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Indigenous Knowledge Across the Curriculum in the Global South: An Epistemic and Cognitive Shifting Process

Jacob Mapara

Abstract

This chapter, partly informed by the author's experiences, argues for the inclusion of indigenous knowledge in the higher education curriculum in institutions of the Global South. It points out that despite robust debates on it, it has hardly been made part of the curricula in most institutions of the Global South; remaining more of a borderline case. The chapter further asserts that there is lip-service to the cultural diversity of humanity because as relates to knowledge generation and dissemination, the epistemologies of the formerly colonized are peripherized; in most cases not even accepted and acknowledged. One would ask why the world celebrates the diversity of human cultures but fails to embrace the diversity of the globe's knowledges yet the same cultures in their plurality are products of varied epistemologies. The chapter is therefore a call to all across the disciplines to embrace an epistemic and cognitive or thought shift by accepting that IK is important to curriculum development. It consequently has to be included through curriculum review as part of the academic diet of both instructors and learners. It further asserts that a cognitive shift is possible if there is a deliberate policy to empower faculty and students to appreciate the value of IK that is overshadowed by the epistemic lancer of the Global North that was bequeathed to the former colonies and has up to this day been retained and promoted as the only and real universal knowledge. The chapter concludes that an epistemic and thought shift is only possible if IK itself is made part of the research agenda as well as one of the research methods and methodologies.

Keywords: epistemic shift, epistemic disobedience, cognitive shifting, indigenous knowledge

Introduction

We live in a world shrouded in hypocrisy. There is reference to the need to celebrate the diversity of humanity's cultures, but when it comes to knowledge generation and dissemination, the epistemologies of the formerly colonized are always peripherized and in most cases not even accepted and acknowledged (Hammersmith, 2007; Mawere 2012; Angelsupport, 2016). One would ask: Why does the world even bother to celebrate the diversity of human cultures but fails to embrace the diversity of the world's knowledges yet the same cultures in their plurality are products of an assortment of epistemologies? Even though it is also true that colonialism has always been part of human history, the reality is that its effects vary from mild to extreme. For instance, the country that was at one time the globe's biggest imperial and colonial power, Britain was at one time itself a Roman colony. One of the world's biggest colonial powers in terms of cultural and political hegemony is the United States of America, which itself is a former British colony. Through the colonial enterprise, what the United States and other countries in the West (the Euro-American axis) have done is to embark on an epistemological dismemberment of indigenous ways of being and knowing by way of ignoring and demonizing other epistemologies which they have stealthily harvested and repackaged as their own (Kumar, 2019; Mukuka, 2010; Barsh, 2001). What is also worth noting as regards colonialism is that there are two types of colonialism that I will term benevolent and virulent or malevolent. The benevolent type of colonialism is like that which Britain itself was subjected to as part of the Roman Empire when it was occupied by Rome from 43 CE to 410 BCE (Salway, 2015). While the Romans as in all colonial cases were outsiders, they were not as brutal as the colonialists who were to, later on, occupy Africa and some parts of Asia and the Pacific later, neither were they as vicious as the European colonists in the Americas who went on to decimate local and indigenous communities. With the benefit of hindsight, it can be observed that the European colonization of other lands was never for purposes of trade but effective occupation and dispossession coupled with genocide where possible. It is this type of malevolent colonialism that was visited upon Africa, among other continents.

Colonialism, as practised in Africa, resulted in genocide as witnessed in the Belgian Congo also known as Leopold's Congo (Hochschild, 1999; Nzongola-Ntalaja, 2002; Reybrouck, 2014) and in

