

Africanisation: A rich environment for active learning on a global platform

W. Louw

Directorate for Curriculum and Learning Development

University of South Africa

South Africa

email: louwwp@unisa.ac.za

Abstract

Africanisation is generally seen as a renewed focus on Africa – reclaiming what has been taken from Africa – and the emergence of a new sense of pride. With regard to the local curriculum, there is a renewed focus on indigenous knowledge and an African community competing in a global society. In this article I first reflect on a literature search I conducted on how Africanisation is perceived by others, considering its stance in a global world. Secondly, I investigate the role that higher education can play in achieving the goal of an Africanised curriculum, and thirdly I suggest ways to design a rich Africanised environment for active learning, by using an open and distance learning environment as a case study.

INTRODUCTION

Africanisation has become a very important issue for people in search of unity, a sense of belonging and a sense of pride in who and what they are and what they stand for. In defining ‘Africanisation’, one should first and foremost see how this term is perceived by other voices in the literature.

In defining the word, Makgoba (1997, 1999) says it is not about excluding Europeans and their cultures, but about affirming the African culture and its identity in a world community.

It is not a process of exclusion, but inclusion ... [I]t is a learning process and a way of life for Africans. It involves incorporating, adapting and integrating other cultures into and through African visions to provide the dynamism, evolution and flexibility so essential in the global village. ‘Africanisation’ is the process of defining or interpreting African identity and culture.

Ramose (1998) describes Africanisation as ‘a conscious and deliberate assertion of nothing more or less than the right to be an African’. The online Thesaurus describes Africanisation as: ‘To make African, as a culture; to transfer to African control; to become African.’

The Sankofa Youth Movement (2007) says: ‘By “Africanisation”, we mean the embracing of our African heritage, and developing a sense of loyalty towards the Motherland – Africa. This involves adopting and promoting African culture, putting it on the pedestal currently occupied by the west.’ These reflections seem to suggest conflict between the idea of being African and the need to adopt aspects of Western culture. It is a situation that might impact negatively on the development of appropriate African curricula in education in general, and in higher education in particular. In fact, Le Grange (2007, 581) warns educators to be aware of this interaction between cultures, because it could complicate the learning process: ‘For non-Western learners, interaction between two worldviews characterizes much of their school experience, complicating the learning process and potentially resulting in cognitive conflict.’

For me, Africanisation reflects our common legacy, history and postcolonial experience. Through this legacy, we have to connect with the broader African experience and establish a curriculum that binds us together. We then confront our own sense of Africanness, transcend our individual identity, seek our commonality, and recognise and embrace our otherness.

In this article I will, therefore, reflect on this literary search on Africanisation in an attempt to suggest ways to create a rich environment for active learning, for the diverse students here in Africa studying at an open and distance learning (ODL) institution, and to explore how this is influenced by a global world where study materials are often standardised.

AFRICANISATION VERSUS GLOBALISATION

At the moment in Africa, there is a sense amongst the citizens that they no longer identify with the Western world, but rather with Africa in its own right. South Africa in particular has become a country in search of itself. It was colonised by the Dutch in 1652, conquered by Britain in 1803 and unified in 1910 after a devastating war. After that, a quasi-Western state was created. This came to an end in 1994, when a predominantly white government gave way to a government where Africans rule.

Many centuries ago, Aristotle defined ‘man’ as a rational animal. According to Coetzee and Roux (2002), it was because of colonialism that this title was reserved for Western ‘man’, as they did not see Africans as proper human beings;

although they looked like them, Westerners argued that they did not have the faculty of reason. Mangu (2005) argues as follows:

Africans were taught that Africans produce no knowledge ... were created to serve and not lead as they were incapable of thinking ... The universities that many African countries inherited from colonialisation were African in name and location only ... the curricula were dictated by London, Paris or Portugal ... academics and researchers had to perform for their colonial masters ... recycling knowledge produced elsewhere in a different context and for a specific milieu

Even *Encyclopaedia Britannica* (1974, 461), under the topic 'History of Egypt', claims: 'Unlike the Greeks, the Egyptians were not philosophically inclined, intellectually inquisitive, or prone to theorising', and so the term 'the other' was born, and the West captured the people of Africa's thoughts through their eyes, instead of inquiring about the people's own experiences and narrations of their own understanding of the self.

