically begins with the elite among the conquered peoples, this has created or widened divisions among the indigenous population. Sometimes the division has been not so much by social class as by geographical location, with those located near the foreign cultural centres or spheres of military or economic concentration being the first to absorb the foreign language and culture, with those in the hinterlands continuing the older speech and customs. Thus, in Africa during the era of European colonialism, Africans located in and around the colonial capital, or in the principal ports, would tend to begin speaking English or French, as the case might be, and to become Christians, while those back in the interior busy country retained their indigenous language and indigenous religions' (Sowell 1994:72).

The Romans imposed their culture and educational forms on all the subject peoples and citizens of the Roman Empire (Janson 2012:95). Roman ways were adopted by provincial elites who stood directly in local positions responsible for the maintenance and sustenance of imperial cohesion and Roman ideals (Hingley 2005). The Arab expansion which followed the death

of the Prophet in the seventh century AD saw the rapid Arabization of the cultures of subject peoples in the various historical caliphates. The Tsarist Russian Empire likewise extended russification processes to the non-Russian peoples who were brought under its thralldom (Petrovich 1956; and Löwe n.d.)[3]. The religions of the Amerindian indigenes of Brazil were proscribed and these aborigines were coerced to convert to Catholicism. This introduction of Catholicism to indigenous people was culturally traumatic. The genocidal consequences of colonial policies nearly erased all the religious institutions and cultural features of these communities[4]. The Spanish in Latin-America

[3] Russian policy towards other nationalities from the time of Catherine II had been mainly directed at eliminating any historical political and social structures which had developed independently from those of the Great Russians and which were different from them, and to replace them with the general structures of the Empire. This policy did continue for some time, although it must be added that the policy was never rigorously applied, nor could it be. At least since Nicholas I another element came into play, whereby many, but not all, peoples were forbidden the use of their language in schools and in the administration. Part and parcel of this policy was, already since Catherine, the mobilization of the Orthodox Church for Russian purposes on the one hand, and on the other an energetic interference in the affairs of other denominations or religions. Under Alexander II, certainly due to a good degree to his reforms, there appeared for the first time a 'societal' nationalism which, supported by a still very narrow and small public, but at least independent from 'official' Russia, attempted to drive the government towards a nationalities policy, which aimed not only at administrative but also at cultural russification. However, the government deflated such pressure already under the 'Tsar-Reformer' by forbidding or restricting the sphere of activities for nationalist organisations such as the Slavic Welfare Committees

[4] On July 15th, 2015, Survival International reported that; 'Pope Francis has asked forgiveness from the indigenous peoples of Latin America for the many crimes committed by the Catholic church during the "so-called conquest". In an historic speech to the "World Meeting of the Popular Movements" in Santa Cruz, Bolivia, which was attended by many indigenous people, he said: "I want to tell you, and I want to be very clear: I humbly ask your forgiveness, not only for the offenses committed by the Church herself, but also for the crimes committed against the native peoples during the so-called conquest of

performed their colonial activities in similar fashion. Under Spanish rule, native religion and culture were severely repressed. Whole libraries of native codices were burned by zealous priests who thought that they were the work of the Devil. The Spanish arrived in the Philippines in 1521 and established a colonial foothold in 1565 which lasted till 1898 when American power was established. This lasted till 1935 when it became semi-independent. Under Spanish rule education was overwhelmingly religious/catholic and for the rest concentration was on Spanish grammar. The system was meant to 'keep the natives faithful, in order to keep the church's authority over the lives of the *Indios* (colonized Filipinos)' (Sta. Catalina Dacumos). All this was geared towards assimilation. In a proclamation made by US President William McKinley, it was submitted that 'the mission of the US was not to conquer and suppress individual rights and liberties which was recently won by Filipinos from Spain, rather absorb Filipino society into a new culture (i.e. American) as an act of benevolence (kindness) from the American people. In essence just a euphemism, to justify the US colonization of the Philippines' (Ibid). The Japanese came in from 1942 to 1945 and then after the 2nd World War, in 1946 it became independent. During the short period of Japanese colonialism in Korea from 1910 to 1945 the Japanese pursued a slow but systematic assimilation policy[5]. In 1928, as the assimilation policy was accelerated,

America". The conquest and the theft of their land led to the genocide of millions of indigenous people who were killed by invaders or died of introduced diseases to which they had no resistance. He acknowledged the depth of suffering by indigenous peoples: "I say this to you with regret: Many grave sins were committed against the native people of America in the name of God". Pope apologizes for Catholic church's crimes against indigenous peoples"'.

[5] Following the annexation of Korea, the Japanese administration introduced a free public education system modelled on the Japanese school system with a pyramidal hierarchy of elementary, middle and high schools, culminating at the Keijō Imperial University in Seoul. As in Japan itself, education was viewed primarily as an instrument of 'the Formation of the Imperial Citizen' with a heavy emphasis on moral and political instruction. During colonial times, elementary schools were known as 'Citizen Schools' (*gungmin hakgyo*) as in Japan, as a means of forming proper 'Imperial Citizens' (*Hwanggungmin*) from early childhood. The public curriculum for most of the period was taught by Korean educators under a hybrid system focused on assimilating Koreans

Japanese administrative policy shifted more aggressively towards cultural assimilation. In 1938 (*Naisen ittai – ideology of the unity of Japanese and Korean peoples*) was promulgated and by 1943 all Korean language courses had been phased out. The teaching and speaking of Korean was prohibited. Although the Japanese colonial authorities advised further, more radical reform this never came to pass, the defeat of Japanese imperialism ensured that the 10-year plan was never fully implemented (Caprio 2009:155; Prah 2016; and 2017:3). We are informed that in the early 1950s, North Korean writers told our Hungarian diplomats that, 'Japanese language was the most dangerous helper of the expansion of Japanese imperialism,' because Korean schoolchildren 'perfectly learned Japanese as early as the first school year, and the conquerors did their best to infect them with their propaganda. The Korean language also absorbed countless Japanese words.' I think this cultural shock played a decisive role in the rise of cultural purism in both Koreas' (Szalontai n.d.).

In as far as the cultural denationalization of African societies is concerned the African experience is broadly not dissimilar to the above cases. The creeping recession or effacement of historically indigenous cultural traits, values and institutions, and their replacement by substitutes derived from historically non-African hegemonic cultures and societies of the world is borne by the African experience. For Africans, this process can be traced to the beginning of the Arab conquest of North Africa starting with Egypt[6]. Over the

into the Japanese empire while emphasizing Korean cultural education. This focused on the history of the Japanese Empire as well as inculcating reverence for the Imperial House of Japan and instruction in the Imperial Rescript on Education.

[6] The Arabic language became more widespread in Egypt with the introduction of Islam, especially since there was no single Egyptian language. The Coptic language was limited and unofficial, followed by the official Greek language, and then the Arabic language entered Egypt starting in the seventh century AD/ first Century AH. Arabic is a rich and complete language and the people were able to express everything using it. Arabic became the language of the diwan, or council of ministers, and the language of instruction. With the advent of the tenth century AD, fourth century AH, Coptic scholars started to compose theological works in Arabic, which indicates that Arabic had become the prevalent language of scholarship. The Coptic language lost its importance totally during the fourth century AH (tenth century AD), as we find the Coptic

centuries, the process of Arabization has continued uninterruptedly in the northern areas of the continent. It is a process which in the past has tended to be overlooked and underestimated by some observers and many students of African history. With regards to the Sudan, Mohammed Jalal Hashim writes that; 'independence, Islamization and Arabization have been shared in common by successive governments as state-dictated policies. Taking for granted that the middle of Sudan represents the whole country prompted this. The post-Independence governments dealt with the Sudan as consisting of (a) the noble Arabs of the middle, (b) the Muslim Africans in the periphery, who, with possible Arab blood, are supposed to undergo very quickly the process of Arabization so as to be honoured with Arabism, and (c) the slaves, who have not yet undone their black Africanism with Islam and a drop of noble Arab blood and who have no place so far in the bench of power. ...' (Hashim 2009). This reality has in no small measure been responsible for much of the current tensions and conflicts which have beset the Sudanese state since 1955. *Afrik-News* of the 13th April, 2010, in an article headed; *Mauritania: Arabization has nothing to do with Islam* divulged that; 'The Mauritanian government, …. spoke out on the burning issue of Arabization, which was raised by the Prime Minister and Minister of Youth and Culture on March 1st. Arabization in Mauritania has whipped up a massive hue and cry among Negro-Mauritanians, who have expressed concerns over cultural, political, economic and social oppression from the ruling Arabo-Berbers. Mauritania, a generous cultural and linguistic patchwork has, since March, fallen prey to the discontentment of a

books by Said Ibn Al-Batreek and Sawerace Al Ashmoniny were written in the Arabic language although they were intended for a Coptic audience. The spread of Islam and the Arabic language in Egypt was helped by Caliph Abd al-Malik Ibn Marawan's 'Arabization of the Mint and Diwans in the government offices in year 78 AH (697 AD)'. The Copts were forced to learn the Arabic language to keep their jobs in the government offices. Then Abbasid Caliph Al-Mustasim decided to drop Arabization from the government offices. The Arabs and the Copts became equal and the obstacles between the two sides were removed. The Arabs then spread among the Egyptians. Within 400 years, from the Arab conquest of Egypt, Egypt abandoned its national language totally and adopted the Arabic language, while other Muslim countries such as Iran did not give up their national language. (See Spread of the Arabic Language.)

key section of its Black Mauritanian populations, who have demonstrated their displeasure against their government's intention to Arabize the administrative and educational sectors. Those arguments were strongly denied …. 'Nothing has changed, Mauritania before 1st March remains the same, the government has not opted for a complete Arabization,' the Minister of Higher Education, Ahmed Ould Bahya told a large number of students gathered at the University of Nouakchott. His statement comes after two controversial speeches made by the Prime Minister, Mohamed Ould Moulaye Laghdaf and Minister of Youth and Culture, Cissé Mint Boide, March 1st, a day set aside to commemorate the promotion of the Arabic language, under the theme; 'Arabic language is the language of our religion and our identity'. 'Mauritanian civilization is Arabo-Islamic!' the Minister of Youth and Culture had added. These comments, deemed segregationist, shocked and sent emotions among Black Mauritanians running amok. Placards read; 'No to complete Arabization', 'No discrimination!', 'We are all equal!' as students demonstrated on March 25th and April 6th'. 'Mauritania's peaceful future can hardly be reassured if these contradictions are not satisfactorily resolved. Furthermore, given the dimensions of the inherent tensions, consequent conflicts cannot be contained within the borders of the country. In the whole latitudinal area running from Mauritania to the Sudan, Arabization has continued for centuries to erode the African cultural and social attributes of the native peoples. The Berber were in this part the first to be Arabized. They subsequently in part became instruments for the further Arabization of other groups in the region. In the whole region resistance to Arabization continues. The later arrival of the West effectively superseded Arab influence, but never completely halted the expansion of Arabism.

Western conquest and the establishment of Western power opened the door to the institution of Western administration, Western education, the introduction of Western Christianity and the imposition of colonial languages as elite reference group attributes. In our times, this process is captured in the notion of globalization in a cultural sense, and is at least in Africa, accelerating at a pace which would suggest that unless the process is checked, so that Africans regain the core features of their languages, cultures and histories, the cultural effacement of Africans may reach a point of no return. This denationalization process has affected all areas of social life, including, the religious life and lore of Africans, languages, modes of livelihood, consumptive patterns, values and normative structures. Today, its main agents on the ground are the African elites.

The upshot of these examples is that, imperialism and its colonial manifestations always imposes cultural and educational co-optations and assimilation strategies on subject peoples. It is thus no surprise that Western colonialism in Africa has borne the universal markings of imperial history in the area of education and culture. Cultural erasure of memory and de-nationalization has been the hallmark of colonialism in Africa and elsewhere. The challenge we face is that, what do we do to create correctives which will enable us to emancipate African societies in order to be able to improve the existential conditions of Africans? What can we learn from such historical cases?

Colonial Education and Acculturation in Africa

During the colonial period, the language policies in education, followed closely the broad imperial tenets espoused by the different colonial powers. The colonial powers educated Africans and Asiatics, primarily with the object of creating a class of natives who could serve as a bridge into wider native society for the purposes of the colonial powers and colonial administration; a social element moulded through formal education to enable access and engagement with mass society. These elements acquired a level of assimilability and affinity to the Western mind and the service of imperial intent. The educational process was meant to produce elements who would serve as compliant cogs in the colonial structural machine; a machine intended to, firstly, serve the larger interests of the colonizer. While this was the broad thrust of the approach, there were differences between British, French and Portuguese approaches to colonial education in Africa in general, and the use of language in education in particular.

The British, wanted to create African cadres who would serve as interlocutors between colonial administration and mass society, but who were sufficiently educationally anglicised, and who would be able to play complementary roles in the establishment of the British power in Africa. They made greater, if grudging, use of the indigenous languages. The French went further towards the reproduction of themselves and attempted to make black Frenchmen (citizens of France) out of Africans and therefore applied a policy of, more or less, zero tolerance to African languages in education. The British view was that education should begin in the African languages for the first very few years and then branch out into the use of English. In practice, in British

colonial Africa, very limited resources were put into early education in African languages. The French, anxious to make Frenchmen and women out of Africans preferred from the start to favour almost total immersion except in the 'initiation schools' which provided limited early primary education in African languages. The Portuguese were the most hard-nosed in this colonial policy of cultural and linguistic de-nationalization[7]. When the French educated Africans to read and accept the idea of *'nos ancêtres les Gaulois,'* (our ancestors, the Gauls) they were systematically undermining not only the primacy of the African language to the African but even more seriously, effacing the identity of the African and replacing it with a mythology of Frenchness. Therein, lies the foundation of the confusion which present-day francophone and francophile elites in Africa still carry.

Thus education under colonialism created an elite culturally oriented towards Western society and values, and psychologically determined to be as quickly as possible removed from the culture and roots of pre-western Africa (or mass society). The educated or so-called civilized African became *assimilé* in the French system, *evolué* in the Belgian order and an *assimilado* in the Portuguese empire. In KiSwahili, *ista arabu*, literally becoming Arabized means, becoming civilized. Literally, he or she had evolved from primitivism, or been assimilated into 'civilized culture.'

Language and Education

Post-colonial Asia for a large part has dismantled the cultural, particularly linguistic element of the colonial legacy. Nowhere in former colonial Asia was

[7] Angola, Decree 77 of 1921, required that all missionaries in Angola had to be *bona fide* ministers of religion and not laity; they were obliged to teach exclusively in Portuguese and not in any other foreign tongue; they were proscribed from any indulgence in commerce of any sort and were not to print, write or teach any African language except at the level of catechism classes. In Mozambique where Protestant missionaries had permanently entered in 1879, Mozambican languages had been taught almost uninterruptedly for years and this had been instrumental in the creation of a small literate group in the African languages in the extreme south of the country on the eastern lakeshore of Lake Malawi. But again here, 1921 saw the banning of the use of African languages in education.

the language of the colonizer elevated in the post-independence order to the status of a national language. This reality contrasts fairly sharply with the records of the large majority of the former colonies in Africa and the Western hemisphere which have opted for the languages of their erstwhile masters. The explanation for this historical difference lies in the fact that in Asia the colonized societies were societies with highly developed indigenous cultures, with extended historical ties to the literate religions and age-old written traditions. It has been particularly these traditions of literacy and associated lore that have served as innate protection and inherent resistance to the neocolonial burden of the language and cultural baggage of the colonizer (see Prah 2009:83 - 104; Groeneboer 1998:14; and Goody 1989:86).