Namibia (then German South-West Africa) where the Germans committed the first genocide of the twentieth century (Baer, 2017). This genocide was a result of the othering of the colonized as non-humans or at best as sub-humans who needed the light of Christianity and Western education to catch up with their European brothers and sisters who perceived themselves as superior and more advanced, a cancer that has persisted to this day as the policing of Afro-Americans in the United States reveals (Hattery & Smith, 2018). Even though colonialism is said to have ended with the attainment of political independence, colonialism and Christianity have continued to shape and give direction to the lives of the formerly colonized. Informed by decoloniality, this chapter thus argues that while physical colonialism has ended, a new and more virulent type of colonialism (neo-colonialism) persists and it has led to the death of most indigenous communities not in the physical sense but spiritually and culturally in a form of genocide that Merhag (2006) calls identicide because of physical and intellectual relocations (Merhag, 2001). Identicide is the premeditated and intentional as well as planned and well-executed, systematic and targeted annihilation of the spaces, symbols, objects related to material culture, comprising of ideas, values and aesthetics, and other cultural property, both tangible and intangible that is accepted and held to represent the identity of a people. This is done with the deliberate aim to erase and obliterate their cultural presence and narrative. It is also carried out to demoralize a particular population; assimilate it into a different cultural/political verity, or to entirely purge an area of those people (Merhag, 2001; 2003; 2006). In light of Merhag's observations, it can be noted that deliberate epistemic violence was meted out and continues to be inflicted on the formerly colonized of the Global South and the result is an epistemicide where the knowledges of the latter are considered as non-knowledge and that of the Global North is embraced as the real knowledge and the only one that is to be acknowledged as universal/global. This Euro-American epistemological hegemony smacks of arrogance and racism because the reality is that Africa, besides other formerly colonized communities, has "local cultural knowings as legitimate sources of knowledge" and it is thus imperative to acknowledge and "recognize African peoples as producers and creators of knowledge" (Emeagwali & Sefa Dei, 2014, p. ix). It is this deliberate refrain from recognizing indigenous knowledges that has caused the brutal purging and exclusion of IK from all curricula, where at best it has

been embraced as pseudoscience (De Beer & Van Wyk, 2019; Shizha, 2014).

Through an epistemic and cognitive shift, the formerly colonized people right the deficient ways through which the West had defined them through a deliberate act of seeking self-determination. This very act of seeking self-determination becomes an imperative that allows them to "discover and recover their IK and sense of self, mourn the pain inflicted upon them by colonisation, etc" (Le Grange, 2019, p. 29; Mudaly, 2018). Such an act of recovery and redress through the inclusion of IK in the curriculum is important because it is in addition a restoration of the indigenous people's lost dignities (Mawere, 2012; Balfour, 2019).

In the context of this chapter, indigenous communities have to develop their local epistemologies and raise them to a level that is equal if not better to that of the West and also being guided by these knowledge forms at all levels of education, but more specifically in higher education and training where there is need for different epistemologies to engage, with African ones being made more visible (Abidogun, 2020), and thus most examples will be drawn from Zimbabwe. The higher education curriculum can for that reason benefit if the indigenous communities are allowed through engagement for an inclusive curriculum to rediscover and recover from the effects of colonialism by being given space to reclaim their culture and identity (Mudaly, 2018; Shizha, 2014; Mawere, 2012). They should also be given room to grieve over their unrelenting oppression that is perpetuated through the university curriculum. An epistemic shift is therefore attainable if they are allowed to dream and re-imagine an alternative university curriculum that is impregnated with their IK (Mudaly, 2018). Worth noting, however, is the fact that there is a need for commitment towards raising awareness on ensuring that voices of these marginalized people are not muted by the powerful such as academics and politicians; but should practically take bold and concrete steps that will be reflective of the value of their IKs (Mudaly, 2018).

Given the fact that indigenous epistemologies are grounded in indigenous knowledge (IK), it is important to first of all discuss what IK is as well as its value as both theory and practice. The chapter then goes on to discuss how as theory and practice IK informs epistemic and cognitive shifts and how these alterations can be effected through the proffering of some examples, in selected curriculum areas.

What is IK?

The word indigenous knowledge designates a structured and well thought out body of knowledge that is a cherished acquisition of a local or indigenous community of a given region that is brought about by a building up or accrual of skills and practices. These come from informal experiments and close appreciation of the surroundings in a given culture. Although the expression 'indigenous' is considered by some as a controversial one (Smith, 2012), it is used in this context to refer to the original residents of a given geographical area and who in a historical sense have not come from elsewhere. Within the framework of global politics, all people who have moved to other continents from somewhere else cannot be called indigenous. For example, those of European and Arab extract cannot be said to be indigenous to Africa, even though we now have Arabs being the dominant ones in most of North Africa and being members of the African Union. The Arabs conquered North Africa which was populated by the Amazigh among other indigenous communities from as late as around 700 AD (Arauna et al, 2017; El Aissati, 2005; Ilahiane, 2006) and embarked on among other atrocities, slavery, a practice that has persisted to this day (Dudley, 2008; ILO, 2017). On the other hand, the so-called modern and Western knowledge is awareness and understanding that is largely generated in laboratories through formalized ways of education and research although it is also tempered with racial perceptions, especially on matters relating to racial superiority through singularly regarding Western knowledge as the only genuine one.