Laleye (in Coetzee and Roux 2002, 193) states that a philosophy is deeply rooted in the mental existence of man, as part of being a rational animal. Philosophical activity, according to him, is a manifestation of mental existence. Africanisation is, therefore, a questionable concept, because it does not meet the requirements of Western thought with regard to the meaning of the word 'philosophy'. Africans must, therefore, determine what is necessary in order to establish Africanisation as a philosophy. Tomas (in Coetzee and Roux 2002) argues that there is a difference between Western *discursive* thought and African *intuitive* thought, and between Western *exteriority* (objectivity) and African *interiority* that seeks explanations from a subjective point of view. Higgs (2007, 671) further comments: 'The West is concerned with perfecting philosophical discourse for its own sake, while Africa wants to use philosophy in a particular sense to address social issues.' Desmond Tutu argues (in *Pioneers of Change Associates* 2006, 16): 'In the end our purpose is social and communal harmony and wellbeing. Ubuntu does not say "I think therefore I am". It says rather "I am human because I belong. I participate. I share."' Africanisation, in a nutshell, seems to be about shared beliefs, values and assumptions that can be found in the language practices and beliefs of all African cultures, and it seems to be more of a communal activity than an individual thing.

Since 1994, South African education has focused more on the facilitation of learning than on the transmission of learning. Horsthemke (2004, 572) argues that the acquisition of knowledge is only one aspect of a person's development: 'Moreover, it should not be inferred that knowledge is acquired, developed and transmitted through institutional education alone. Knowledge can be gained, amongst other things, through travel and by incidental experience.' Le Grange

(2007, 586) also argues that knowledge production is deeply heterogeneous, because different viewpoints are constantly being added and reconciled, but that the common element of all global knowledge systems is their localness. Horsthemke (2004) and Le Grange (2007) unpack the term *knowledge*. I will not go into their arguments here, because that is not the focus of this article, but they seem to think there is a close link between knowledge and the social order of trust that results in a knowledge space.

In the midst of all the arguments presented about what Africanisation means, the Internet has brought globalisation and its diverse implications into the local village, and this impacts on how knowledge is constructed. Atkin (in Van Wyk 2002, 306) states: ‘Central to the emerging processes in global society of which South Africa is part, educators may have to engage with a conception of knowledge which would speak to their social context, particularly since changes in the curriculum can call into question the nature of knowledge ...’

If knowledge is anchored by the way the world is, then African countries seem to still face a dilemma in constructing local curricula, where the ideas of the West are still considered superior. Kebede’s (2004, 128) solution to this dilemma is as follows:

To sum up, the divergent conception of social evolution is the solution to the Africa dilemma. To the extent that it involves choice, it dismisses the colonial discourse in terms of liable to stimulate the African resolution to seek part with the West. The relativization of the West by the disclosure of its initial choice challenges its normativeness and invites the development of Africa as a reciprocating act of choice.

Kebede (2004, 125–127) further suggests that instead of perceiving some as backward, there should rather be a choice to account for differences, which might be historical, racial or cultural. The first task is that a serious attempt should be made to decolonise the African mind, by radically transforming the curricula of schools and universities. Kebede is of the opinion that this is the only way to dissolve the stigma of backwardness and regain the freedom to define oneself in terms of one’s own historical initiatives. Le Grange concurs (2007, 583–588) and acknowledges Jegede when he pleads for a convergence towards commonality in the teaching of subjects like the sciences. He further proposes that Jegede’s theory of thinking, namely parallel, simultaneous, dependent and secured collateral learning, should be adopted. These four types of collateral learning, according to Le Grange, offer educators a framework for providing scaffolding for indigenous learners, though the different phases of science learning. His advice – that educators should also use the narrative approach in order to become cultural brokers – cuts across all learning.