Be that as it may, at least for the present, African post-colonial elites, unlike the Asian cases, have consistently demonstrated an inability to shake off this colonial hangover of overwhelming cultural dependency in particularly the linguistic front. Time and again, we display the fecklessness and ineffectuality to protect and defend our larger social interests. In Rwanda, since 2008 English has been adopted as official language and language of instruction in schools. The supposed reasoning behind this is not only economic but also political (see Plonski, Teferra & Brady 2013). An observer noted that; 'the shift to education solely in English is part of a wholesale realignment away from French influence that includes applying to join the Commonwealth - if accepted Rwanda would be only the second member, after Mozambique, that has not been a British colony …' (McGreal 2008). Subsequently, the subject was featured again by the same newspaper; *The Guardian* (UK) of 13 November 2012, that; Gabon says that it is considering following Rwanda's example by dropping French in favour of English. Evidence of the success of this education policy is wanting. A spokesperson for the president of Gabon announced that, the country which uses French as its official language, was considering following the example set by Rwanda by shifting from French to English. 'Rwanda has claimed that economic gain motivated its 2008 decision to downgrade French, the language it inherited as a Belgian colony. By converting to English-medium teaching in the majority of its schools, its leaders say it is attempting to produce a generation with a grasp on the linguistic key to global trade and business' (Clover 2012). Recently (2017) in Cameroon people have been banned from watching a popular television station that it claimed represents the interests of the English-speaking population. The British Broadcasting Corporation (BBC) News reported that cable television

providers have been told they will be sanctioned if they do not stop broadcasting the South Africa-based channel, Southern Cameroons Broadcasting Corporation (SCBC). However, it can still be viewed online. The report went on to explain that, for months, there have been protests by Cameroon's Anglophone population against what they say is discrimination by the Francophone majority. Some pro-English activists have been accused of campaigning for a separate country. SCBC runs programmes about the history and culture of the Anglophone region, as well as interviews with exiled lawyers and documentaries about human rights abuses in Cameroon[8]. *Aljazeera* wrote that (1st October, 2017) troops have been 'deployed to Anglophone regions as activists declare symbolic independence from country's French-speaking areas' (Essa 2017).

Almost two years ago, (13th November, 2015) the *Mail and Guardian* (South Africa) reported that; 'Student pressure group had protested against use of Afrikaans as official teaching language, saying it disadvantaged blacks … After months of turmoil at South African universities, student protesters have won the right to be taught in English at Stellenbosch University, the intellectual home of Afrikaners during apartheid. … It was the latest victory for increasingly militant students who complain that the country's universities remain racist 21 years after the first democratic elections brought Nelson Mandela to power'[9]. Surprisingly, these predominantly, African language-speaking students were oblivious about the need for mother-tongue languages of instruction.

During the past century, the pre-eminence of English has steadily swept a good part of the world and tended to strengthen the illusion that there is an inherent superiority of English which makes it increasingly the global language of choice. This is in fact far from the truth. It is the global ascendancy of English language-based power and culture of the United States of America,

[8] Cameroon: 'Pro-English' television channel banned. Monday 04 September 2017. *Legalbrief Africa*. Issue No: 741. IBA. See also: Cameroon bans 'opposition' English-language TV channel. *BBC News*. 30 August 2017. Available at: http://www.bbc.com/news/world-africa-41094096.

[9] Stellenbosch University students win right to be taught in English. *The Mail and Guardian* (South Africa). 13th November, 2015. Available at; https://www.theguardian.com/world/2015/nov/13/stellenbosch-university-students-protest-english See also Spaull and Shepherd (2016).

the global super-power of our times, which buttresses the position of British English and is responsible for the currently unrivalled supremacy of the English language. This position is aided by the linguistic cultures of the erstwhile British empire, the English-speaking nations; Canada, Australia, New Zealand, plus the former colonies in Africa, Asia and the Caribbean. The portent of English language universalism threatens even developed European languages like Dutch, French, German, Norwegian, Swedish and Danish in their backyards. Some scholars and observers like Birgit Brock-Utne, Per Ake Lindblom, Paul Thomas, Anders Breidlid and Tan Tanali have signalled growing disquiet with this emergent phenomenon, where at the tertiary level market forces are increasingly opening up influential space for English language of instruction (See Brock-Utne 2009:275-282; Lindblom 2009: 283-288; and Tunali 2017. Breidlid and Thomas call it the 'Anglobalization of Education.' A phenomenon 'spurred on by the Europe-wide commodification of education in English' (Thomas & Breidlid 2015:349-368).

Here in South Africa, what many of us fail to see is that the technological and scientific aptitude of the society plus the processes for the production and reproduction of knowledge are located in the two white minority cultures, English and Afrikaans. All products and production which require any scientific inputs are done in English and Afrikaans. The cultures and languages of the African-language speaking majorities are completely out of the question. African language-speakers are only consumers. Culturally as Africans, we contribute nothing scientific or technologically innovative, we contribute only labour to production in society. This is also true for the whole of Africa. The extraordinary development of Afrikaans should be a lesson for all Africans. The rapid Afrikaner language development example demonstrates that it is possible over a relatively short period of time to develop a language to become a language for science and technological progress; an empowered language for educational purposes capable of carrying knowledge at advance modern levels.

In 1976, the dogged racist arrogance of the Afrikaner nationalist power elite's effort to boldly and ruthlessly impose Afrikaans on African school children finally provoked sharp resistance in Soweto. These schoolchildren rejected with determination the imposition of the 'language of the oppressor'. Paradoxically, Afrikaner history is replete with their own earlier rejection of the imposition of English throughout most of the 19th century. This latter had indeed been the linguistic and wider cultural dimension of the Anglo-Boer

conflict. English and Afrikaner cultural and linguistic contestation had been continuous from the earliest years of Western settlement.

The first of the settler language policies was outlined under the governorship of Simon van der Stel (1679-1691). It was instituted soon after the arrival of the French Huguenots in the Cape in 1685. The first school which was created for Huguenot children (1688) utilized a bilingual French/Dutch teacher. Two years later, it was decided that Dutch should be the language of instruction for both French and Dutch children. Dutch language use became well-established. Much later, Sir John Cradock (1811-1814) introduced an Anglicisation policy which was further consolidated by Lord Charles Somerset (1814-1826). In 1822 he decreed that English should be the official language of the Colony. In 1879, the De Villiers Commission of Enquiry into Schooling, advocated that the English should be required to learn Dutch to ensure a more balanced cultural atmosphere (Le Roux 2016). Between 1897 and 1901, Alfred Milner as High Commissioner for Southern Africa and Governor of Cape Colony pursued an undivided policy of Anglicization of Afrikaners. He saw demographic engineering in favour of English speakers as the most assured route to Anglicization. Second to this was education. His policy was that; 'Dutch should only be used to teach English, and English to teach everything else'[10]. The Treaty of Vereeniging (1902)[11] which ended the 2nd Anglo-Boer war followed a decade later by the Act of Union (1910) opened with speed the door to the emergence of Afrikaans from the shadows, into societal equality with English. The Afrikaans standard orthography was finalized in 1913 and that same year it was introduced to primary schools. It was introduced at university level in 1918. 1925 saw its usage in Parliament. The Afrikaans Bible was out in 1933. Beyond that time, Afrikaans as a language became technically equipped to deal with the production and reproduction of knowledge as any in the world. The development of Afrikaans from standardization of the orthography to the technical equipment of an intellectualized language took about 25 years, the same distance in time we have travelled from the end of

[10] A. Milner is quoted here from Mueni Wa Muiu (2008:58).

[11] The significance of the language question for the Afrikaners was underscored by the fact that, urging his fellow Afrikaner leaders to accept the terms of the peace, Louis Botha argued: 'Terms might now be secured which would save the language, our ancient customs and national ideals. The fatal thing would be to secure no terms at all and yet be forced to surrender'.

Apartheid to the present. Similar feats have been achieved for Modern Hebrew and Bahasa.

Closing Observations

The foundation on which culture is built and transacted is language. Language captures the experience of its users, and serves as the key depository of the collective experience of its producers. It is in language that the creativity and innovative traditions of its creators and users are institutionalised, and it is within language that the processes of the production and reproduction of knowledge are effected. The development and usage of African languages for all social transactions including education are the only way of ensuring the cultural empowerment of mass society in Africa. It is only through the usage of African languages in education that knowledge can be channelled into the cultures of the overwhelming majorities of Africa, in ways which will ensure their confident usage and understanding by Africans. An enabling condition is that African languages need to be literate and intellectualized. The upshot of the logic of this argument is that, an African renaissance will be only possible if the processes for this are premised on the untrammelled usage of African culture, more specifically African languages. 'No country can make progress on the basis of a borrowed language'[12].

If transformative education and development must come to Africa it must come in the cultural features of Africans; it must come in African languages. We need to be reminded that no language is from Adam a language of science and technology. Languages become modern and scientific in their competence because people decide to make them so and push into them the requisite resources to make them so. In the *UNESCO Report of the Commission on Culture and Development (1995)* the point is adequately made that; 'All languages are equal in the sense that they are an instrument of communication and every language has the same potential as a world language. The realization of this potential depends on the opportunities it is given. It was once believed that languages are like living creatures; they are born, grow, decline and die. This picture is false. Languages are wholly both instruments for and results of the societies in which they are used, or abandoned. The fate of all languages is the result of the social and political environment, above all of power

[12] Interview of K.K. Prah by Alicia Mitchell in *eLearning Africa Report* (2013).

relations'[13]. We need to terminologically equip our languages to embrace modern science and technology; that is essential to the work of intellectually extending the frontiers of African languages to embrace modernity.

The decolonization of education must start with the re-centering of African languages in the heart of our educational endeavours. Without this, the decolonization of education will remain empty, unrealizable verbiage.

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#DecolonialEnlightenment and Education

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Thought is freedom in relation to what one does ...
(Foucault [1984] 1991: 388)

Abstract

This article provides a few brief, historicisable perspectives on what we may call the Truth, or Knowledge, of *the* Decolonial in the history of thought in South Africa. It explores what we may mean when we talk of *the* Colonial and *the* Decolonial, their Truth(s) and Knowledge(s), as well as how we could contribute to the continuous developing of the Decolonial through research, and research-led teaching and learning. Referencing Scott's notion of 'hidden transcript', I provide a few pointers as to how to engage such references to the beginnings, and roots of the Decolonial in our context. I also provide a few conceptual perspectives on how to view history in Africa, from the vantage point of this approach, how to focus our research especially on thought-as-resistance, and the imperative to engage the digitally globalizing world. Finally, I provide a few perspectives on my notion of #decolonial-enlightenment, and the significance of the quotation at the beginning of this article. Originally a paper that was invited to the plenary on 'Conceptualising Decolonisation and Africanisation' at the Zululand Humanities and Social Sciences Conference, 18 – 20 October 2017, the article intends to open up (further), and contribute to the continuous developing intellectual space for decolonial thought and knowledge production in the Arts and Humanities. These must be positioned within the broader framework of the educational transformation processes South Africa has engaged and gone through, since the first education White Papers and related educational decisions and directives were released and implemented since 1995/ 1996. I shall therefore front my argument with a brief overview focused on this matter.

Electronic ISSN: 2519-5476; DOI: https://doi.org/10.29086/2519-5476/2017/v24n2a13

Keywords: Higher Education in South Africa, transformation processes, *the* Decolonial, *the* Colonial, world-historical paradigm, knowledge-power, Council of Policy, enlightenment, #DecolonialEnlightenment

Introduction

This article provides a few brief, historicisable perspectives on what we may call the Truth, or Knowledge, of *the* Decolonial in the history of thought in South Africa. It intends to open up (further), and contribute to the continuous developing intellectual space for decolonial thought and knowledge production in the Arts and Humanities. In terms of the outside of thought of *the* Colonial that developed through various phases of the diverse forms of colonization perpetrated on the South, the argument is primarily two-fold[1].

Firstly, and this has been done to various degrees by a variety of scholars from North and South, working in the anti-, resistance, and later post/colonial paradigms, *the* Colonial, as a knowledge-power bloc has to be traced and deconstructed. Amongst others, the main strategies have been to objectify and historicise colonizing knowledge-power in its artificiality and inhuman and a-moral vicious physical, psycho-traumatic, and materio-culural effects on the colonized other[2]. In this regard, it is important, to view the knowledge-power complex that accompanied and asserted itself in close and in an integrated manner with colonisation, as, what we may call, a knowledge-power *bloc*[3]. Relatedly, in Europe, as in America, there have been numerous

[1] Article based on a paper delivered at the 8th Zululand Humanities and Social Sciences Conference, 18 – 20 October 2017, Richards Bay. It was a contribution to the conference theme, 'Conceptualising Decolonisation and Africanisation', and introduces new conceptualisations for the purpose of decolonial knowledge production, and decolonial research-led teaching and learning, or, decolonial education for short.

[2] Discursively, some studies, from both North and South, using, and developing especially Michel's Foucault's methodological specific genealogical tracing of the construction and development of colonizing discourse in the Arts and Humanities, have started to appear since 2000.

[3] I draw this notion from Foucault (1994:338), where he speaks of a knowledge that accumulates and forms a power bloc, in which 'power relations constitute

competing discursive formations, depending on the level of abstraction, representing specific historicisable knowledge genealogical networks in the production of intellectual commodities, outside the dominant and hegemonic discourse or paradigm, competing with it for position and hegemony. As such, these competing discourses are in effect on the outside of the hegemonic or dominant colonizing thought and its products, that held sway at specific times and in specific circumstances. In critical scholarly endeavours, scholars have tried to delineate the complexity and diversity but also the European and American 'provincialisms', in their dispersal, of these competing discourses. So, even though one can group the colonizing knowledge-power bloc of especially the nineteenth and twentieth centuries as an integrated inter-disciplinary 'Western', 'Euro-American', or more specifically, an 'Anglo-American' bloc, its often siloed complexity, inherent diversity but also competing 'provincialisms' have to be exposed[4]. These two perspectives on *the* Colonial are briefly further explicated in the second part of this article below.

Secondly, and this is the main point of this article, we need to start to let the light of reason in the academy fall productively on the historically marginalized, hidden, off-stage discourse(s) of resistance and critique in the history of colonial encounter[5]. These are mostly only intimated in our sources and archives, or present as brief traces and remnants of thought and action or remainders of socio-historical memory outside of the broader, hegemonic colonizing knowledge-power blocs-in-formation, and mostly not

regulated and concerted systems'. Inherent in his description, is what he elsewhere calls a knowledge-power bloc.

[4] As such, we can speak of 'the' or 'a' 'Decolonial' knowledge, or knowledge-power system. This is done in the context of the fact that we still use the concept 'colonial' in the notion of the 'decolonial', and not something else. My argument, here, is that, despite diversity, and heterogeneity, inherent in both concepts, and the related knowledge systems they designate, we do in fact assume homogeneous 'blocs' of knowledge in our use of the concepts of both 'Colonial' or 'the' or 'a' 'Decolonial', and that we should get clarity about this.

[5] I know that many scholars have already contributed to this project, but I shall in this article provide a few pointers to an actual knowledge production strategy that could be followed in this endeavor to further and advance it.

accommodated in curricula[6]. It is these traces, remnants and remainders, or 'hidden transcripts'[7] that need to be tracked and built out in their full socio-historical and socio-cultural complexity, block-by-block, to add on to and constitute a decolonized knowledge-power complex or bloc – obviously also accommodating its own complexity and diversity[8], in the South, so to speak. I provide the pointers[9] by looking at what could be called the historical 'beginnings' and 'roots' of *the* Decolonial, with a specific brief focus on the

[6] As an aside, I can also mention, that I have found that these traces are also present in the self-doubt, interventions or postponements of intervention and especially the discursive knowledge-power censure as well as pre-emptive self-censure by colonizing agents, in the face of a certain powerlessness or apprehension or misgivings of *the* Colonial.

[7] I use Scott's (1990) helpful notion here. He has contrasted it with his notion of 'public transcripts', and explicated, developed and used it in a number of ways – cf. especially his 'Introduction'. In my own approach, I think there are possibilities to develop it further as part of research into anti-colonial and resistance discourse, as indicated in this article. I also think that an approach such as Scott's adds to those such as Bhabha's (1994) of 'sly civility', 'mimicry', etc. In my view, we need to also go beyond the identification of the ambivalent and de-constructed, to the production of useful discourse in the developing world, where this is not happening as yet.