Indigenous knowledge is significant when it comes to engagements with decoloniality and the decolonization of the curriculum. It percolates into decolonial theories as much as it feeds the practice of decolonizing the higher education curriculum. As part of the decolonial theory, it highlights the fact that knowledge is not generated from one area or a product of one race but underscores the fact that there are many knowledges and these need to be tapped into for the benefit of humanity.

IK in reality consequently becomes a general principle or body of principles that can be used to explain epistemologies of the Global South that have sustained communities for long (Gumbo, 2015) and accordingly qualify to be incorporated into theoretical frameworks as illuminators that make inclusion into curriculum matters clearer. IK is as well important in that it helps shed some light on how an

epistemic shift can be attained in the higher education sector when it comes to the utilization and implementation of IK as part of academic practice across the disciplines (De Beer, 2019; Sefa Dei, 2014; Shizha, 2014; Mudaly, 2018).

IK can be applied to curriculum design and implementation including areas such as methods and methodologies in instruction and research (Smith & Webber, 2019; Johnson & Nelson-Barber, 2019). The adoption and use of IK in curriculum design and even amelioration is of course only possible if there is a deliberate cognitive shifting on the part of the curriculum planners and designers and to a lesser extent on the part of the consumers, especially parents and guardians of learners (De Beer, 2019; Mawere, 2012).

Cognitive shifting

The significance and meaning of critical and reflective thinking is anchored on cognitive shifting which is the psychological and intellectual process of wilfully redirecting one's concentration from one fixation and obsession to a different one that an individual considers of great value to him/her. On the contrary, if this course of action occurred instinctively, then it is referred to as task switching. Cognitive shifting and task switching are both forms of cognitive flexibility (Cools, 2015) and both are critical when it comes to responding to curriculum issues that are discussed in this chapter. Cognitive shifting or thought shifting can also be called a mind shift which is a change of focus and insight. It has the potential to help those who undergo it to develop new insights that can be groundbreaking and that can impact not just perceptions but also the way people do things and act in given circumstances, especially in an environment where internationalization is taking root in universities and may result in the mere whitewashing of the curriculum (Du Preez, 2018; Le Grange, Du Preez, Ramrathan & Blignaut, 2020). A good example of a mind shift is the epistemic shift that Freire (1972) underwent when he developed his thoughts on education and praxis. Successful cognitive shifting is essential if the higher education curriculum is to be effectively decolonized, deconstructed and reconstructed. Linked to the idea and significance of cognitive shifting is that of an epistemic shift (Emeagwali & Shizha, 2016).

Epistemic shift

Ndlovu-Gatsheni (2013) laments the fact that Africa, despite her being the cradle of humankind is still entrapped in the "global matrices of power underpinned by Eurocentrism and coloniality" (p. 332). He further posits that notwithstanding the reality that Africans have initiated some of the most protracted and heroic anti-slavery and anti-colonial struggles, the tragedy has always been that in most cases these resistance movements have been underpinned by terminology that was shaped and given direction by the pervasive logic of modernity and coloniality that effectively turned these struggles into emancipatory and reformist forces rather than revolutionary and anti-systemic movements. The result was and has been that decolonization as a people's revolutionary project died. Ndlovu-Gatsheni is thus calling for the decolonization struggle to be picked up by the formerly colonized, and he sees the higher education curriculum as one of the spaces where engagement with colonialism has to take place, and this can be possible through an epistemic shift or disobedience.

The idea of an epistemic shift is informed by Aníbal Quijano's (2000) notion of the "colonial matrix of power" and the contestation of Santiago Castro-Gómez's (2005) unilateral knowledge production. The underlying conception is that the formerly colonized world is still in the grip of colonial hegemony which is perpetuated through Western educational models that have placed Western knowledge on the world platform and have promoted it as universal which in reality is not the case, largely so when there are unintended (to the colonized) consequences of the alienation of the self from relatives and practices as noted by Ezeanya-Esiobu (2019). What thence comes out is that through the inherited colonial education systems, colonialism has been placed in a self-sustaining mode that is further fed into by scholarships and exchange programmes that are funded by Western institutions and governments. Mignolo (2009) also comments on the non-neutrality of Western education positing on its biases towards the Global North as the bastion of knowledge. He points out that there was once a time when scholars assumed that knowledge is neutral and is untainted by the geopolitical configurations of the world. This, however, is a fallacy in a world where people are racially ranked and profiled with the regions where they come from also racially configured (Hattery & Smith, 2018). This observation speaks to the need for an epistemic shift. This