It is clear that the time has come to rethink the local content of subject areas. By changing the curriculum in accordance with societal needs, we will change the way in which teaching and learning are constructed. Vilakazi (2000, 196) warns that there is an urgent need for education and development policies to be synchronised, and for a specific local curriculum with appropriate knowledge to be designed. A restructured higher education curriculum is therefore needed, where the African reality is taken seriously alongside Western ideas.

THE ROLE OF HIGHER EDUCATION IN ACHIEVING THIS GOAL OF AFRICANISATION

The role of higher education is essentially to focus on and sustain tertiary institutions. Government is, in essence, the body that funds education. Makgoba (2003, 1) states: '[It] occupies a special place in the hierarchy of any society, [as it] responds to the changing and competitive world of knowledge, values and norms for and on behalf of society. It champions and promotes the knowledge, values and ideals of that society.'

Horsthemke (2004, 573–557) avers that in order to promote Africanisation, higher education should change in terms of the following: the composition of students, the administrator bodies, the syllabus and its content, the curricula, and the criteria that determine what excellent research is. This resonates with the argument of Harber and Davies (in Le Grange 2007, 580) that we need broader approaches to effectiveness, based on a solid understanding of the 'context-specific socio-political causes of school ineffectiveness'.

Higher education has to focus on the rebirth of an African voice and identity, Africanisation should therefore be taken seriously by government, higher education institutions and – in particular – universities. Cooper (2002, 18) states that higher education institutions play a key role in the making of the African middle class, by thrusting thousands of new graduates into middle-class labour positions, but warns:

Unless new and substantial policy initiatives are embarked on in the next decade, it is likely that the new African upper-middle, and middle-middle class strata, will be faced by more and more discontent cohorts of higher education students, and the aspirant students, who face increasing difficulties entering such education channels and obtaining jobs thereafter. If the school system is improved to increase the number of matriculants in the next decade, and if the current high levels of unemployment amongst the working and other classes are maintained, a future scene could be set for substantial potential conflicts.

Horsthemke (2004, 576) comments that the present South African higher education system cannot be seen as an improvement on the apartheid era's paradigm, if it

is replaced with something that is ‘puzzling’. This is because paradigms should build on one another. Horsthemke proceeds to challenge universities to get rid of their Latin logos and exchange them for African ones. This is exactly what the University of South Africa (Unisa) did in 2005, when the academic dress, coat of arms, vision, mission and logos were all Africanised. Unisa’s new vision is to be ‘*the African University in service of humanity*’. In the *Unisa 2015 strategic plan* (Unisa 2006), an African university is defined as

one located and rooted in an African context, developing knowledge, skills, attitudes and values necessary for the development of the continent. Critical scholarship from an African perspective becomes an authentic part of the global knowledge enterprise. While African knowledge and knowledge systems mitigate the dominance of western canons, a multiplicity of voices and disciplines celebrate diversity.

All these efforts have brought a sense of unity to the Unisa staff as a whole, and also to the local community (i.e. the students, their parents and all stakeholders involved in the institution), and hopefully this also helps to create that knowledge space which was discussed earlier. Siphon Seepe (2000, 134), the principal of a local university, wished to turn his campus into ‘an African institution of high standards which will address itself to the various challenges that affect Africa’. He is of the opinion that the local tertiary system is moving at a slower pace than its global counterparts, and accepts the challenge of being responsible for the educational development of his community: ‘I want to see myself moving away from being a virtual clerk and becoming an active academic and intellectual who will guide the university’s curricular transformation, its social role and its place in the national and international landscape.’ Seepe also believes students should relate to their continent and should be exposed to local intellectuals so that they can become part of the academic debate.