[8] As such, we can use the notion of '*the* Decolonial', and argue that this should be positioned within a new or different paradigm, both historically or diachronically, and synchronically, than the colonizing one we have been subjected to up to now. The latter, I argue, and as virtually all intellectuals who participated in the broad-based 'postcolonial' paradigm that developed since the late 1950s and early 1960s argued (starting with Es'kia Mphahlele and Franz Fanon, amongst others), should finally be ditched in disciplinary and discursive practice, where this has not happened yet. It is very often still silently assumed and redundant perspectives and prejudices should be unthreaded out of our research, syllabi, and courses (cf. Smit and Van Wyk 1998/ 1999).

[9] It is the knowledge-power that has been and still has to be produced with regard to these pointers or insights, that, pragmatically, positively effects, motivates and inspires free and constructive thought, creativity, and, not least of all, entrepreneurship.

significance of what we could call the last stand of the Khoisan in 1799 – 1803. This is followed by three brief decolonial considerations, and a last section, where I reflect on the notion of *the* Decolonial as characterized by 'englightenment' – that initial thought or realization that sparks critique of forces such as those perpetrated by a variety of forms of regulation and colonization, and resistance[10]. As a certain compound of thoughtful and critical intellectualization of resistance, we may call it, #decolonialenlightenment on the colonial or colonizing border(s), or at the limits, or thresholds, of *the* Colonial. But, in order to contextualize the argument, let me first reflect on some assumptions that derive from perspectives on the tertiary educational transformation initiatives, decisions and directives, that were implemented top-down, so to speak, dating from the first White papers of 1995/ 1996. This is the academic, and more specifically the question of curriculum *content* that we need to research and produce, when we debate the issues raised in this article.

The Broader Framework: Higher Educational Transformation Processes since 1995/ 1996

In my own, honest opinion, the greatest force for change in South Africa since 1994, that groundbreakingly integrated education in South Africa, beyond the apartheid regime's racist education systems, and that cuts across the societal

[10] I regard such thought or realization as the most basic of human thought, in the face of any experience-event of finitude, whichever form it may take. How it is interpreted or brought to understanding, also signifies the most basic – one can even say, primal – human form of reflection on experience, even before it is subjected to the concepts, structures, or categories of understanding. It is the primal-intuitive human response to suffering. Concomitantly, I regard my few pointers as at least some of the most exemplary decolonial events, as events in thought, in the early historical colonial encounters in South Africa, especially on its borders, or colonial and colonizing border-zones. (I obviously do not deal with the very large range of cross- and interdisciplinary scholarly literature that was produced in the wake of the achieving of independence of India (1947) and the many African states since 1957.)

sectors in South African life, has been school education[11]. It cuts across the political or the state-ideology-power complex, the economic or market-capital-labour complex, and the social-class, or civil society-class-caste complex, as it interacts and intersects with the prior two (adapted from Wallerstein 1996). Not only did the South African Department of Education (1994 – 2008, with the South African Schools Act of 1996) change the structural or generative 'grammar' of the education system in South Africa. With a number of inclusive and non-racial, non-sexist, and non-sectarian Education white papers since 1995, it effectively replaced apartheid's Bantu Education Act (No. 47 of 1953; cf. Moore 2015) and its derivatives – which in fact maintained racial separation at school level even into the transitory 1991 - 1993 period (with the introduction of Models A, B, C, and D schools during this time; cf. Roodt 2011). It also established institutions like the Council on Higher Education (CHE[12]) and the closely related Higher Education Qualification Framework (HEQF) and Higher Education Qualification Sub-Framework (HEQSF, as revised in 2013), responsible for both benchmarking and standardizing all educational courses and syllabi in South Africa.

Together with the South African Qualifications Authority (SAQA) that requires all educational institutions to be registered according to benchmarked levels of education across the country's educational institutions and state sectors' educational requirements, these developments over the last twenty-one years played a crucial role in the transformation of the educational landscape in South Africa. For a greater focus in more efficient administration and management, we also have the splitting of the former Department of Education (1994 – 2008) into the Department of Basic Education (DoBE), and the Department of Higher Education and Training (DoHET), each with its own minister, and full complement of departmental staff, since 2008/ 2009. For universities, and in addition to the horizons opened up for curricula, research

[11] The verdict is still out as to failures of the so-called Outcomes-based Education system that was introduced in 1998, called Curriculum 2005'. Cf. especially the Jansen's (1997/ 1999) criticisms and two additional perspectives, dating from 2010 and 2018 respectively – those by Jansen and Rice. (I want to thank Rubby Dhunpath for these references.)

[12] The CHE was established in 1998, and started to function as the Quality Council for Higher Education since 2008, as laid down in the National Qualifications Framework or NQF Act of 2008, Act No 67 of 2008).

and disciplinary transformation by the late 1990s' respective Acts and white papers, the new ministerial departments' qualifications frameworks (since 2008) also provided further conditions for the transforming of the colonial- and apartheid-inherited education systems as well as their curriculum content, together with its continued knowledge-power effects, to transformed curricula, programmes and courses, with greater relevance, characterized by equality, freedom and justice for all.

Against this brief background, and focusing on the research, and teaching and learning level dynamics at ground level in the Higher Education sector, much has happened. Universities restructured themselves in various ways. In 1996/ 1997, universities were required to transform to new post-departmentally-and-single-disciplinary-configured ivory tower silos, into more inclusive ones, both institutionally, and with regard to switching from discipline-based curricula, into programme-based majors and modules, including both core and elective modules[13]. These had to be submitted to SAQA at the time, and as from 2000, the new offerings were introduced into universities. These dynamics played out alongside the Outcomes-Based-Education (OBE) system introduced at school level, but which, in time, fell into disrepute, and was silently shelved during the early 2000s.

The universities entered into another wave of institutional transformation, now externally, by merging with select fellow Higher Education institutions in the same geographical region. The main purpose was to create new institutions characterised by a radically inclusive and equitable university system beyond the racially-denominated universities dating from the apartheid government's Extension of University Education Act (the Act 45 of 1959, rejected and opposed by all South Africans that resisted the hegemonic

[13] The idea was to open up the departments and their majors to one another, especially where they study the same socio-cultural phenomena, but from different knowledge-power perspectives. The argument was – and is, and which I strongly support and advocate – that integrated programmes that equip students with knowledge, skills and conceptual and paradigm resources that have been developed in the different branches of the history of Arts and Humanities, is empowering for what I have called decolonialenlightenment in this article. This will allow students to exit with a more trans-disciplinary, integrated qualification, and able to transformatively, and creatively engage problematic and challenging socio-cultural phenomena.

apartheid state-ideology-power complex)[14]. The latter made it a criminal offence if, and when a Black student would register at a white, or formerly 'open' university. This was rightly a transformational top-down approach, which took place according to legislation in this regard, and DoE directives under the leadership of then Minister of Education, Prof Kader Asmal, in November 2002, with the inauguration of the new merged universities in 2004. Internally, the two-year period leading up to this event, was also characterized by fervent cross-university negotiations between formerly rival faculties, schools, and departments – both inside and outside these institutions – to form new administrative and interdisciplinary educational units within universities institutionally speaking, as well as with regard to the actual curricula content of programmes offered internally in each unit. These were all done according to newly-configured programme and module templates. Here, at the coalface of education, virtually all academics in South Africa have had to re-think their disciplines, programmes, their curricula and their learning outcomes, teaching and learning processes, and, most often and most boldly, ventured into interdisciplinary domains[15]. These dynamics called for academic and intellectual leadership and innovation across the disciplines and programmes.

In the case of the University of KwaZulu-Natal, this was required again, amongst others, as the university reconfigured itself into five Colleges, and nineteen schools, and did away with the Faculty level across the university in 2011, in order, as it was stated at the time, to bring management and academia closer together. It would also mean saving money on a whole layer of management and staffing, and other related faculty-level expenses, but in affect also transferring greater bureaucratic tasks and responsibilities on already pressured and burdened academics. In this exercise, it was primarily

[14] It is from this time that we have the distinction between Historically White Institutions (HWIs) and Historically Black Institutions (HBIs).

[15] There is however evidence that contradict this statement, *viz*. that some units, especially at HWIs outsourced the developing of these templates with regard to the DoHE directives, and that some academics themselves, did not engage this process themselves. In my view the developing of these templates by these units were instrumental in the extreme, and not engaging the issue of developing curricula that integrate critical perspectives on specific socio-cultural phenomena from different relevant disciplinary formations.

the formation of the new colleges and schools that was focused on, with not much attention paid to the reconfiguration of programmes and modules[16].

More recently, and indicative of these trends of transformations and changes in Higher Education in South Africa, and on focusing on bringing about ever greater interdisciplinary research, programme- and module-offerings, with the idea to improve the quality and content of the qualifications with which students graduate and exit university, the University of KwaZulu-Natal launched its new *University of KwaZulu Natal Strategic Plan 2017 - 2021* (2017). As before, and here too, the university has also put inter- and trans-disciplinary research and teaching and learning programmes and projects high on its agenda for the next five years. Amongst others, it also envisions that a select number of cross-college trans-disciplinary areas will be identified as part of the university's 'investment' in 'cutting edge' 'research flagships' that will attract and retain the best students and staff (p. 9). These will lead, promote, and advance such inter- and trans-disciplinary collaboration across the university, not least, in the number one identified research flagship of the university, focused on 'inequality', viz. 'Social Cohesion – Addressing Inequality and Promoting Nation Building' (p. 10). Given the extremely large wealth-gap in South Africa, this focus is to be commended. It is also heartening to notice that the DVC, Dr. Albert van Jaarsveld in his 'Foreword' to the *Strategic Plan* (2017:1) linked 'transformation' to 'excellence' in everything the university does, especially in terms of its main functions of knowledge production and engagement of stakeholders and communities. These two practices – transformation and excellence – should be 'pervasive' and 'deeply entrenched' in everything the university does. He says,

> This strategy demonstrates our commitment to achieving *transformation and excellence* through our core function as *a knowledge agent*, as well as through our *engagement with stakeholders and communities*. *Transformation and excellence* are both *pervasive elements that are deeply entrenched throughout the strategy* to *shape the future* of the University (e.a.).

[16] I regard this as a lost opportunity inside the university system, as to the further developing of the idea of programme development that may better equip students in their Arts and Humanities studies, for public live and culture (cf. note 13 above).

From the perspective of this brief overview of the framework for my argument, and as much as we could observe from within the social transformational dynamics of the universities, i.e. from our own participation in the educational transformation of the South African educational landscape, from the coalface, and bottom-up, so to speak, much has changed, then, compared to the pre-1994 educational dispensation. Yet, despite these initiatives, and despite the various phases of the ostensibly radical transformation of the Higher Education landscape in South Africa over the last twenty-one years, and rethinking and reconstructing disciplines and programmes from the ground up so to speak, there remains widespread discontent amongst students. It appears as if, not enough has been done. Amongst others, this has become most apparent in the cross-university and cross-campus #RhodesMustFall (#RMF), #FeesMustFall (#FMF), #DecoloniseMyCurriculum, and #WhyIsMyCurriculumSoWhite student movement action mobilisations, if not 'uprising' or 'revolts', as in the view of Booysen *et al.* (2016). In this article, I shall not scrutinize the discourse of these hashtags in terms of their dynamics, possible undercurrents, their linking with a general dissatisfaction with government and governance in South Africa as has become evident in the numerous 'service delivery protests', their articulations with 'labour' (or not), nor the very real substance of the actual dissatisfaction with the exorbitant university fees primarily parents of students coming from poor households have to pay per annum for their studies, nor accusations of a so-called 'third force' at work at universities. My focus is different, in so far as I shall attempt to answer the more prominent and central question as to why we have the student demand for #decolonialeducation, so central to much of this discourse, and how we can engage it constructively.

On the one hand, and focusing on its material aspects, we can link this discontent to the actual and physical vandalizing of the Cecil John Rhodes, and other colonial and apartheid-era statues, and other works of art, dating from the colonial and apartheid periods. Why did the students of the #RhodesMustFall movement, focus and aim their discontent, physically, and materially, at the statue of Cecil John Rhodes? Why was the discontent aimed at this statue, and particularly this one, so vehemently? For many, the answer is simple: Rhodes was a racist, colonial figure that represents historico-colonial ideological oppression and the economic exploitation of labour. As such, his statue is a collective symbol of such oppression and exploitation. And, given its very strategic and prominent place at the University of Cape Town – just one of his

links to education in South Africa – in front of the panorama of the University's most prominent buildings, it was the closest physical but also symbolic object against which the student movement could vent its discontent and frustration. The student action in the interests of 'decolonised' education itself, can therefore said to be symbolic. But, secondly, this is precisely my point: if this was symbolic action in the interests of decolonized education, what precisely is the content of such decolonized education?[17] Central to my question too, and this despite all the transformations that the Higher Education sector has gone through – with certain academics participating and others not – over the last twenty-one-odd years, is the awareness of all-and-sundry, that for some reason or another, this has not gone far enough. What the students have been saying, is that they do not experience 'decolonized' education. And, I think, this must be taken seriously by the academic fraternity, right through from the knowledge-power holders of the SAQA-CHE complex to the various academics employed in the different research and education paradigms by tertiary institutions in South Africa. As said, I provide some pointers to address this matter in this article, not discounting what has been done and accomplished already.

'The Colonial' and 'The Decolonial'

By using the notion of what I call *the* Decolonial, meaning the Truth(s) of decolonisation, or you may also say the Knowledge(s) of decolonization, we need to first ask the question about *the* Colonial, the Truth(s) of colonization, or the Knowledge(s) of colonization, in a comprehensive and inclusive sense, *the* Colonial. For many, this would seem superfluous, or even self-evident, given the large array of books and journals, dissertations and theses, encyclopaedias, and dictionaries, government reports, and council and commission reports, produced by colonial and post-colonial institutions, publishing houses, and tertiary institutions, and that range from uni-disciplinary to multi- and trans-disciplinary approaches to knowledge production. These all represent a range of knowledge paradigms, that, in various ways represent such Truth(s) or Knowledge(s) of *the* Colonial. I think we need to have some understanding of the Truth, this Knowledge, especially

[17] I regard Nyamnjoh's (2016) argument addressing this issue from a migrancy perspective as an important aspect of the debate, but not the principal one. My few pointers below, I believe, address the main challenge head-on.

in the Human Sciences, so that it can help us in determining what we mean by its o/Other – *the* Decolonial Truth or Decolonial Knowledge, *the* Decolonial. Historically speaking, we may also ask as to the *roots*, of *this* paradigm, *the* Decolonial. We can ask the questions, and do the research as to the Truth(s) or Knowledge(s) of the Decolonial in the history of decolonial thought. As said, in relation to *the* Colonial, this is its outside. And, I shall deal with this in the next section. For this present theme, though, there are two perspectives, on this relation, or rather, networks or patterns of force of this outside with regard to *the* Colonial.

Firstly, within the ambit of *the* Colonial, and in terms of its own internal relations of force, it has its own competitive outside. This outside, as well as how it competed with the inside of *the* Colonial, were primarily constituted by the competitive nature of different power-holders or interest groups, or factions or divisions of force and power outside the controlling colonial power, whether in the form of a company functioning for its own benefit, or for the benefit of a government, or in the form of an actual government, functioning for itself, or their many detractors, such as the eighteenth century deists, ideologues, and abolitionists. With regard to colonial or colonizing entities, both those in power (so to speak), and those outside power, collectively, and in a wide variety of ways, collectively participated in the production of truth(s) and knowledge(s) that we could collectively call *the* Colonial. There was not one single, collective paradigm, unity of knowledge, or system of power in itself, though. In Europe, it was extremely diverse, with knowledge being produced with local relevance, in all the emerging European, and, since the late 1700s, the American 'nations' of the time, but all knowledge, to some extent, aiming to participate in and also compete in the production of a knowledge or knowledges that are transnational, or even transversal. The idealized unity of this knowledge was inspired, at its centre, by the turn to the 'natural', believing that there would be natural laws to be discovered. And, this is why we have such important disciplines as Natural Theology, Natural Philosophy, and Natural Science arising during the eighteenth and nineteenth centuries, and impacting the colonies – mostly showing how the indigenous populations in various ways relate to 'the natural'. All those eighteenth century colonial and imperial power-holders that formed part of the aristocracy, and the cohorts of bourgeois intellectuals, of the different factions, or those against them, or even those with revolutionary objectives (in the eighteenth century, or mid-nineteenth centuries) or even anarchic ideals and tendencies (from the

mid-nineteenth century onwards, e.g. Proudhon)[18], collectively participated in the production of this knowledge. This is all on the surface so to speak. In its dispersal, power-holders sought to draw on and enlist those producing such knowledge, in their own competition for influence, power, capital accumulation, forming certain companies, associations, organisations, and 'societies'. To various degrees all were critical of one another, competing with one another, and aimed at the amassing of as much knowledge and power and influence of the general European populace, the masses. The production of their own 'knowledge-power' systems, were central to these competitions. Politically speaking, the faction that won out, at the end of the day, is the faction that makes the rules, makes the laws, and administers and regularizes them.