necessity for an epistemic shift and delinking from the colonial matrix of power is amplified when Noda (2020, 2007, p. 1) observes "Western intellectual colonisation plays a deciding role in the development of the discipline, which is reflected not only on what is considered proper knowledge, but also in what is published". These words underscore the grip that Western hegemony has in gate-keeping as well as in promoting and entrenching Western epistemology. It is worth noting that Western intellectual colonization decides on what is acceptable and not acceptable in a world that is supposed to embrace globalization. It therefore turns out that globalization is nothing other than the westernization of the world through a different name. What it, thus, means is that there is a need for the formerly colonized to shift and not necessarily move away from western epistemologies but develop new ones that are informed by indigenous knowledge and also the best that comes out of the West. This is because Western epistemology has not been friendly to the formerly colonized. The need to treat Western epistemologies with suspicion is affirmed by the Shona proverb, "*Chabva kumwe bata nemushonga* (That which has been brought from elsewhere has to be sanitized first before it is handled) (Mapara & Mpofu-Hamadziripi, 2014, p. 172).

Situated within the discourse of decoloniality, epistemic shift proposes delinking through what Mignolo (2007) also calls "epistemic disobedience" whose aim is of course to contest the colonial matrix of power. The core thrust that this argument presents is that epistemic disobedience or defiance is important because it as is highlighted by Noda (2020), interrogates the hegemony of the West over knowledge production and the labelling of Western epistemic values as universal. The idea behind epistemic disobedience which is a more militant version of epistemic shift is to, however, not to delegitimize the Western knowledge forms that are grounded in the Judaeo-Christian heritage coupled with Latin and Greek traditions, but to question why they should be accepted and peddled as the only forms of knowledge that matter and as the only ones on which humanity can develop and prosper (Mignolo, 2007).

As can be realized in the foregoing paragraph, the call for an epistemic shift/disobedience is anchored as Mignolo notes, on the need to move away from Euro-centred thoughts, that are "ingrained in Greek and Latin categories of thoughts and the experiences and subjectivities formed from that foundation, both theological and secular" (Mignolo, 2007. p. 12). The problem of depending on a

Eurocentric epistemology is that thinkers are largely bound to evolve around the thoughts of the canonized scholars of Western thought and philosophy like Freud and Lacan such that scholars like Mignolo who may have radical views:

> won't be able to transgress the limits of Marxism, the limits of Freudism and Lacanism, the limits of Foucauldianism; or the limits of the Frankfurt School, including such a superb thinker grounded in Jewish history and German language like Walter Benjamin (Mignolo, 2007, p. 12).

In the words above, Mignolo is emphasizing the need for embracing knowledge and thinking that come from other traditions and calls upon the world to remove the cloak of Euro-centrism and embrace a truly universal one, where even thoughts and epistemologies from the Global South become part and parcel of the ingredients that contribute to what may genuinely become universal knowledge. In fact, through echoing Mignolo (2010) and Quijano (2000), some African scholars like Ezeanya-Esiobu (2019) argue for the indigenization of the curriculum.

An epistemic shift or disobedience does not, therefore, entail jettisoning all Western knowledge. It is just a negotiation for all knowledge forms to be accepted as knowledge that can empower communities and can inform innovation, creativity and development. It is in light of this that Mignolo pleads to be understood as one who is "affirming the co-existence of de-colonial thinking" (p. 12) which should thus not mean that he is in any way "delegitimizing European critical thoughts or post-colonial thoughts grounded in Lacan, Foucault and Derrida." Mignolo with reference to Lacan, Foucault and Derrida buttresses his argument on the need for epistemic disobedience by declaring:

> I have the impression that intellectuals of post-modern and Marxist bent take as an offence when the above-mentioned author, and other similar, are not revered as believers do with sacred texts. *This is precisely why I am arguing here for the de-colonial option as epistemic disobedience* (Mignolo, 2007, p. 12).