The African reality should, therefore, be taken seriously in curriculum design, and knowledge, skills/competencies and values should be taught holistically, from this perspective. Indigenous knowledge should be the point of departure when designing study material. Gavin Hood’s movie, *A reasonable man*,¹ shows how difficult this is in the face of the diverse cultural backgrounds and community values prevalent in this country. The initiation ceremonies relating to becoming a man (featured in the movie) are but one of many such examples – since this custom is considered sacred, designers of study material fear entering such territory and causing offence.

Relevance also becomes an issue when researching indigenous knowledge: what is relevant in study material and what is not? Kunnie (2000, 159) observes that ‘all critical and transformative educators in the country need to embrace an indigenous African world view and root the nation’s educational paradigms

in an indigenous sociocultural epistemological framework'. Seepie (2000, 139) agrees: 'Starting with indigenous knowledge systems would encourage learners to draw on their cultural practices and daily experiences as they negotiate and grapple with new situations and unfamiliar terrain.' Although knowledge should be contextual, it should not be context-bound. 'Knowledge, correctly seen, is anchored objectively by truth, or facts, that is, by the way the world is' (Horsthemke 2004, 573). However, Van Wyk (2002, 305–307) warns that there is no narrative at the moment that is 'good for all'. He stresses that standardising a curriculum is absurd, because of this diversity and because the context of change changes almost daily. Van Wyk is of the opinion that there should be co-learning amongst the diverse student groups where an ingenious discourse is important, arguing that there is a need for learners to invent new knowledge, because everyday life stands in contrast to the academic domain.

Appiah (1992, 155) refers to the 'children of two worlds', and although he admits that people apply radical labels to one another, he adds that there is no such thing as race, and tries to address the gap between cognitive truth and reality. Le Grange (2007, 581) joins this debate by stating that '[t]he inclusion of indigenous knowledge in South African curriculum policy statements is a positive step and could provide opportunities for debate on interaction(s) between Western and indigenous world views', but he reminds us that effective learning will depend on educators' understanding of this interaction and their ability to manage this.

It is important for designers of learning experiences to understand this debate and to manage it constructively within all the materials they design, whether it be in face-to-face meetings, multimedia or study materials designed for those who learn at a distance. Here I will focus on the latter and use study materials designed at the University of South Africa as a point of departure.

DESIGNING AN AFRICANISED RICH ENVIRONMENT FOR ACTIVE LEARNING

Students studying at an open and distance institutions often feel their voices are not being heard. When they start the learning process, they have a sense of being alienated on many levels. They often study on their own, are far away from the institution, and African students usually do not have the technological resources that students in more developed parts of the world have. They generally do not know of other students studying the same modules as them, and as a rule are not in conversation with their peers or their educators. This case outlines the work done by the Directorate for Curriculum and Learning Development (DCLD) at Unisa, in its efforts to help academic departments develop quality distance education learning materials.

In order to design learning experiences for all students, but specifically those studying at a distance, one has to scrutinise the different learning theories to find a type of ‘model’ which would inform how one should design open and distance learning study materials so that they will have the necessary impact. It is important to know that a ‘model is a mental picture that helps us understand something we cannot see or experience directly’ (Dorin, Demmin and Gabel, in Mergel 1998, 2).

One should remember that the design of learning experiences in the form of study materials is a people-orientated activity that calls for creativity and innovation; it cannot be fully captured by a neat prescriptive model, just as there can never be a single model of human learning or learning theory. Dorin, Demmin and Gabel (in Mergel 1998), confirm that a theory provides a general explanation for observations made over time, it explains and predicts behaviour, can never be established beyond all doubt, may be modified and seldom has to be thrown out completely, it may be widely accepted for a long time and later be discarded.

In line with Mergel’s approach, the DCLD investigated three basic learning theories: behaviourism, cognitivism and constructivism. Briefly, behaviourism is based on observable changes in behaviour and on new behavioural patterns that are repeated until they become automatic. Cognitivism is based on the thought processes behind the behaviour. Behavioural changes are seen as indicators of what is happening inside the learner’s mind. Constructivism, on the other hand, is based on the notion that we all construct our own perspectives of the world through individual experiences and schema. Constructivism focuses on preparing the learner to solve problems in personally authentic situations.