With regard to the outside of *the* Colonial, then, there was a thinking outside, or, in competition with the Thought or Knowledge of the existing Colonial dominant, in so far as it competed to make the rules, to make the laws, and administer and regularize them, and to be the beneficiaries of the proceeds and profits of *the* Colonial. There is no 'invisible hand' of knowledge-power à la Adam Smith ([1776] 1985), here. Everything is visible and on the surface, even in critique. It is observed in the numerous formations (and de-formations) and meetings of clubs and societies, publications, the extensive developing of bureaucracies, all engaged in the same objective – to produce knowledge, linked to power. In the colonies, the effects are seen – how this knowledge-power is practiced – in the mapping of the land, the bureaucratic allotment of land, despite the presence of its inhabitants, and the accompanying physical violence perpetrated on the bodies of its others, in the brutal and cruel realities of enchained slavery, wanton murder, ethnocide, genocide, holocausts, and the rampant rape of women (and children and men?)[19]. In terms of the broad-based geo-political system, the two revolutions in America and France respectively, did not change this reality. It did not affect the geo-colonial much. Whether it was perpetrated by Spain, the Netherlands, Britain, France, Belgium, or Italy,

[18] Tharoor (2010) provides a very concise overview, indicating the importance of anarchic organisation in the late nineteenth and early twentieth centuries – important, and often ignored, in the history of European Thought.

[19] This part of the colonizing history of South Africa has not been written, but see Barrow (I 1801:85) amongst others.

the effects, its pragmatics, remained the same[20]. The colonial or colonising world-system as a system of knowledge-power or power-knowledge, were in its variable and diverse processes of formation, administration and effect(s), the same. The outside of Thought in this instance, is not that of *the* Decolonial, but that of *the* Colonial, in terms of the object of colonialisation, to do this even better, and more efficiently than the existing, or previous or competing Colonial at a particular point in time and in a specific geographical space. It is due to this competition, between *the* Colonial and its own outside (or outsides), that we see a continuous rising in intensity and the concentration of force and power gathering momentum and increasing its effects, streamlining its pragmatics, in the late nineteenth century and throughout the early twentieth century. There is an escalation and heightening of forces, strategies and tactics, a gathering of momentum, and an increase in violence, especially structural, moving from the more overt and blatant brutality of the earlier deterritorialisation campaigns and obliteration of indigenous populations, to

[20] For the diversity of conflicting and competing knowledge formations/ systems in Europe as part of the intra-European colonising processes, cf. De Sousa (2014:17ff). The internally colonized countries, such as Portugal and Spain – who, in history, have themselves been internal and external colonisers – became 'sub-ordinated in economic, political, and cultural terms to northern Europe and the core that produced the Enlightenment' (de Sousa 2014) in the eighteenth and nineteenth centuries. Significant for our purposes, is to note too, that De Sousa says that those internally colonised were described as 'lazy, lascivious, ignorant, superstitious, and unclean'. This kind of rhetoric is pathologically part and parcel of colonising discourse, because it simultaneously legitimates the superiority of the coloniser, as well as the excesses of colonising practices – such as rampant murder and rape. (For this, I do not have to remind the reader of all the intra-European paintings that artists have produced about these realities since the 1500s.) The legitimising rhetoric also served to spell out, suggest or 'nudge' (in current parlance) and conscientise colonising forces to adhere to the 'values' of the colonising ideology and its mission. For a more expanded argument about the European 'diversity' here referred to, cf. Carey and Festa (2009) – especially for their notions of 'enlightenment without others' and the multiplicity of 'postcolonial enlightenments'. As explained in this article, cuch multiplicity is inherent in both *the* Colonial and *the* Decolonial.

the more subtle and indirect control and rule of decimated indigenous populations hoarded into reserves, throughout the 19th century, in the colonies[21].

Secondly, however, there is also an outside of thought, outside the competitive outside of the Thought, Knowledge and relations of forces of the Colonial. This is the outside of thought, that asserts life, that asserts human life contingently – as well as in memory – and in the face of the murderous and multiplying horrors of *the* Colonial. Here, at the limit experiences of existence, life itself, is the political object – articulated in the authenticity and candor of speaking truth to power in the midst of the colonizing holocaust and in the face of threat or peril. In this speaking, or utterance, or statement, we see the inherent link of experience and thought, experience and idea. Experience as necessarily thinking, and thinking, as necessarily experience. In short, in the midst of life's limit experiences, its finitude, experience is thinking, as said above, a primal-intuitive thinking, before it is brought conceptually, structurally, and categorically, to understanding. And, to experience and think as such, to my mind, is a universal human phenomenon. In this regard, and as pre-understanding, in terms of my definition of understanding, we can equally say, that such thinking, such thought, or its ideas, is experience. It feeds into the understanding. In its primal experience, thinking or thought in this regard can also then be verbalized, or at least, asserts a force on a subject to 'search for words', or be at a 'loss of words', as we say. In the limit experiences of life, especially in life-threatening circumstances, such verbalisation, of experience,

[21] I have developed my notion of knowledge-power from Foucault's, as well as his notion of 'forces', 'relations of forces', and the 'relations of knowledge-power' or 'power-knowledge', and the outside of thought (cf. Foucault ([1970] 1982; [1971] 1972; [1975] 1979; [1976] 1981). Cf. also the various essays and interviews, collected in Faubion's *Power* (1994a), esp. 'The Subject and Power'; and 'Polemics, Politics and Problematizations' in Rabinow's The Foucault Reader ([1984] 1991). Also note Foucault's diverse examples in 'The Thought of the Outside' in Faubion's *Aesthetics* (1994b). The challenge is not merely to just assert the existence of power-knowledge or knowledge-power in *the* Colonial, or develop a vocabulary that aimed at analysing it in its complexity and the complexity of its effects á la postcolonial discourse/ criticism, but to constructively contribute to the developing of a new discourse and related discursive practices.

may aim to protest, to resist, but also to protect, shield, defend, maintain, and preserve life. This is *the* decolonial Truth, or Thought(s), or Knowledge(s), of the outside of *the* Colonial, or, at least, where we can find its roots – in experience. It is contingent, multiple, geographically dispersed over the globe, and historically spread over decades, as so many contingent constituents or components, of a dispersed or diffused and scattered thought. It appears in the interstices, the gaps, cracks, and openings or fissures of the Thought of the Colonial. In this sense, *the* Decolonial does not exist as a Thought or a Knowledge with a capital T and capital K. At least not as yet. It is refracted, and refracting, of the relations of forces of the knowledge-power of *the* Colonial Truth. Historically, it only exists as anecdotes, rumours and stories, as brief references in archives, and loose fibers and threads in dispersed memories. Collectively, one could, if you will, connect the dots, and discern certain patterns, certain repetitions, or configurations in this discursive multiplicity of this thought of life. This is thought as resistance – thought that resists death, ethnocide and genocide, and seeks to liberate life from the shackles, the bounded power of servitude and slavery, and perpetual imprisonment. The existential asserting of life in the face of life's limit experiences, becomes resistance to the brutalities of power-knowledge, and in our sense, a resistance to *the* Colonial. This resistance at the limit, occurs when the political object of life is provoked or incited, experientially as the asserting of life as freedom, the freedom of thought, and the freedom of action – life as the power of freedom. The outside of thought, then, in its Decolonial discursive sense, is never complete. It is always in the process of formation, not only socially, in terms of its diverse distribution of social formations, but also epistemologically, and historically. Analogically speaking, and more inclusively speaking, socio-culturally, covering the whole expanse of human endeavor, the work of thought, and therefore, the work of freedom is never complete. It is through some brief historically snapshots, that I shall trace this perception of *the* Decolonial, or what I, for the purposes of this argument, call #Decolonialenlightement, in this article[22].

[22] In this endeavor, I want to expand the terrain or knowledge-power space that Edward Said (1994:79ff) termed, 'Africanism' (echoing his *Orientalism*). This is to access the colonial archive, but that contrapuntally (Said 1994:36ff,59ff,337ff). To get an idea of what he meant with this metaphor, listen to: https://www.youtube.com/watch?v=Uo1C6o3Nr24. This does not

The Decolonial

As said, we need to locate *the* Decolonial on the outside of thought of *the* Colonial. In the face of the relentless and destructive colonization processes, *the* Decolonial, is constituted by a diverse array of experiences, but, closely related, 'thinking', or the intellectualizing of the colonizing experience. As such, 'thought', or 'intellectualisation' in the midst of the limit experiences of life, i.e. as living on the receiving end of colonisation, has, over time, constituted its own paradigm. And, in this section, I shall reflect on this, with specific historicisable references. Firstly, I briefly reflect on the historicisable dynamics and processes of the beginnings of colonization in South Africa. Secondly, I provide a few brief historicisable perspectives on the roots of the decolonial vis-à-vis the colonial in the process of formation. And, thirdly, I proffer a few conceptual perspectives which I regard as important for the notion of decolonial knowledge production.

The Beginnings of Colonisation in South Africa and the Decolonial

The main colonial practice through which the Truth/ Knowledge of the Colonial, was produced, is well-known, and available in many textbooks and publications from primary schools through university and beyond. It is that all knowledge about Africa has been produced by colonials, i.e. initially, the so-called seafaring merchants and their documentors (1500 – 1650), followed by the colonials, especially colonial governors who travelled 'to the interiors' of the colonies to 'observe' for themselves, and document their own observations of 'nature' but also the 'natural inhabitants', or indigenous populations of the countries (1650 – 1850s)[23]. Closely related to them, were the similar colonial

mean that one should attend to what we here call *the* Colonial itself, but, its others, the thinking of the outside of the Colonial, in its contingency, and dispersion, as I here explain. (Please note that I do not use the notion 'Africanism' here, in the ethnographic sense that Ekpo, 1995; and 2010, does, but in Said's sense.)

[23] The main aspect of this mode of knowledge production, which we may label the colonial 'travel-observe-document' mode of knowledge production is that it was conceptualized in terms of the intellectual registers and grids,

officials and bureaucrats' observations and documentations, those by so-called travelers in the 'exotic countries' and 'around the world', and those by missionaries, that would follow especially after the 1795 founding of the London Missionary Society (LMS) in London, and the mission organisations and movements that would follow in its wake in the nineteenth century. From the perspective of *the* Colonial, we can call all these agents, the colonizing forces' 'data gatherers and interpreters', if not 'investigative journalists', during the colonial era[24]. All such data and knowledge production served the various purposes of colonization.

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taxonomies, vocabularies, perceptions, concepts and philosophical presuppositions, or prejudices, then dominant in the country of European reception of such information documented in the colony. In other words, the empirically experienced and observed 'nature' or 'natural inhabitants' in the colonies, were articulated in terms of prejudicial conceptual taxonomies, schemata and configurations as evidence for the confirmation of already-held assumptions by European intellectuals in Europe. Even the speech of indigenous informants in the colonies were translated into the idiom (conceptually speaking) of the rising reading bourgeoisie and reading and writing middle classes in Europe. This corpus of empirical knowledge, often presented in the form of travel diaries, and dated reports (such as annual submissions) which give the impression of dateable empirical experience and observation, were circulated in terms of the same conceptual configurations, European intellectuals coined in the first place for the 'seeing', 'observing', or 'perceiving', and understanding and interpretation of such data. As such, the colonial officials and bureaucrats, travelers and missionaries were only producers of the actual knowledge in a secondary sense. The interpretive templates already existed, and even if they would be adjusted, and developed, this would often only happen in piece-meal fashion.

[24] The pragmatics of this process, was that the colonial officials or functionaries provided the data and that a wide array of academics and intellectuals in Europe ratiocinate on and further conceptualise such material, in terms of what we may call the general conception of the 'natural condition' of fauna, flora and humans. To this, we may obviously add European cartography, the mapping of seas and foreign lands, most specifically for control, and European settlement (cf. Bialas 1997). No doubt, the European white, male intellectual would also stand at the pinnacle of such a pyramid of produced knowledge, as

With regard to the beginning of *the* Colonial, we need to trace its history, then, or its pre-history to the culture-contact and cultural exchanges between Africans and colonials, on their own terms, i.e. Africans. This is the pre-history of actual colonial settlement at the Cape in South Africa, viz. the contacts of especially Khoikhoi and Xhosa, on the southwestern and southeastern parts of what would become first a Dutch and then a British colony later – from 1652 and 1795/ 1806 respectively (1500 – 1650). This period roughly stretches 150 years, since when the Khoi and Xhosa encountered the Portuguese merchant ships (since c. 1500) and then the Dutch, British, and French merchant ships, until the Dutch settlement at the Cape in

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the ultimate example of the educated, enlightened, sophisticated and 'civilized'. The circulation of knowledge, was therefore circular. Intellectuals in Europe generated the ideas and matching concepts about the general natural (and human) condition, of life and culture (or 'custom') in the colonies. Observers in the colonies find the data that gave content to these ideas and concepts and their interpretations in the first place. They report such data back to the colonizing metropole, and intellectuals in Europe again develop their ideas and their related concepts further in terms of the continuous stream of ever new data supplied from the colonising frontiers. The circulation of knowledge was therefore circular, where the same prejudices would be founded or discovered, throughout the knowledge produced, whether in the metropole or the frontier. (Chidester's 2014 scholarly genealogical analyses provide ample evidence for this analysis.) Needless to say, this individual's other, would be the 'savage', the 'native' or 'uncivilized' of the colony – the non- or a-intellectual. More significantly for our purposes, though, is that that same knowledge was circulated back to the colonies, but now packed as 'knowledge' for consumption in the education of the 'natives' or the 'savages', and destruction of the indigenouos. Inherent in these, was, obviously, the prejudices, especially the prejudicial concepts, coined by the colonial intellectual and the imperial philosopher for, in the first place consumption in the metropole, and in the second place, the colonized other. In terms of idea and concept formation, we see, then, the colonized other, being subjected to and assimilating this knowledge, at least to the degree that one has to live in and survive the colonial.

1652[25].

Some material and research exist about the contact of Khoi and later Xhosa with Europeans, especially about the views and perceptions of the intermediaries and translators who functioned as go-betweens between indigenous populations and colonizing forces, since the 1650s – all, for obvious reasons, produced from colonizing perspective, and embedded in the colonial archive. These references, allusions, often only brief and fleeting references to indigenous opinions and perceptions, constitute the beginnings of *the* Decolonial and have been referred to in existing research, of the last fifty-odd years to some degree[26]. In addition we need to engage the 'hidden transcripts' that survived in the sources, stretching roughly 300 years (1650 – 1950). Together, these are the traces of the decolonial corpus of the outside of colonial thought and practice[27]. The individuals on whom we do have reports

[25] For a magisterial more general collection of work on Africa so far, cf. Ki-Zerbo (1981 -). Significantly, volume 9 is still outstanding, the one dealing with 'the recent history since the decolonisation, the end of Apartheid and the place of Africa in the world'. (This might take quite a few volumes.) Cf. also Mazrui (1986; 2004; and 2002).

[26] In the latter half of the twentieth century in South Africa, since about the 1950s, some so-called liberal scholarship researched these aspects of colonial knowledge production, or what we may call, the alluded to, sometimes assumed, but also sometimes explicitly mentioned, provenance of such indigenous critique – contributing to what I have called the *roots* of decolonial thought. Much, though, even though it was reported about, in the idiom of the colonizer, remain unstudied as such. From these and related references we can further trace, some reports of Khoi and Xhosa perceptions, criticisms, and the nature of their resistance, dating from pre-colonial settlement, even as early as 1614 (cf. below).