The fact that he has the last words italicized speaks to the importance that he is placing on the need for us to take the best out of both epistemologies. The idea is not to be hypnotized by only one form of knowledge but to critically analyse each and come up with

the best options that can inform institutional curriculum development. This, as a result, calls not only for an epistemic shift or disobedience but also for cognitive shifting especially on the part of responsible authorities and academics in institutions of higher learning. They naturally have to bear in mind the diversity that colours our varied heritages. They should not be forced to only depend on Western informed epistemologies that are a product of one heritage, but should also look at what can be retrieved or salvaged from the heritages of the formerly colonized who through western education and Christianity have almost been spiritually and intellectually been exterminated from the face of the earth in a systematic but deliberate identicide (Merhag, 2001; 2003; 2006).

IK in and across the disciplines

Our major problem is that when guns for the liberation war fell silent we celebrated victories which in reality have turned out to be pyrrhic. After investing so much of our youths, we went ahead and entrenched ourselves in the education system of the former colonizer and even expanded it. The result of such an education is that we have a lot of people who are devoid of *ubuntu*, a people that are but the walking dead. We are physically alive but spiritually and morally dead. We act to the stimulus of Western capitalism and its cannibalistic culture and perceive and accept such a culture as progressive and civilized.

A successful epistemic shift is only possible if we learn from our histories. We first have to interrogate who the writers of our history are (Smith, 2012). In addition, through rediscovering our history, we need to rediscover ourselves as well. Most, if not all see our history as having come into being with the advent of colonialism. This sad reality was also peddled by white racist scholars like Trevor-Roper who asserted that there was no African history other than the history of the presence of the white man in Africa. He even declared that Africa was not part of the world and had nothing to exhibit (Trevor-Roper, 1964; Poulsen, 1981). Trevor-Roper's racist rants are not new because effectively what Europe has written about Africa has been about her being backward and as a geographical space that Europe discovered and brought to life. Most of what European historians, adventurers-cum-anthropologists and missionaries have written about Africa is negative. For instance, most European writers tend to present Tshaka, the founder of the Zulu nation in South Africa as

a brutal savage, which is not true (Wylie, 2006). Interestingly western scholars present marauding warlords like Alexander the Great in positive light despite the carnage they caused (Bowden, 2014; Freeman, 2011). Surprisingly, the same writers present the likes of ruthless and brutal European warlords such as Hitler and Rhodes, among others, as gallantry, fearless and visionary.

The problem with the current education curriculum is that it is driven and further improved on by people who have taken bucketfuls from a poisoned mega chalice. This education has caused us not to embrace histories of our own like Tshaka as discussed above, and even accept that he was a savage. Very few among most people in Africa have ever questioned what the so-called Great Alexander did (Rodney, 2011). He is presented to most Africans as great and that descriptor sticks. The same is true of one of the most brutal people in the history of the Caribbeans, Christopher Columbus who is labelled as a thief, mass-murderer and slave trader (Tinker & Freeland, 2008). What the history that is taught in our schools today, just like any other discipline, does is to place Europe at the centre of the global knowledge production machine (Akena, 2012).

What the argument that Mignolo (2012) and others like Ndlovu-Gatsheni (2014), Castro-Gomez (2005), Quijano (2000), Noda (2020), Shizha (2014), De Beer (2019) and Ezeanya-Esiobu (2019) present boils down to is the bringing on board of other epistemologies, which are effectively and largely indigenous ones. It is also a generally accepted fact that most, if not all epistemologies of the formerly colonized are found in their indigenous knowledges, whether they are the First Nations in North America, Latin America or the Occident. The same is true when it comes to the formerly colonized of the African continent. The first step towards a successful epistemic shift is cognitive shifting and this is only possible through intrinsic motivation and self-determination. One has to have it in him or her to accept that an epistemic shift on curriculum matters is possible by learning from even the history of the former colonial powers themselves. A look at Western systems of education shows that despite the similarities that exist between them, they are in some ways different in the way they are modelled and implemented. They are also each informed by the philosophies that are on the firmament of their cultures. This is what Africa needs to do. She needs to develop curricula that are informed by African values especially the philosophy of *ubuntu* and the umbrella practices that are enshrined in IK. However, these values can become

entrenched if we know what a curriculum is, as well as its importance in the teaching-learning engagements as well as in the broader scope of world epistemologies. It is important to point out here that the idea is not to completely jettison what Africa has inherited from the West, but that we should embellish what is already there with indigenous knowledge (Samuel, 2017). This embellishment is what is also discussed in this chapter. As efforts are made to decolonize the curriculum, members need to bear in mind that:

> Decoloniality, without a doubt, is also contextual, relational, practice-based, and lived. In addition, it is intellectually, spiritually, emotionally, and existentially entangled and interwoven. The concern of this part I then is with the ongoing processes and practices, pedagogies and paths, projects and propositions that build, cultivate, enable, and engender decoloniality, this understood as a praxis – as a walking, asking, reflecting, analyzing, theorizing, and auctioning – in continuous movement, contention, relation, and formation (Walsh, 2018, p. 19).