Mergel (1998) points out ‘[c]onstructivism ... promotes a more open-ended learning experience where the methods and results of learning are not easily measured and may not be the same for each learner’. Jonassen (n.d.) lists the following advantages which emanate from the use of constructivism in instructional design: It

- provides a multiple representation of reality;
- presents authentic tasks which are contextualised;
- provides real-world case-based learning environments;
- fosters reflective practice;
- enables context- and content-dependent knowledge construction;
- supports collaborative construction of knowledge through social negotiation, but does not compete among learners for recognition.

The DCLD uses the constructivist learning theory as a point of departure or basis for much of its work, depending on what is required by the learning situation. Furthermore, the DCLD tries to construct multiple realities within authentic tasks which will hopefully encourage students to interact with, and reflect upon, the given study material. This constructivist approach forms the basis of designing rich environments in which active learning can take place.

Dunlap and Grabinger (1995), Butterfield, Wambold and Belmont (1973) as well as Bostock (1998) have summarised the literature on constructivist theory and advise, in line with the literature on Africanisation, that study material designers should plan for the following when designing:

- Student-owned study materials, where the student's voice is heard and where the student takes responsibility and initiative for his or her own learning;
- Active students busy with a learning process based on active learning theories;
- Authentic learning concepts with authentic assessments based on real-life or simulated situations; and
- Students and academics negotiating meaning.

The DCLD has considered these pointers and decided to embrace this view of creating local study materials, to ensure rich *Africanised* environments for active learning (REALs) which should

- promote study and investigation within authentic contexts;
- encourage the growth of student responsibility, initiative, decision making and intentional learning in an ODL environment;
- cultivate collaboration between students and academics, where possible;
- utilise dynamic, interdisciplinary, generative learning activities that promote higher-order thinking processes to help students develop rich and complex knowledge structures; and
- assess the student's progress in content and learning-to-learn within authentic contexts using realistic tasks and performances within the constraints of the African technological environment.

REALs provide learning activities that engage students in continuous collaborative processes of building and reshaping understanding, as a natural consequence of their experiences and interactions within learning environments that authentically reflect the world around them. In this way, REALs are a response to educational

practices that promote the development of inert knowledge, such as conventional academic-to-student knowledge-transferred activities.

The activities of a domain are framed by its culture (as discussed earlier), and their meaning and purpose are socially constructed through negotiations between present and past members. Activities thus cohere in a way that is (in theory, if not always in practice) accessible to members who move within that social framework. For collaborative interactions to allow designers to test the viability of their understandings, theories and conjectures within an authentic context, the social aspect of constructivism is indeed important at an individual as well as a cultural level.

Study material designers in the DCLD stress the importance of collaboration and social negotiation of meaning, because they believe learning happens within a social context (as discussed earlier). Conceptual growth comes from sharing perspectives and testing ideas with peers and then modifying internal representations in response to that process of negotiation. To facilitate learning in such a way that students will reach the perceived goal of learning within the constraints of Africa, designers ask questions such as: For whom are these study materials being designed? Who are the students? For whom are we curriculaing? What are their needs? How do curriculum designers construct teaching and learning according to the social aspects of constructivism? Kebede (2004, 128) suggests that further questions should be asked, such as: What can we adopt and adapt from the West? What has the West adopted from Africa? What must we reject as detrimental? How can we integrate what we borrow into our own continuities? I propose that in order to design a holistic, African-centred curriculum within a learning environment that supports values where all students belong and are able to share their opinions – even if it derives from traditional African and Western cultures – it should be collectively created. I agree with Appiah (1992, 326) that there is an urgent need for an *ethical universal* where children of two worlds can accommodate differences between them that will transcend social fragmentation and bridge those differences.