[27] As is well-known, since the latter half of the 1800s, we would see the rise of a new Black, mission-educated intellectual elite, who, at least to some extent, articulated and developed their own modern homegrown, local knowledge, in resistance to the knowledge production of and by the colonials. To some degree, they obviously had to censure their critique and resistance themselves, because they depended on financial assistance from abroad, and on the mission systems. As is well-known, some finances were raised by local missions themselves, through their own work – cf. Sales (1975); even though critical,

in the sources, and the Truth and Knowledge-producing events they formed part of, form certain crystallizing points of thought, of decolonial thought, and thought as resistance, within the agôn of/ struggle against colonisation (cf. De Kock 1996:35f, drawing on Foucault [1982] 1994:342). We can take the date of the first half of the 1800s to around the mid-1850s as a date around which the intellectual resistance to *the* Colonial, started to crystallize in cultural products. This is also about the date, at which the final vestiges of Khoi resistance in the eastern Cape was crushed, both through physical violence and through British colonial policy, legislation, and what we may call, reservationism, or the hoarding of deterritorialised Khoi and Xhosa into specific geographical areas ('reserves') – the forerunners of what would later become South Africa's Bantustan system.

Different from other African countries, which were in many cases only subjected to the forces of direct colonization for a 'short' period of time – fifty or seventy years or so – for South Africa, the limit for this mode of knowledge production stretches roughly for about 450 years, from 1500 – 1950[28].

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they remained socio-cultural intermediaries, and had to develop their own discourse within the constraints of colonizing discursive formations.

[28] Apartheid, as an internal colonizing ideology, had a different dynamic. It was around 1950, that apartheid's own colonizing knowledge started to be produced ideologically, and to be put in circulation through internally-produced ideological and repressive state apparatuses, within the colony itself. Amongst the many reports and books, the Tomlinson Commission Report (1955) is important in so far as it provided a trans-disciplinary blueprint for apartheid. What we have in this event, is the colonial outside of thought in this instance, in terms of the object of colonisation, developing a system, a schema, to colonise even better, and more efficiently than the existing Colonial at mid-twentieth century South Africa at the time. This is why we see this continuous rising in intensity and the concentration of force and power in the one racial group (white) and the ever-increasing of its knowledge-power complex, with its militarized security bureaucracy in train, and its effects on the indigenous population through the police force and military (1950 – 1990). An added perspective is that with the National Party coming to power in 1948, and unilaterally declaring South Africa a Republic in 1961, it also dis- and replaced Britain effectively as colonial and colonizing power within the borders of South Africa.

Concerning the colonial and colonizing archive, we then have 450 years of documentation of this brutal knowledge-power system in all its discipline-specific and trans-disciplinary variety, as these were founded and came into being[29], together with institutions, organisations, strategies and tactics, and its imperially-negotiated and affirmed agreements on political ideology, political economy, and, suppressive white bureaucracy[30].

We can then see that the main aspect of the Truth/ Knowledge of *the* Colonial was that of the circularity of its knowledge production, emanating from the metropole, gathering supporting data in the colony, the intellectual development or ratiocination of such data back in the metropole, and the back-circulation of the same knowledge, to the colony, but now as 'native education'[31].

[29] For the first c. 150 years, cf. Huigen (2009). Of the six main humanities disciplines that came into being during the nineteenth century, 'Politics', 'Economics', and 'Sociology' were the most prominent. They cut across the European countries and the colonies. In addition, 'Orientalism' was founded to study the 'literate' Eastern religions, cultures and customs, and Anthropology, the 'illiterate' customs and cultures of Africa, South America and Australasia. Focused only on religion, we also see the formations of the so-called World Religions Paradigm (WRP), with initially only four religions included, e.g. Christianity, Judaism, Islam, and 'the rest' – what was also called the heathen and later traditional religions, polytheism, or the pagan religions (cf. Wallerstein 1996; Masuzawa 2005).

[30] For an interpretive analysis of Jan Smuts's racism, founded in the developing British science of ecology, see Anker (2001:41ff and 157ff). To my knowledge, how this manifestation of his racism is twinned and also embedded in the transcendental immoral rationalism of Immanuel Kant, still needs to be analysed. One is truly flabbergasted at the evidence that there has been no hope for equality that has been extended to the black nations of Southern Africa during the period 1910 – 1990, – not even by Smuts, the so-called leader-founder of the Universal Declaration of Human Rights (UDHR).

[31] Up to the early 1950s, most of the actual education of the indigenous peoples of South Africa, was done in mission schools. At this point, so-called Bantu-education was formalized by the apartheid government, and a large number of 'mission' schools closed down, mainly for the reason that the education standards of their offerings were quite diverse and varied, and not properly

Now, having pointed to actual referencing of indigenous perceptions in the inter-cultural interaction with the visiting Europeans, we need to ask the question as to the roots and nature of this knowledge. Because, if we can, we should, by doing so, uncover not merely an anti-colonial knowledge of resistance – where the colonized remain trapped in the colonial-anti-colonial binary – but the roots of *the* Decolonial.

The Roots of the Truth/ Knowledge of the Decolonial in South Africa

If we understand the student call for #decolonialeducation correctly, it appears that *the* Colonial, is to a large extent still circulating between erstwhile colonial and imperial metropole and the erstwhile colony or postcolony. This remains a central assumption in much 'postcolonial theory' research emanating from both postcolony and metropole. Intellectually, the main paradigm questions, their objects of study, and their methodological procedures are not yet focused on and grounded in and for the realities of the postcolony. It is needless to say that we need to assert and practice the latter. As I argue in this article, this focus should, however be positioned within historical context, dating to African thought and practice from the first contacts with European settlers and colonizing forces. We can then ask as to where we find the *roots* of the Truth/ Knowledge of *the* Decolonial. And, as intimated above, there is again a simple, clear, obvious answer: in the gaps, the silences, the resistances, the brief references, and in the hidden transcripts of the colonisers' diaries, journals, reports, pamphlets, narratives, and books often published first in Europe and later in the colonies. In our case, we need to focus our attention on the nature of the thought, the ideas, the actual utterances, here, in the gaps, silences, the resistances, and in the hidden transcripts. Dating back to the 1500s, we need to

benchmarked in current common parlance. As part of the apartheid ideology, though, from this point onwards, the political effects and the inherent ideological continuation of not only colonising knowledge, but now added to it, specifically apartheid-infused conceptual productions, would aim at the ever better and more comprehensive colonizing of black people through apartheid-produced knowledge-power (cf. Smit [2003]). Cf. also the important publications of Kallaway (1984; 1988).

ask this question with regard to the Khoi and Xhosa encounters with the representatives and negotiators of European merchant ships, later colonial officials, and even later, especially settler farmers.

Some work in actually pin-pointing or spotting these events, which, we could identify as events in thought, have been identified. And some have been researched, as I have intimated, since the late 1800s but especially since the 1950s, and of late, since 1994. As far as our task is concerned, and this with regard to the roots of this thought, our work, so to speak, is to continue to uncover and identify these events (their archival provenance), to identify the concepts or the actual thinking beginning with the Khoi and Xhosa, inside these specific events, and to intellectualise them in terms of the actual context or what we may call the contexture of these events[32]. *The* Decolonial, has its roots in the actual thought of the Khoi and Xhosa in the midst of the colonial encounter. We need to do this as specific historical moments in our history of thought. Historically, much of this has also been handed down through memory as part of tradition, and these are available from San rock art through traditions in actual living memory, researched by scholars of orality and memory studies for some decades now. The question though, in our specific decolonizing context, and similar to *the* Colonial, is how to account for this, in terms of process. My suggestion is that we see this in terms of what I want to call the process of socio-cultural encounter. *The* Decolonial, has its roots in the pragmatics of the socio-cultural encounter between Khoi and Xhosa individuals and representatives of the colonising metropole. And, I shall outline this process in this section.

Whenever I ask students about what they know of the colonizing and apartheid periods, with regard to indigenous interaction with colonising and apartheid officials and representatives, or forces, the most important concepts they normally use, are words indicating response or reaction, such as

[32] This work is important for critique, in so far as it uncovers the conditions or circumstances under which human beings are not free, or the conditions that enslave them, and the conditions in the midst of which they speak out, raise their voice, and refuse to remain silent (cf. Horkheimer 1982:244). I have also found Gurwitsch's (1964:114) notion of 'contexture' helpful here. For me, it indicates not only a different, or conflicting perspective on the same event(s), but also imply a contextual, multi-dimensional depth of such a perspective or perception.

'resistance to' or 'struggle against'. These are certainly apt. But, they usually only capture some aspects or certain phases of the socio-cultural encounters we are talking about. The nature of the encounters are actually more complex. Foundingly important for *the* Decolonial, they do not capture notions of actual thought, action, of agency, and concept coining, development in encounter, as a 'thinking-with', and as equal participants in encounter. I think that for our notion of *the* Decolonial, this 'thinking with', an 'equal thinking' in encounter, but, as said, with a different contexture, is essential. It denotes the equal participation in socio-cultural interaction, in what we may in general terms call, the early engagements of the modernisation processes of the modern world as it impacted us. Complimentarily speaking, this also means that there is not only one actor and one acted upon, but an equal to-and-fro action in the interaction. For our purposes, what asks for attention is the thought and action of the Khoi and Xhosa[33]. We need to capture the actual thought and action of the Khoi and Xhosa, in the actual, historicisable moments or events of interaction. And, this needs to be intellectualised. Such intellectualisation, will produce *the* Decolonial, but, we need to see it in terms of what I called a process or the processes of socio-cultural encounter, above. Obviously, in their specific historicisable events, and movements, 'resistance' and 'struggle' too, have their own thought and action, their own intellectualization of socio-cultural interaction, inbuilt in them. But, let us move on to explicate the basics of this process.

If, in interaction, one is not threatened by violence up front, from the beginning, then the basic human instinct is to interact with others, also unknown others, on the basis of an equitable value, that of mutual curiosity and respect, pending the awareness of the attitude or stance of the other towards the self. This was not different with the Khoi and Xhosa's numerous encounters with representatives of passing merchant ships for the 150 years prior to European settlement at the Cape. This attitude was the principle of all these

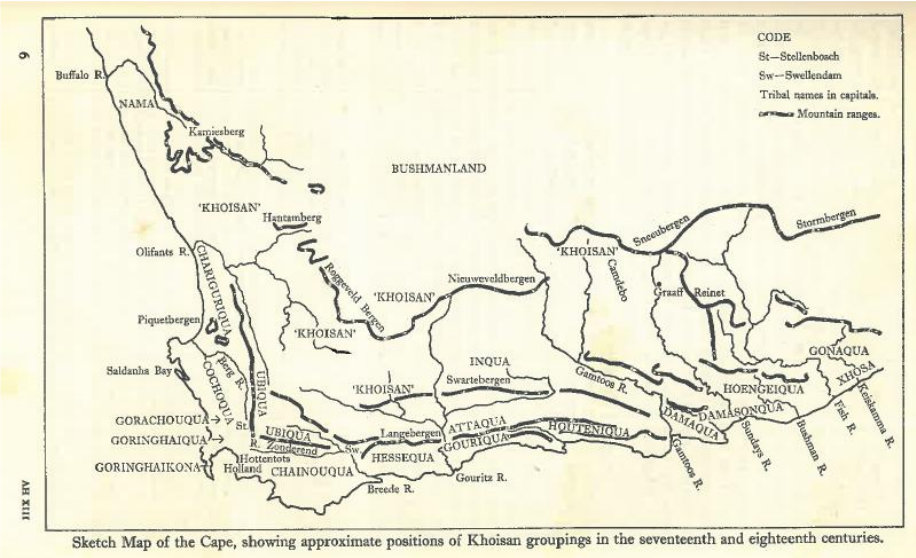
[33] You will notice below, that this stance, or standpoint is historically appropriate, and at the root of *the* Decolonial. It allows us to assert the historically accurate and truthful agency, actions and initiatives of the Khoi and Xhosa. No-one needs to be reminded that colonization and apartheid denied such equal participation, and what we may call participatory development of what we now know as global modernity, in the world system.

numerous interactions[34]. In terms of the actual exchange of goods, in these precolonial actual interactions, we can also assume that the basic value of 'equilibrium' that has been identified as the basic value in barter economies, also determined these interactions (cf. Binswanger (2012:9). The value of equilibrium, means that the 'price' in exchange, were perceived by the two bartering parties to be of equal value. This means, that the representatives of the merchant ships acquired the Khoi and Xhosa cattle, sheep and goods they needed for their ships, and the Khoi and Xhosa received the valuables that the ship merchants offered in exchange as part of what they valued, viz. the beautification of themselves and their Khoi and Xhosa wives, and children. Excepting drought, and internal competition for veld for grazing their livestock, this was also the principle of the barter economy amongst Khoi and Xhosa clans and groups in the interiors of South Africa. This system of interaction continued well after the colonial settlement (1652), and, to be precise, the year 1700. But, we are running ahead of ourselves.

The first indication that we have from the historical record, that this equilibrium was disturbed, was with the taking of a Khoi mediator or translator, in this barter economy, called Coree, to England, to learn English, so as to better 'translate' between merchant ship and Khoi cattle and sheep or livestock owners. On his return to the Cape in 1614, he conscientised the Khoi about the fact that what they receive in return for their cattle and sheep that they barter away to the merchant ships, was not the same, price- or value-wise. In other words, he learnt that the merchant ship barterers knew that what they barter with was not equal in value to that which they received. According to historical records, this immediately caused an 'inflation' of the prices of Khoi cattle and sheep at the Cape, with the Khoi now asking more goods in their bartering with the merchant ship representatives. This happened in 1614, before colonial settlement[35].

[34] Even though we can assume this perspective, there is also evidence that, in time, such encounters, due to a growing hostility to European attitudes and actions, both the Khoi and Xhosa became not only suspicious of them, but also aloof and distrustful.

[35] In order to understand this value-clash, and also as this would continue to impact indigenous economy and culture, during the long three hundred years of external colonization by The Netherlands and the British (1652 – 1910), Baudrillard's (1974) distinctions between four types of value in society, is



Sketch Map of the Cape, showing approximate positions of Khoisan groupings in the seventeenth and eighteenth centuries.

Khoikhoi clans or more inclusively speaking, Khoikhoi social formations at the time of the beginning of colonization, in 1652 (cf. Marks 1972:65)

This dynamic continued into Dutch settlement, with numerous other mediators and barterers in the inter-cultural exchanges, conscientising the Khoi livestock owners in the same way, not least a member of the now well-known Krotoa's (or Eva's) own family. There was one additional decisive event though, that in time, would terminally destroy the barter economy between the Khoi and representatives of the merchant ships, and also lead to what we may call Khoi

relevant, e.g. *sign value* and *symbol value*, in addition to *use value* and *exchange value.* In this analysis, colonial use value far outstripped indigenous use value, even though bartered products had sign and symbol or ritual value. Cf. also Coetzee (2000) for his analysis of this phenomenon in the South African farm novel.

ethnocide[36].

Five years into settlement, by 1657, the Dutch colonial administrator at the Cape decided that it has become too expensive and erratic in trade, to depend on Khoi cattle and sheep in the Western Cape, and also the livestock that they bartered in the interior on behalf of the merchants, and then brought to the Cape. The Western Cape Khoi have actually become very shrewd (or 'sly' as some authors would have it) in this, in so far as they bartered young animals from their fellow Khoi in the Cape interior, but only bartered older animals away to the colonial company, building up their own livestock numbers. And, at least one Khoi livestock owner became quite rich in the number of livestock he owned. It is said that within a few years, he owned over 2 000 heads of cattle in the Western Cape, by the mid-1650s. So, this brought the colonial administrator to release company officials to become stock farmers and agriculturalists to produce and sell their produce to the company, as food for the passing ships. Whereas the earlier intellectual response of the Khoi was to increase the price of livestock in the barter economy, they here saw that their very livelihood was now threatened. They then confronted, Van Riebeeck, and when he did not give way, they attacked this first group of settler farmers in 1659. Shortly afterwards, in 1660, and far from being suppressed, they sought peace though, in the expectation that trade would resume. It is reported that the Khoi believed that their continuing problem was that the Dutch were,

> … taking every day … land which had belonged to them from all ages and on which they were accustomed to depasture their cattle. They also asked whether, if they were to come into Holland they would be permitted to act in the same manner (in Marks 1972:64).

So, the realization amongst the Khoi that they were being dispossessed of their land, and that they were in the process losing their veld for livestock farming, was consciously realized quite early in the colonial settlement. And, this was the pattern that repeated itself throughout the colonization of South Africa. First we have the colonial demarcation of geographical areas for settlement and

[36] I use the notion of ethnocide here, since it correctly designates the destruction not only of an ethnic group, but also the culture of that group as a distinct cultural formation.

settler farming, with the actual settlement of farmers following these decisions, and independent of whether there were indigenous people living on the land, or farming their livestock there. This, the first 'war' with the Khoi, or from indigenous perspective in South Africa, the first war of resistance, was the result of what in today's parlance we would call a colonial 'land-grab', being the first step, and initiating what would in the end become the large-scale deterritorialization of the indigenous peoples of South, and Southern Africa.

Against this background, it is clear, that Khoi attack of the settler farmers did not happen out of the blue so to speak. It was based on the intellect-tuallisation of a process of socio-cultural encounter, the developing of a critique, and the voicing of critique. As said, such intellectualisation already dates from the increase in prices in the early part of the seventeenth century before Dutch settlement. This strategy of the Khoi was handed on to the next generation – it became part of collective memory – and they applied it too, in this case, in the 1650s, to increase the price of younger animals. So, for around 160 years of encounter of the merchant ships, and the first few years of Dutch settlement, Khoi provided the cattle and sheep meat for passing ships. To certain degrees, we can say that what we have here, is the equal participation of the Khoi in what was then happening through what became known in centuries to come, one of the basic precursors of the modernisation of the world, in this instance, through trade in the mercantile system. The Khoi were not a- or non-intellectuals in this participation, but equal partners as livestock herders in their own right. Furthermore, they did some comparative analyses: whether it would be accepted by the Dutch, if they (the Khoi) would do the same to them in Holland, as what the Dutch was doing in theirs, i.e. to take their land, the land that 'had belonged to them for all ages', and the land of their livestock. In addition to recognizing the breach of reciprocity in the social value of 'equilibrium' in a barter economy, we here see the Khoi recognizing the beginnings of the colonising deterritorialisation of indigenous people(s). In this, too, they recognised the breaching of a central value in the presumed equity in inter-cultural interaction, viz. the respecting of property, in this instance, landed property. This analysis and assessment, ratiocination and judgement, came from existential experience, and the rational detection of a certain historical causality, with a certain future consequence – the loss of land to colonization.

In terms of process, we can then say that we have contact, socio-cultural exchange in terms of an equality value in exchange, the raising of suspicion of dis-equilibrium, collective conscientisation of unfairness (or

injustice), and collective action, namely attack. So, there was a whole history and memory transmitted into this, what became known as the first Khoikhoi-Dutch war (1659) with settler colonialism. This was followed with another two such wars, in short succession, with the similar dynamics, but with one difference. Now, the Dutch attacked the Khoi to rustle their cattle and sheep from them, in 1673, and then again from 1674 – 1677. In this last three year-long raid, it is said that the Dutch rustled over 5 000 head of cattle from the Western Cape Khoi and from the Khoi in the interior. More importantly though, the Dutch would begin a process of land dispossession or the deterritorialisation of the Khoi in conjunction with cattle raids. The way in which they did this was to proclamate a certain territory for settler settlement and farming (to produce livestock and food for the passing merchant ships, and the settlers themselves), and then to settle company officials released from their employment, to farm as for the benefit of the company, or to import settler farmers specifically for this purpose, from the Netherlands for such settlements. This was done through violence, and irrespective of the existence of Khoi settlements, and Khoi grazing veld, in these territories. This history repeated itself over another more than 150 years. First the Dutch colonial governments, and then the British colonial governments (from especially 1806 onwards), would proclamate a certain territory for settlement, and irrespective of Khoi, and later Xhosa livestock owners and farmers' presence in the area, would then forcibly settle Dutch and later British farmers in these areas. This was a progressive process which started in 1657 with the first 'free burghers' or officials released from company duties, for the purpose of livestock farming and agriculture.

It is also from this time onwards that we can speak of a developing history of Khoi resistance, the outside of Colonial Thought, and Knowledge. Such resistance though was futile, because the Khoi could not compete with the power exerted on them through the government-sanctioned violence of commandos, and guns, but also the relentless settlement of farmers in their ancestral territories, that basically crowded them off their land, confiscated their livestock, rendered them landless, and divided them from their subsistence. Through need, they were by default, forced to either labour on settler farms or become unwilling landless sojourners, reverting to living off the veld, reverting to hunting and gathering beyond the colonial borders, and raiders, or in the discourse of the time, 'banditi' and fugitives. The resistance, however, remained and continued. At times, it would break out into open war,

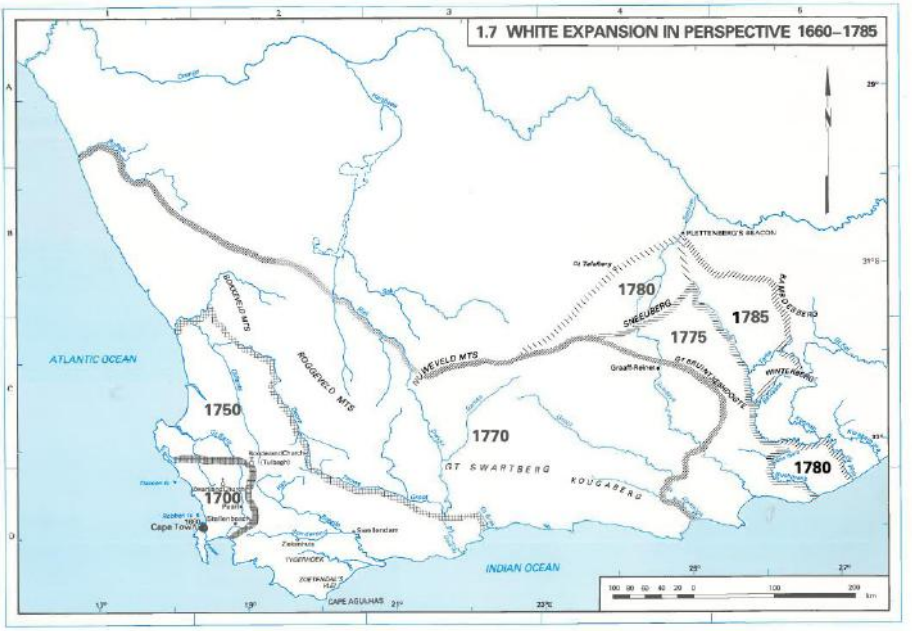
the so-called frontier 'rebellions'[37] of the Khoi, in which they were joined by some Xhosa[38].

Noteworthy is that the release of the Dutch officials for farming, was that the first few years of Dutch settlement at the Cape did not 'fulfil … the financial expectations' of the Lords XVII, in charge of Dutch trade with the east. The releasing of company officials for purposes of settlement and

[37] Maybe it is more correct to see these not as 'rebellions', as the scholarly literature term these interactions, but as armed struggle against the illegitimate occupiers of Khoi lands. Similarly, these should not be seen as 'frontier wars', as from the perspective of the colonizing forces, or, even 'rebellions' – as if by citizens – but as the early beginnings of armed defensive action against the violence of colonization.

[38] If I may use the license the specific topic of this lecture, and this plenary's theme gives me, I would like to suggest that in brief, we need to build a systematic model of the rural, village agricultural and herder economies of the Khoi and Xhosa, along the lines of Scott's (1976) theorizing of the 'peasant moral economy'. Here, we find that it is based on a 'subsistence ethic', and an agrarian quest for 'safety first' (Scott 1976: Chapter 1). Related to these, we have the prime moral codes of 'social reciprocity, social choices, preferred systems of tenancy among rural populations, and attitudes toward taxes' (Scott 1976: Chapter 2). It is against the background of these values that we need to build models about the nearly 500 years of moral resistance to colonization – both external (1500 - 1950) and internal (1950 – 1990) – in South and Southern Africa. And, wherever resistance matured into open rebellion, these need to be explained in terms of models that resonate with those of Scott (see esp. Scott 1976: Chapters 3 - 5), as these were sparked by the basic value of 'subsidence security', the 'subsistence ethic' and a 'safety first' morality, all of which were threatened variously, ranging from physical harm and murder, to taxes that did not heed the moral economy of 'what was left' after tax. Following a period of model building, and clarifying the realistic portrayals of the socio-cultural resistances in the history of our last 500 years, we should be able to come to writing coherent social histories of these 500 years, from verified indigenous perspectives in the historical record. There has been many initiatives in this direction, but I think a more co-ordinated programme of action is required. Some of the best in this regard, are the studies by Bundy, and Van Onselon, e.g. *New Babylon* (1982a), *New Nineveh* (1982b), and *The Seed is Mine* (1996).

farming, was one of their 'remedies' or interventions in this scenario. Concomitantly with this strategy, the Dutch would first approve 'grazing rights' to settlers, beyond the initial settlement boundaries, followed by new geographical demarcations, with borders, of these 'uninhabited' land, and actual settlement. In this way, Stellenbosch district was established, with a boundary between the Cape and Stellenbosch proclamated in 1711. And, remember, the establishing of 'districts' were not for the well-being of the inhabitants of the land, but for purposes of colonization, for colonizing increasingly better.



Dutch Settler Expansion and Proclamations (1660 – 1785) (cf. Bergh & Visagie 1985:15)

White colonists, though were already moving far beyond the administrative reach of the Stellenbosch Drostdy, and, white settlement beyond the loosely-defined border, was gathering momentum. In addition to the purchasing of stock from the settlers, the administration at the Cape sold

'grazing licenses', and put a new 'land tenure' system in place, the so-called 'loan-farming system'. Both these two systems spurred on the 'migration of White stock farmers into the interior'. In order to gain 'more effective control' of the ever geographic expanding of settler colonization, the Dutch government proclamated the Swellendam district in addition to the Stellenbosch district on 31 August 1745. The drawing of boundaries via proclamations of the Council of Policy at the Cape[39], continued into the latter half of the eighteenth century, with some tentative lands attached to the Northeast of the Stellenbosch and East of the Swellendam districts in the 1770s. During 1778 – 1780, Governor Van Plettenberg 'negotiated[40]' new lands and borders with the Xhosa, viz. the 'Gwali Chiefs', with the view to proclamate a new district in 1780. The district of Graaf Reinet was proclamated on 26 August 1785, and the boundaries proclaimed on 19 July 1786 (Bergh & Visagie 1985:2-13).

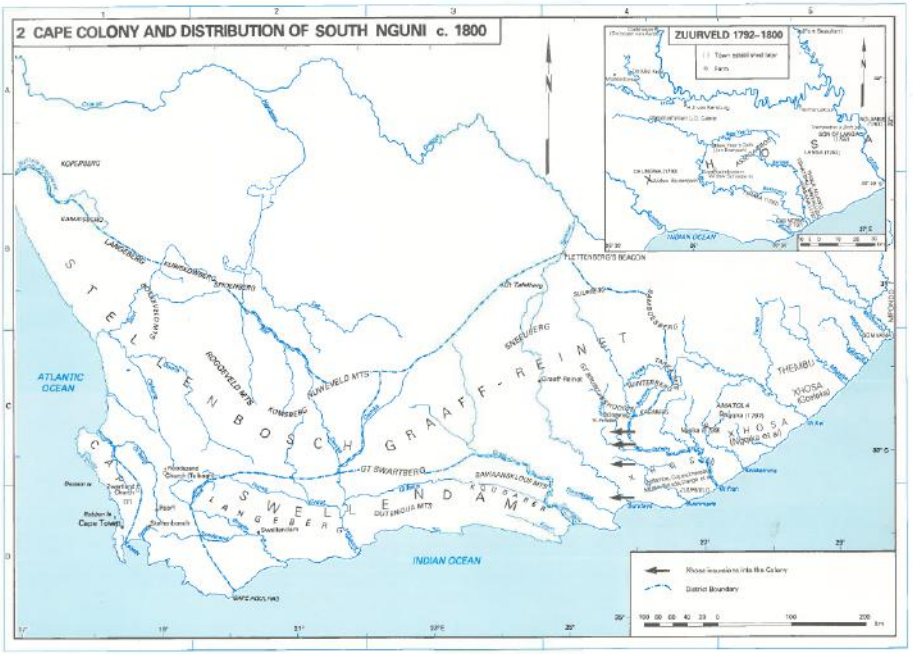
Throughout the wave-on-wave of the increasing geographical incremental colonisation and occupation of land, with the proclamations, merely trying to assert bureaucratic colonizing control over the process, the Khoi were pushed ahead of this wave of White settlement. This caused much conflict between Khoi clans and fellow social formations, for grazing lands and span the whole 150 years since the 1660s. This was leading up to a final conflict with the colonising settlers. All historical sources agree that, following the proclamation of the Graaf Reinet district, where the Khoi were caught in the middle between advancing settler farmers and the Xhosa to the East, the period 1785 – 1795 was one of the most vicious, and bloodiest, in the destruction of Khoi settlements and the extermination of the Khoi. As the

[39] This was the main colonizing apparatus used for land dispossession and deterritorialisation. Its socio-cultural history and the history of its developing discourse still needs to be written. Cf. Liebenberg (n.d.) for a very brief Introduction, and for 'Resolutions of the Council of Policy at the Cape' for the archive of the actual resolutions.

[40] There is much evidence that, this whole history of the so-called colonizing force's 'negotiating', or in some cases, even bartering of land and settlement was a sham. Not only was the actual meetings that took place where such agreements were reached, a mere pretence, but also their reportage. In this regard, the whole colonial, and apartheid history field that report on or narrate such negotiations, should be re-written. Wherever it happened, the Khoi and Xhosa saw it for what it was – land dispossession and deterritorialisation.

Settler farmers found themselves in competition with the Khoi for grazing veld for their livestock, and the Khoi, in turn, with the Xhosa to the East, the settlers settled in the newly proclamated district of Graaf Reinet violently. Khoi clans and settlements were decimated. Those Khoi who survived, especially women and children (men were mostly shot), had to work on the settler farms as herders, or 'servants'. Often, because they would try to escape, in chains.

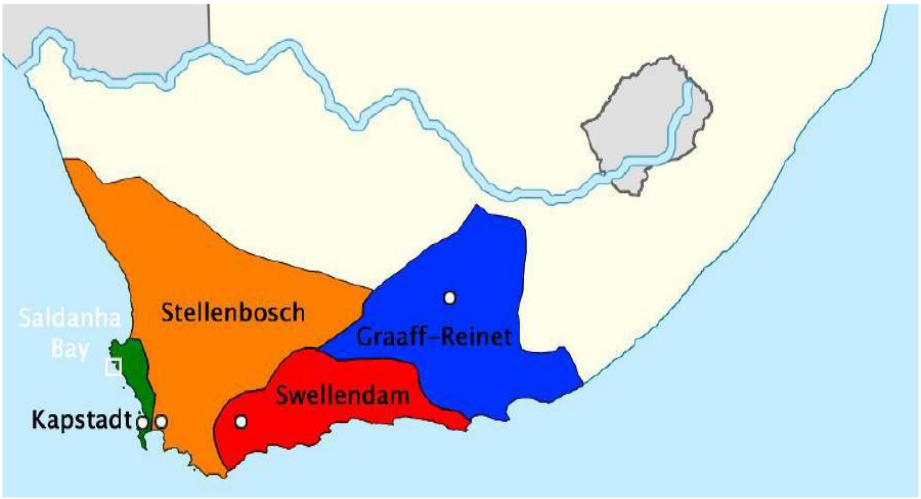
It is in the midst of this turmoil that rumour reached these areas about the British occupation of the Cape. At this point, the settlers revolted against the British, and the Khoi's hopes were raised for a better dispensation. So, with regard to the Khoi, what happened next?[41]



Physical map indicating significant mountains, rivers and the four colonial districts c. 1800: Cape, Stellenbosch, Swellendam and Graaff Reinet (cf. Bergh & Visagie 1985:17)

[41] I am not dealing with the so-called settler or Boer rebellion (1799) under Marthinus Prinsloo against the British here.