In the development of study materials at Unisa, a team approach is followed. Teams consist of authors, education consultants/instructional designers, editors and graphic artists. While this might be laudable, I believe the teams are not inclusive enough. Like Lusunzi (1998), I believe tutors should also be part of this team. However, I propose that students (new enrolments as well as graduates) should also have a say in new and revised study materials. This implies many discussions where differences can be thrashed out, and debates regarding the merit of the content can take place. It would probably be a confrontational process, as the authors would have to develop study material in a manner often

foreign to their own learning experiences and radically different from their usual teaching practice. The focus would be on the activities and on the interaction among participants that would help build a learning community.

As mentioned above, REALs can provide learning activities that engage students in continuous collaborative processes of building and reshaping understanding, as a natural consequence of their African experiences and interactions. In this way, REALs are a response to educational practices that promote the development of inert knowledge, such as conventional academic-to-student knowledge-transfer activities. Activities can thus cohere in a way that is accessible to members who move within this social framework. These coherent, meaningful and purposeful activities should be authentic and Africanised, in order to give students the opportunity to grapple with new learning experiences that are rooted in own experiences.

Study material designers at Unisa therefore stress the importance of collaboration and social negotiation of meaning. Conceptual growth comes from sharing perspectives and testing ideas with peers, and then modifying internal representations in response to that process of negotiation. However, it is important that the activities are Africanised; that the materials include African views, values (*ubuntu*) and indigenous cultures; that African examples and concepts are used to explain global concepts; and that the content is Africanised or designed from an African perspective. Although Africanisation should be a key priority in tertiary institutions in South Africa, it is still far from ideal. When I consider the literature, I think that the paradigm shift has not yet fully taken place, or those cases where this has worked are not well documented. Obviously then, these aspects should be the focus of much more research in future.

CONCLUSION

Africanisation is important for the whole African community. Not only does it give each individual who calls this continent home a sense of belonging, but it also has the potential to unify a very diverse community with diverse cultures and values. We are forced to turn to the past in order to create a unified future. The Internet has brought globalisation into the local village, and therefore we must also look at the schooling system of the past and reconsider how we can create learning experiences to bring together groups, communities, organisations and even nations by initiating conversation. We, as Africans, are all obliged to respond to this call: the students, parents, institutions, curriculum designers, academics and industry, to name but a few. Matos (2000, 18) states that, in every respect, the knowledge base of African societies is different from that of Western

societies. Makgoba (2003) agrees and asks for a comprehensive relativism where beliefs differ from society to society, and from culture to culture.

In this article I have looked at various viewpoints on an Africanised curriculum, particularly in terms of how diverse students need to be mentally liberated to conduct knowledge from multiple perspectives, in order to construct new knowledge. Mental liberation might help to deconstruct Western and indigenous concepts, which can lead to reconstructing new knowledge without hierarchy or opposition, as Le Grange (2007, 124) says: 'Deconstruction debunks Eurocentrism, and so inaugurates the authentic phase of pluralism by dismissing the antagonism between Europe and Africa.' Locally, educators need to explore Africanisation in their own territory and should try to create rich environments for active learning, which can raise worldwide awareness of the curriculum we cherish, and in doing so ultimately present a challenge to the global teaching and learning platform.

NOTE

1. *A reasonable man*: a film made and directed by a South African actor, Gavin Hood. It is a film about indigenous South African rituals, witchcraft and the laws in South Africa.