During the first British occupation of 1795 – 1803, there was just one notable proclamation, that of Governor George McCartney, 14 July 1798. It did not add any land to the colony during this time. It merely confirmed, or more closely charted the borders of the then districts, in order to manage them better.



Political map of the four colonial districts c. 1800: Cape, Stellenbosch, Swellendam and Graaff Reinet (Freely available on the internet)

Ultimately, after the so-called final Khoi rebellion (1799 - 1803), the Khoi succumbed. Already during the one hundred and fifty years of the historical process of deterritorialisation, many Khoi fled to the Orange river in the North. Some clans established new communities, such as the Griqua, or joined the Xhosa in the East. In time, they would also here, though, be overcome, together with the Nama and later Tswana in the Northwest and North respectively, and Xhosa in the East, as these social formations became colonized and clustered together into reserves according to the British colonial governments' relentless proclamation of territories to be occupied by settlers, and of the resettlement of Khoi and Xhosa in so-called 'reserves'[42]. Throughout

[42] The recent publication of a second edition of Mamdani's *Citizen and Subject*

these processes, though, resistance, struggle and intrinsic critique remained, was handed on through generations, and became part of a supra- or trans-social formation resilient collective resistance movement with numerous strands and threads of a collective struggle memory in South Africa. The downside of all this, was obviously the acculturation, and, in the case of the Khoi, ethnocide, and later some Xhosa clans. In many cases, though, we can see the cultural resistance, and resilience, even into today's continuation of indigenous cultural traditions and practices. But let us turn more specifically, to what has become known as the last stand of the Khoi, or the so-called 'third frontier war' (out of nine).

The Significance of the 1799 – 1803 Khoikhoi Rebellion in the History of Thought

In the aftermath of a failed and crushed Dutch settler farmer rebellion against the newly-arrived British care-taker occupying force of the Cape, the Khoi put there hopes in the British to not only curb and arrest the relentless expansion of Dutch settler farmer encroachment on Khoi lands, but to reverse this trend. They also petitioned the colonial government to prohibit settler atrocities against Khoi farm workers (so-called servants and herders), the raiding of still existing Khoi settlements and their livestock, within the colony, and its buffer zones bordering Xhosa lands, and to prosecute perpetrators. However, it soon became obvious that this was not happening. Instead, the British continued with precisely the same practices as the Dutch, i.e. to proclamate land and then to settle settler farmers in Khoi lands despite them living on and off it, and to allow the raiding of both Khoi and Xhosa for their livestock. In terms of the then expanding imperial mercantile and emerging capitalist economies in Europe, and their commerce and trade with the East, one can understand that

(1996), which deconstructs not only British and French colonizing governments' direct as well as indirect rule, but also that of apartheid as the generic form of colonization, is a welcome broadening of the debate on these matters, especially in terms of how indirect rule reproduced racial and 'tribal' identities. Cf. also Mazrui (1973; 2002); Mafeje (1971); Saul (2008); and Mbembe (2017).

the 'invisible hand' of merchant and capital accumulation would continue to need resources for its ships passing the Cape. The relentless, unremitting, and competitive growing British imperial economy (competing esp. with France), and also in terms of its then rising ascendancy at controlling the trade by sea, needed ever more resources for its ships passing the Cape. So, rather, than halting the process of settler farming atrocities and the raiding of Khoi livestock, the whole complex process of deterritorialisation, and especially of forcing Khoi to work on settler farms, in some cases, as the history record attests, and enchained to prevent escape, was stepped up. When this became clear to the Khoi, this information spread within a few months amongst the Khoi disenfranchised, oppressed and exploited farm workers throughout the Eastern Cape, primarily amongst the Khoi working on the settler farms. This lead to a large-scale desertion of farms. Some Khoi moved into Xhosa lands, and a large number went to squat at Graaf Reinet. Barrow reports in 1801, that there were over 8 000 Khoi, men, women and children at Graaff Reinet when he arrived there in 1798. Here, they were threatened by Boer attacks and mass murder. Evidence suggests that this resulted in nearly all, more than 7 000 Khoi, fleeing into Xhosa lands between Barrow's visit, and Van der Kemp's return from Ngcika in 1801, for protection. Here, and together with the Xhosa, they formed and organised for the so-called third frontier war against the British and its commandos. The war would last four years, from 1799 – 1803.

Right at the beginning of the war, in 1799, also indicating the rational reason for the Khoi deserting settler farmer employments, Barrow reports Klaas Stuurman, the main Khoi 'rebel' leader at the time, to have said:

> Restore … the country of which our fathers have been despoiled by the Dutch, and we have nothing more to ask. We lived very contentedly before these Dutch plunderers molested us, and why should we not do so again, if left to ourselves? (in Newton-King 1981: 16).

As said, in the limit experiences of life, lived experience is thinking, and thinking, lived experience. The work of memory, and conscientisation of injustice and unfairness, in the exponential and additive loss of land is evident here. If we interpret Barrow's census data from 1798/ 1798, we see that the Dutch progressively pushed the Khoi off their lands, through the same process (1657 - 1787) – issuing 'grazing rights' to the expanding settler livestock

farmers[43], the proclamation of land by the Council of Policy at the Cape, forceful settlement of settlers, and then subduing the Khoi to become servants and herders[44] of Dutch livestock on their own ancestral lands. Much of this same livestock was also accrued through the raiding of Khoi animals. So, in many instances, Khoi ended up herding their own livestock, but now for settlers. In the Graaf Reinet district, this dynamic was especially started with the Dutch proclamation of the Graaf Reinet district in 1787, as said. At this time, according to the historical record, there were independent Khoi (clan) settlements in the area, where Khoi allowed settler farmers to share grazing velds in their land. After 1787 though, the district was formed and cut up into farms onto which settler farmers were forcefully deployed as part of colonising settlement practices. This decade-long process continued, and were in fact intensified with British occupation in 1795 (even though a minority of Khoi also benefitted from better trading conditions at what is NMM today). This dynamic, their loss of land and livestock, and their being forced to become sojourners on their own lands as servants and herders of the settlers, caused the Khoi's mass desertion of settler farms to Graaf Reinet, lead to the statement by Stuurman, and the 'border war' of 1799. The overarching and principle reason for all these border wars, was the progressive forceful occupation of land and the final deterritorialisation of the Khoi, and later Xhosa.

It was in the midst of the beginning of this war in 1799, that Johannes van der Kemp, the first London Missionary President of African missions arrived in the Eastern Cape. He was determined to start a mission for the Xhosa, beyond the colonial border among Ngqika's people. However, after more than a year there, he was not allowed to do so, and returned to Graaff Reinet. What is of interest to us, for our purposes of tracing some of the events of *the* Decolonial at this time, is the interaction of some of the Khoi, including Stuurman, with Van der Kemp. On his way to Xhosa country. As he passed through the Graaff Reinet district, he encountered some of the Khoi fleeing from settler persecution during the Boer rebellion, but in the company of some

[43] From the historical record, it is evident that the issuing of 'grazing rights' was mostly 'after the fact', when the migrant-settler farmers have already occupied land for their livestock.

[44] In Smit (2016b), I have pointed out that Khoi in the employment of Boors were basically treated as slaves. This is also confirmed by Barrow (I 801:46 amongst others).

trekking settler farmers (presumably searching for grazing veld for their animals). He recounts that in response to his attempt to 'evangelise' them, and because some of the settlers did not want to join the Khoi in a religious meeting, he held one separately for some Khoi. Here, they sang, from their own choice, and very convincingly, he says (!), obviously in Dutch, a hymn from Psalm 118 in the Hebrew Bible. The words, are as follows (cf. Van der Kemp's journal for August 29, 1799; Newton-King 1981:24).

> **A Song of Victory**
> **1** O give thanks unto the LORD: for he is good because his mercy endureth forever …. I called on the Lord in my distress: the Lord answered me, and set me in a large place. The Lord is on my side; I will not fear; what can man do unto me? My Lord taketh my part with them that help me. It is better to put trust in the Lord than to put confidence in men. It is better to trust in the Lord than to put confidence in princes. All nations compassed me about: but in the name of the Lord will I destroy them …. They compassed me about like bees; they are quenched at the fire of thorns: for in the name of the Lord, will I destroy them …. Thou has thrust sore at me that I might fall: but the Lord helped me …. I shall not die but live, and declare the works of the Lord …. The stone which the builders refused is become the head stone of the corner …[45].

From this reported event, we can see that some Khoi must have been inculcated in the Christian culture of the settler farmers, as well as one of their main cultural objects, viz. The Bible. They have obviously appropriated some ideas, central to Christianity, for themselves. In this instance, they have

[45] This translation provides some perspective on the Dutch religious ideas that Khoi appropriated, given their own conditions of oppression and exploitation. The original, was presumably a print version of Peter Dathleen's 1566 translation of the French hymn *Book of Psalms*, which also had a wide impact in the Netherlands during their eighty year War of Independence (1568 – 1648). It could have even been the so-called 'State rhyming' of the same, of 1773, if Van der Kemp indeed brought this version of the Psalms to be sung, with him to the Cape (cf. http://www.holandiabez tajemnic.pl/?page_id=4382 &lang=en).

appropriated this text as a text from the coloniser's own cultural goods, for asserting their own social analysis and thinking about their own socio-cultural condition and liberation. In principle, we do have here, decolonial thought, thought of resistance, and of the seeking of divine intervention and divine justice, but also thought of victory, articulated in song. This was just one of the constitutive elements of what would in time become part and parcel of struggle ideology, in which the Bible would play a central role in Southern Africa[46]. What is important too, is that their choice was a song that outlines a process that leads from oppression (their own experience at that time), through confrontation, resistance, struggle, and defensive battle to victory. And, according to some historians, they nearly succeeded in driving the settler farmers out of the Eastern Cape during this time. Vandeleur, the commander dispatched by the Governor to quell the 'rebellion', reports as much when he likened the 'rebellion' to the most successful slave revolt in history, that of San Domingo, in Haiti, in 1791, and that secured Black independence (in Newton-King 1972:27). Another significant analogy, to the Khoi 'rebellion', is that of Commisary J.A. de Mist's 1802 judgement of the 'border farmers' in the Graaf-Reinet district, viz. that they 'seem to realise in their conduct, the tragic ideal of [Thomas] Hobbes, *Bellum omnium contra omnes*' (War of all against all). The Khoi (and San), in his description, have become 'the most dangerous enemies of the Colony, and a continual guerrilla warfare of defence and attack has to be waged' against them (De Mist [1802] 1920:254).

During the Khoi 'rebellion' of 1799 – 1803, the Xhosa would join the Khoi, but not only during this period. As they themselves, took up the battle to defend themselves and their lands, against the continuously intruding, and encroaching settler farmers, the Xhosa stood together amongst themselves, different Xhosa clans normally in competition with one another, for grazing lands, in order to, in the words of one Xhosa Chief, 'not be broken up as the

[46] In this regard, Justin Ukpong (in Mugambi & Smit 2004: 36ff) makes the important distinction of using the Bible as a 'weapon or a tool'. In the agonistic socio-cultural resistance of and struggle against colonisation and apartheid, numerous so-called 'Western' cultural objects, media, and related malleable cultural goods, would not only become objects of contestation, but also weapons as well as tools in the struggles for freedom, not least the Christian Bible. For the Bible, cf. West's recently published *The Stolen Bible* (2017).

Khoikhoi were' (Marks 1972:78)[47]. In the midst of these battles though, Van der Kemp's intervention, was to petition the British colonial government to cease sending commandos against the Khoi and Xhosa. From his own 17th century knowledge of the European Enlightenment, he would assert the freedom of the Khoi, that they constitute a 'free nation', champion the restoring of their land, or at least a 'place' that they could call 'their own home', as well as 'perfect equality', in all senses of the word, with the settlers. In his writings, he often calls the latter, 'these inhuman wretches', and 'un-Christian inhabitants' of the 'frontier' zones, even though they called themselves 'Christians' *in lieu* of the religious self-perception in Europe before the constitution of the World Religions Paradigm (cf. Smit 2017a and 2017b, forthcoming; and Smit 2016a)[48].

For the Khoi, the aftermath of this war was bleak, to say the least. With the retrocession of the Cape back to the Dutch (the Batavian Republic) on 01 March 1803, according to the Treaty of Amiens (1802), the Khoi discontinued or suspended the war effort, pending their assessment of the attitude of the new Dutch government towards them. Again, they hoped for an improvement of their condition. And, similar to what they did with the British in 1795, they petitioned the new Governor Janssens and his envois and administrators – now with the additional support of Van der Kemp, and his fellow missionary Read – in the border region to stop the atrocities of the frontier settler farmers against

[47] There is much evidence of how rumors, speculations and opinions of the progressive aggressive and violent systematic encroachment of white settler farmers on traditional ancestral lands spread and circulated among indigenous groups in South Africa from the earliest settlements of the Dutch at the Cape.

[48] For the 'positive' sense in which I use the notion of 'enlightenment' here, and below, cf. Anderson (2014); Dubois (2006); Ducheyne (2017); Griswold (1999); Israel (2001; and 2006); Lazarus (2004); Muthu (2003); Paquette (2009); Porter & Teich (1981); Prakash (1995); and Shklar (1969). The essays in Carey and Festa (2009) cover quite a number of aspects of this perspective on the notion of the Enlightenment as both a West-European 'eighteenth century phenomenon' and as a 'concept that bears on modern ... formations'. I think it is important to recognize the 'tensions and disparities' within Enlightenment thought, that it does not constitute a 'unified construct' also, with regard to the Philosophical canon, and that, for both *the* Colonial, and in our contemporary modern, and modernizing period, *the* Decolonial.

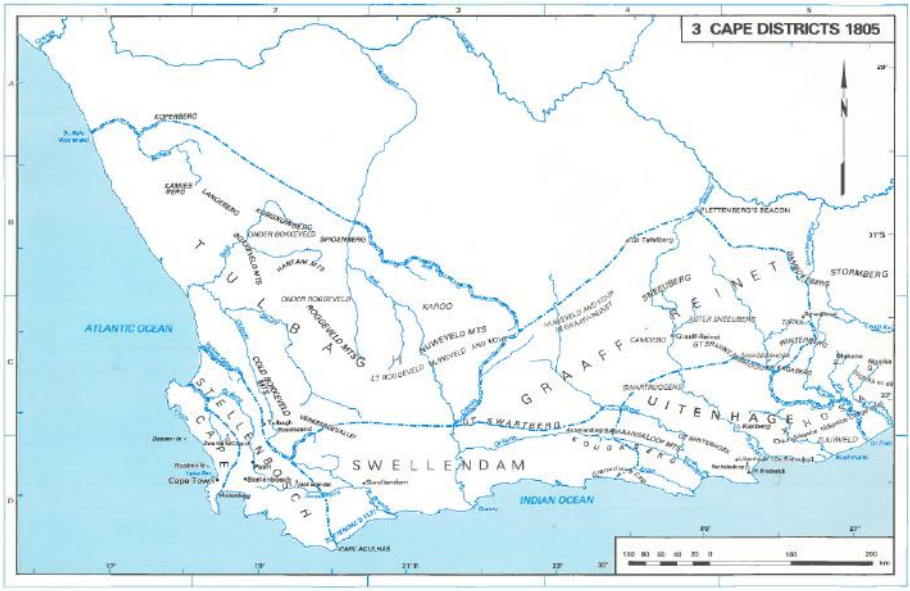
the Khoi. Yet, to no avail. Again, they were to be disappointed. The Dutch re-configured the existing districts, and added two more (cf. below).

As part of the outcome of the war, Van der Kemp won a bleak spot, where he could found his mission station, with some 200-odd Khoi following him. This became the famous Bethelsdorp, and for many Khoi and Xhosa, a symbol of 'white', missionary resistance and critique of colonialism, and the frontier settler farmers. Most Khoi had to return to labour on settler farms, as servants and herders, continuing to be subjected to the inhuman conditions there. Some stayed amongst the Xhosa, and on the new mission stations that would be established by a variety of Christian missions in frontier regions and beyond the colonial frontiers, and would in decades to come cooperate with the Xhosa in their own wars of resistance and survival[49].

Three Decolonial Reflections

In the three sections above, I have reflected, with reference to historicisable events, on what we may call the beginnings, process, and *roots* of the decolonial, in terms of my theorizing of the notion of *the* Decolonial. The bulk of this argument has been focused on the notion of the 'decolonial' as a domain of thought on the outside of 'the' Colonial. In this section, and only proffering three brief observations, or reflections, I want to point to a kind of thinking outside this colonial-decolonial dichotomy. To think, and theorise the Decolonial is extremely important, as I have argued. What, in the long run, or in terms of 'strucutral time', is even more important, and that is to even think outside this box.

[49] Part of the hidden transcript of so-called Khoi defeat, their cessation of hostilities, their returning to work on farms, and apparent resignation to their subjection and 'fate' to the settlers, are present in historians' and authors' perplexity at their apparent docile, return to the different forms of slavery against which they rebelled in the first place. No less than a Khoi leader such as Klaas Stuurman, counts among these. In his case, though, he requested a farm of his own, which was granted. His brother, David, though would continue the battle, was captured, served time on Robben Island, escaped with a fellow inmate, Johan Smit, was captured again, and banished to Australia where he was released from prison in the early 1820s, but shortly after died (cf. Malherbe 1980).



During their occupation of the Cape, the Batavian Republic (the Netherlands), proclamated two additional districts, viz. the Districts of Tulbagh and Uitenhage (1805) (cf. Bergh & Visagie 1985:19).

Firstly, we need to be sure about our perception of time, history, that is, with regard to *the* Colonial. And, here, I want to propose that we follow Basil Davidson's suggestion, when he said:

> African development has run in an unbroken line from its distant origins until the present. The Africans are the children of their own past in just the same sense as all other major groupings of humankind, so that even those intrusions or interruptions which have seemed most traumatic and significant of change, such as the colonial period, were in truth no more than episodes or stages in a long continuity of growth (Davidson 1969:3).

This is equivalent to Wallerstein, following Braudel, (if we make some minor adjustments), distinguishing between the time of the event, episodic,

cyclical, or ideologico-chronological time, and long-term 'structural' time (cf. Smit 1999). In this sense, the period of colonization, much longer in South Africa than other parts of Africa as pointed out above, with much more long-term trauma and acculturation, was an episode in its continuous cycles of time. In African context, and with different dates attached to them, we may distinguish between the pre-mercantilist period (earliest days to 17th century); the mercantile period (17th century to 1800); integration into full capitalist system (1800 –); colonization (variant dates in different African regions – the present) (Amin 1971: 503 - 524); the post-colonial, etc. Following, Ajayi (1968:194-196) we can assert that this does not mean that Africa was not severely impacted by a variety of forces effecting socio-cultural change and underdevelopment. We may mention Africa's history of slavery, and with the arrival of colonisation, the progressive loss of sovereignty; the introduction of colonising and patriarchal Christianity; the similar effects of Islam in colonial, and post-colonial Africa; western education; western social, religious and political ideas; and the acculturation of African practices that were adjudged incompatible with European [Christian] traditions. More importantly though, is that African participation in the equal and participatory development of the modern world system was hampered, stultified, blocked, preempted, and negated[50].

[50] The most important views on underdevelopment are still those of Walter Rodney (cf. Smit 2014), and in South Africa, the empirical studies of Colin Bundy (1984; 1987a; 1987b; 1988) of the Eastern Cape 'peasant farmers' and the 'peasant economy' of the Xhosa farmers, that outperformed the colonists at the time, as well as the numerous studies of Terence Ranger. This was before the laws were made that prevented them from renting their own ancestral lands from colonial settlers, in order to farm, and in so doing, outperforming the settlers. It was also before the time of the reserve legislation that would move Xhosa clans finally into the dreaded 'reserves', signaling their final succumbing to deterritorialisation, and the loss of their ancestral lands. In this sense, the study of *the* Decolonial, is a negation of the negation of the colonial, or a production of knowledge precisely where there was a 'colonial negation of development', and the production of knowledge in a space that is focused on the integrity of the social and socio-cultural facts of African developmental realities, on the one hand despite the colonial repression and negations, throughout colonial history – in terms of its own resistance, resilience,

Secondly, as briefly demonstrated in this article, there have been many manifestations of thought, of critical thinking, of thinking in resistance, in all the colonies of the world, not least in South Africa. Such thinking, has formed part of many forms of resistance and critique, and to various degrees, have engaged *the* Truth or *the* Knowledge of *the* Colonial. This is what I have called, lived experience as thinking, forms of oppression, of enchainment, of having to function within the limits and limitations of unfreedom, of incarceration, forms of confinement, captivity, internment, detention and continuous threats of death and other limit experiences. These were present in the most illiterate of societies, the most uneducated and ignorant or subaltern – as individuals and as socio-cultural communities. And, these have spanned many geographical areas and historical events, and episodes, from the beginnings of colonial contact, through the rise of resistance and resistance memory, to the thought inside the thought of the many anti-colonial wars of resistance. Inherent, and asserting inside this resistance, was that of life, the indomitable will to live, demonstrated, by the resilience of those who resisted, and struggled, and, ultimately experienced victory, at least politically, that is.

Thirdly, we need to position ourselves with regard to the digitally globalizing world of the last two to three decades. In this, there are many socio-cultural, knowledge and information ebbs and flows the world over, none of which are synchronised. We need to position ourselves with regard to how we could draw the most benefits from these movements, not least in developing our own decolonial truths and knowledges. In this regard, Amilcar Gabral (1970) used the notion of 'critical assimilation'. This is where interpretive communities, engage globally accessible available knowledge(s) and information for their own benefit. This needs to be done critically, through critical thinking, and through critical assimilation, integration, and incorporation into our own productions of knowledge and truth. Needless to say, he Truth(s) and Knowledge(s) that we produce or participate in producing, need to empower our own communities, but also centrifugally contribute to and add to the world-historical development and accumulation of Truth and Knowledge. Yet, as said, as we participate in this work of thought, we are continuously challenged to think the outside, even of this thought that we are in the process of constructing.

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hardiness and optimism and enthusiasm. For the latest views, cf. Mphofu (2017), amongst others, in Oloruntoba and Falola (2017).

The Decolonial as Enlightenment

As mentioned above, we still use the concept 'colonial' in the notion of the 'decolonial', and not something else. Moreover, despite the diversity of European countries and their diverse forms and practices of colonization, but also a diverse array of retro-impacts such colonization processes have had back in these countries, both in their state-power and economic-labour complexes, at the epistemic level, there has been some form of discursive unity or homogeneity. Parallel and actually feeding off but also into the diverse colonisation processes and projects, was the so-called European Enlightenment. Immanuel Kant captured it in his December 1784 'What is Enlightenment?' essay, as something that was happening. It was a reflection on the present moment, or in Foucault's (1984) view, a very significant event in the history of thought, as a reflection on what he termed the 'history of the present'. It was not something that Kant *envisioned* or even *propagated*. Rather, his essay, at that point in time, captured what has been happening for some years, maybe even decades, in Europe, and more particularly, in the Germany of the time, in the present moment.

In his famous, 'What is Enlightenment?' essay (December 1784), Kant captured some of the key ideas of the notion of 'enlightenment' thought and practice – praxis. For him, those who are enlightenened, have a commitment to and practice the principle of '*sapere aude*' (cf. above). Similar to how other enlightenment thinkers of his time insightfully and perceptively captured and conceptually expressed essential understandings of both human and geopolitical processes such as morality, wealth, or nationalism, he did so for what enlightenment thought itself entails. For enlightenment thinkers, he averred, there are no truths to be arrived at through the tutelage of others, whether priests, religious books or doctors. Truth, or knowledge, is arrived at by individuals using their own capacity to think or reason, i.e. to question existing received dominant knowledge, texts and related practices, and to find answers for yourself. Needless to say, such 'answers' or knowledge produced through independent thinking, was also widely disseminated in the rising tide of an increasingly very competitive knowledge market, the market of ideas.

Ideas, as we have seen from 1776, and 1789, could bring about revolution, or to a lesser degree, bring about a variety of forms of civil and personal transformation. Writing in the Prussia of King Frederick the Great (1740 -1786), an 'enlightened' monarch himself, who encouraged the German

enlightenment – as did many other royals in the Europe of the late seventeenth and eighteenth centuries – Kant sounded a warning though. In order to put some restraint on this 'thought-free-for-all', especially in terms of its potential geopolitical consequences, and potential uprisings and revolutions, Kant advised, 'Argue as much as you want and about what you will; only obey!' In his case, and for the readership of the *Berlinische Monatschrift* (*Berlin Monthly*) in which his piece appeared at the time, Kant's view was that people should continue their enlightenment thought and practice, but that the limits for such praxis, were set, by obedience to an enlightened regime. Following the Holocaust, Hannah Arendt's view was that we change this form of obedience, even of an enlightened regime, to read '*Niemand hat das Recht zu gehorchen*', no-one has the right to obey, and, to love the world, *amor mundi* (cf. Arendt 1955). For some, this would mean that if there is a rule or limit, to problematize it, but, eventually, to break it. I think, that in the history of Decolonial thought, this is what happened, and that is why we do need, a decolonised, and decolonising Africa, and African intelligentsia[51].

Conclusion

I have tried to outline some seminal points, in terms of which one could start to research the actual roots of the content of *the* Decolonial in South Africa. There is much already that comprise this archive from the second half of the 18th century, and to some limited extent, earlier. More needs to be done to push the history of Decolonial thought in South Africa, back in time, to some of its

[51] I do not want to count heads, and not counting how previous generations have verbalized the decolonial enlightenment, numerous scholars have come to the fore over the last number of years, that represent and address precisely this issue in South Africa or Southern Africa, *viz*. Mabogo P. More, Mokong Simon Mapadimeng, Sabelo Ndlovu Gatsheni, J.T. Lebakeng, M.M. Phalane N. Dalindjebo, Milton Nkoane, Siphamandla Zondi, and Dube Bekithemba amongst many others. My point is that we need to move beyond the rhetoric and engage the archival and memory archive in my reconstruction proposals, more constructively. Rhetoric and related #decolonial movements will come and go, but the importance of the actual construction of the variety of puzzles of the requisite social history of South Africa dating from pre-colonial times, is imperative.

earliest roots. This lecture provided only a brief glimpse of this work that mostly still needs to be done. As said, such thinking, whether in history, with regard to the historical event of thought, or the present, is exterior to Truth and Knowledge, rooted in colonizing processes, and as canonized and circulated. This is true for *the* Colonial but also *the* post-Colonial, and, *the* Deolonial, in the process of formation.

With regard to the point at which I began this article, *viz*. the brief overview of the different steps the South African Department of Education has taken on the way to realise a fully decolonized education, ranging from pre-school to university and postgraduate research levels, since 1995/ 1996, I want to make just two points that have relevance in our current conjuncture. *Firstly*, in 2013, the South African Government published a not insignificant White paper about tertiary education, *viz*. the *White Paper for Post-School Education and Training: Building an Expanded, Effective and Integrated Post-School System*. As you can glean from the title of this white paper, the intentions of government is to 'expand' the post-school system, together with an increase in the in-built 'effectiveness' of the programmes offered in this expanded system, as well as create the possibilities for greater 'integration' in these programmes. I shall not engage these matters here, because of space and time[52]. Suffice to point out that, significant for us, in our context, and region, is the statement that, it says,

> In light of the need to increase enrolments, the DHET has decided that predominantly contact universities may choose to offer distance programmes, provided that effective quality-control measures are in place. The onus will be on each institution to justify a particular programme offering in terms of its mission and overall profile as well as the nature of the programme concerned. The DHET will also encourage all universities to expand online and blended learning as a way to offer niche programmes, especially at postgraduate level, to those who are unable to attend full-time programmes, either due to their employment status or their geographical distance from a campus (p. 51).

[52] But see especially the 'Background and Challenges' and the 'Main Policy Objectives' (pp. 1 – 10).

Vis-à-vis previous decisions, this White paper now opens the doors for distance education, by formerly residential universities. This creates the opportunity for those university progammes and programme niches, that are at the forefront of the production of decolonized knowledge formations, to open the doors of culture and learning to those who could not previously afford to study at residential universities in South Africa, and further afield. Institutionally, this could yet prove an important apparatus to turn the tide of the hegemony of colonizing knowledges and truths, still prevalent in our systems of thought.

Secondly, the insitutionalisation and instrumentalisation of such an apparatus, would be of no use, if its *content* and research-led teaching and learning *methodologies* do not centrally integrate, what I have termed the emerging Decolonial in this presentation, together with its ingrained accompanying fostering of an actual critical and creative thinking focused on our specifically African conundrums, and globalizing challenges. As far as *content*, I shall not say anything more, here, except to point to the historicising example that I gave. With regard to thinking, we need to kindle the kind of thinking that Kant, in his own time and context, based on the notion of the more than two millennial old maxim, *Sapere Aude*, to 'dare to know', to 'dare to think for yourself' or more generally, to 'dare to be wise'. If we integrate procedures that stimulate such thinking in our online programmes, we shall not only facilitate a liberation from the colonizing 'self-incurred tutelage', that we have inherited from the past, but most importantly, contribute to the emergent decolonized generation of intellectuals that can take up the numerous responsibilities of a collective engagement of knowledge production with regard to local issues, but also on a world-wide front. This is the unfinished work of freedom, the labour of thought as potential and possibility, as an unfinished task. And, if we are not part of this yet, I have provided a few very brief pointers about the kind(s) of focuses and processes one could engage, amongst others. And, that is also why I quoted Foucault at the beginning of this article – 'Thought is freedom in relation to what one does'[53]. A fuller version of this quote reads:

> Thought is not what inhabits a certain conduct and gives it meaning;

[53] A parallel interesting exercise is to also read Foucault's 'What is Enlightenment' in terms of his commentary on Kant's version, but also his own reflections on the same topic in his own time and context, in Rabinow (1984).

> rather, it is what allows one to step back from this way of acting and reacting, to present it to oneself as an object of thought and question it as to its meaning, its conditions, and its goals. Thought is freedom in relation to what one does, the motion by which one detaches oneself from it, establishes it as an object, and reflects on it as a problem.

As a personal approach to Truth and Knowledge and especially Truth and Knowledge construction, I think this captures something about what our approach to what we do, but also what we experience, could be. Therefore, I have called this article, #DeclonialEnlightenment[54].

Acknowledgements

* I want to thank Prof. Gregory Kamwendo, Dean of the Faculty of Human and Social Sciences, University of Zululand, for inviting me to give a lecture based on this paper, at the 8th Zululand Humanities and Social Sciences Conference, 18 – 20 October 2017, Richards Bay (cf. footnote 1).

* In addition, I want to thank the University of KwaZulu-Natal for the sabbatical during which I could do the research and write-up this article, amongst others.

* I would also like to extend my sincere gratitude for the multiform assistance and help that I have received from Ms. Faith Bhengu, UKZN Principal Librarian (Durban), Ms. Celeste Johns, Circulation Supervisor, Mr. John Timms, Circulation Desk (Interlibrary Loans), and Mss. Shanitha Bhim and Bronwyn Tayler, Circulation Desk (Pietermaritzburg).

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[54] Note: The only reason why I have used the hashtag - # - as part of this title, is to make the notion or, idea, decolonialenlightenment, as a combination of two words, indexible, as well as searchable, amid the large amounts of data available online, including the rising number of #words and #concepts, especially those related to #decolonial.

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*Alter*nation

Interdisciplinary Journal for the Study of the Arts and Humanities in Southern Africa

Advancing Teaching Innovation and Research Excellence in Higher Education

Guest Editors

Rubby Dhunpath,
Nyna Amin
and
Langa Khumalo

2017

CSSALL
Durban

Acknowledgement of Reviewers

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