REFERENCES

- Appiah, K. W. 1992. *In my father's house*. UK: Oxford University Press.
- Bostock, S. J. 1998. Constructivism in mass higher education: A case study. *British Journal of Educational Technology* 29 (31): 225–240.
- Butterfield, E. C., C. Wambold and J. M. Belmont. 1973. On the theory and practice of improving short-term memory. *American Journal of Mental Deficiency* 77: 654–69.
- Coetzee, P. H. and A. P. J. Roux, eds. 2002. *Philosophy from Africa*. Second edition. Cape Town: Oxford University Press.
- Cooper, D. 2002. The skewed revolution: Trends in South African higher education, 1988–1998. Paper presented at a seminar, Rand Afrikaans University, Johannesburg, 16 August.
- Encyclopaedia Britannica*. 1974. Chicago: Benton.
- Grabinger, S. R. and J. C. Dunlap. 1995. Rich environments for active learning: A definition. *Association for Learning Technology Journal* 3 (2): 5–34.
- Higgs, P. 2007. Towards an indigenous African epistemology of community in higher education research. *South African Journal for Higher Education* 21 (4): 668–679.
- Horsthemke, K. 2004. Knowledge, education and the limits of Africanisation. *Journal of Philosophy of Education Society of Great Britain* 38 (4): 570–587.

- Jonassen, D. H. n.d. Thinking technology: Toward a constructivist design model. Available at: <http://ouray.cudenver.edu/~slsanfor/cnstdm.txt>. Accessed on 15 January 2009.
- Kebede, M. 2004. African development and the primacy of mental decolonisation. *Africa Development* XXIX (1). Council for Development of Social Science Research in Africa.
- Kunnie, J. 2000. Indigenous African philosophies and socio-educational transformation in 'post-apartheid' Azania. In *African voices in education*, eds. P. Higgs, N. C. G. Vakalisa, T. V. Mda and N. T. Assie-Lumumba, 158–178. Lansdowne: Juta.
- Le Grange, L. 2007. Integrating Western and indigenous knowledge systems: The basis for effective science education in South Africa. *International Review of Education* 53: 577–591.
- Lusunzi, I. S. 1998. The tutor and quality assurance in distance education workshop, Gaborone. Available at: <http://www.saide.org.za/worldbank/Managment/benefits/m43abot.htm>. Accessed on 1 November 2008.
- Makgoba, M. W. 1997. *Mokoko: The Makgoba affair – a reflection on transformation*. Florida: Vivlia.
- _____. 2003. An African vision for mergers. *Mail and Guardian supplement*, 2–8 May.
- Mangu, A. M. B. 2005. Towards the African university in service of humanity: Challenges and prospects for Africanisation at the University of South Africa. Paper for the Seminar on Africanisation organised at the University of South Africa, 3 March.
- Matos, N. 2000. The nature of learning, teaching and research in higher education in Africa. In *African voices in education*, eds. P. Higgs, N. C. G. Vakalisa, T. V. Mda and N. T. Assie-Lumumba, 12–38. Lansdowne: Juta.
- Mergel, B. 1998. FYI – an informative overview: Instructional design and learning theory. Available at: <http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm>. Accessed on 4 March 2009.
- Pioneers of Change Associates. 2006. Mapping dialogue. Available at: <http://www.pioneersofchange.net>. Accessed on 17 October 2007.
- Ramose, M. B. 1998. Foreword. In *Black perspective(s) on tertiary institutional transformation*, ed. S. Seepe. Johannesburg: Vivlia.
- Sankofa Youth Movement. n.d. Available at: <http://www.ligali.org/me2we/sankofa.htm>. Accessed on 19 June 2007.
- Seepe, S. 2000. Africanisation of knowledge: Exploring mathematical and scientific knowledge embedded in African cultural practices. In *African voices in education*, eds. P. Higgs, N. C. G. Vakalisa, T. V. Mda and N. T. Assie-Lumumba, 118–138. Lansdowne: Juta.
- University of South Africa. 2006. The Unisa 2015 strategic plan. Available at: www.unisa.ac.za. Accessed on 18 October 2007.
- Van Wyk, J. 2002. Indigenous knowledge systems: Implications for natural science and technology teaching and learning. *South African Journal of Education* 21 (4): 668–679.
- Vilakazi, H. W. 2000. The problems of education in Africa. In *African voices in education*, eds. P. Higgs, N. C. G. Vakalisa, T. V. Mda and N. T. Assie-Lumumba, 194–212. Lansdowne: Juta.