These words are important because they emphasize and draw attention to the actuality that higher education and education in general as well as the knowledge that is imparted through them is not neutral. What the above words also underscore is the idea that as higher education faculty members in the Global South prepare their curriculum and teaching material, they have to be alive to the fact that they operate in an environment where the "hierarchical structures of race, gender, heteropatriarchy, and class" (Walsh, 2018, p. 17) are entrenched. These persistently control among other issues people's lives as well as determining what constitutes knowledge, spirituality, and thought and ultimately determine even how knowledge, as regards these, is constructed and imparted.

Politics of the curriculum and effects on society

While in dictionaries, the term *curriculum* is habitually defined as the courses offered by a school or college; it is worth noting that it is infrequently used in such a general sense in schools and colleges. When used by education practitioners, the word curriculum refers to the lessons and academic content that is taught in a school or a particular course or program. To educators, the term 'curriculum' usually refers to the knowledge and skills that students are expected to learn in most cases in a given timeframe, which today is now measured in hours (hence credit hours). The curriculum thus includes

the learning principles/values or learning objectives that the learners are expected to meet. It also includes the units and lessons that teachers teach; the assignments and projects given to students; the books, materials, videos, presentations, and readings used in a course. In the end, a curriculum should provide room for tests, assessments, and other methods that are accepted as appropriate that are used to evaluate student learning (https://www.edglossary.org/curriculum/). While these words are critical, they fall short in that they do not state the politics that come into play in matters relating to what goes into a curriculum and why this is so. It, therefore, means that no curriculum is innocent. Every learning program is a product that is shaped by the interests of its developers, not the consumers of the intended learning. What is sad is also the reality that most scholars whose texts are given in reading lists in most universities in Africa are not only the main drivers of Western cultural elements but are also largely European and male whose agenda is the domination of the world, especially sub-Saharan Africa.

A curriculum has to be understood as a product of politics (Levin, 2007). In the case of the former colonized, their curriculum is about the power and hegemony of the Global North. Since politics is about power, it is safe to conclude that a curriculum is what the powerful design for those without power to learn. This reality about politics as the exercise of power by those who wield it makes Tinder's words quite apt when she describes a political system as "a set of arrangements by which some people dominate others" (1991, p. 162). The sad reality that is carried in these words is replicated in African universities where the knowledge that is taught, assessed and approved is not that which is empowering but that which makes institutions of higher education of the Global South to be producers of labour for capitalist enterprises that are dotted across the globe. It is an education that does not empower, as it leads to what is generally called a brain drain (Falola, 2020). What is also very bad about the curriculum that is implemented is that it does not acknowledge indigenous knowledge; neither does it acknowledge indigenous peoples' achievement through, for instance, the appropriation of indigenous knowledge for areas like the sciences (De Beer, 2019; Le Grange, 2019). The effect of the non-acknowledgement of IK has uprooted the formerly colonized from their base and as a result they ape the West, but the West itself does not embrace them. This is very clear if cases of White police officers shooting and killing African

Americans in the United States and other western countries are anything to go by. Closer home is the case of xenophobia in South Africa. All victims of this Black-on-black violence are fellow Africans. The South African case is a manifestation of how the Black person has been educated to hate him/herself (Crush, 2020). The results are not just about people who do not embrace their knowledge systems but also of people who have come to hate themselves such that they even bleach their skins to get closer to being white. For an effective epistemic shift as well as cognitive shifting's success there is need to revisit the curricula that are offered in our tertiary institutions and incorporate indigenous knowledge and values so that the products who come out of such institutions are Africans not just in colour but also in thought and focus. It is therefore important that IK be taught across the curriculum. This, of course, does not mean throwing away what the West has bequeathed to us. There is a need to pick the good that is in the western-inspired curricula. This has to be combined with what comes from IK.

Indigenizing the higher education curriculum: some examples

The indigenization of the higher education curriculum is only possible if there is a willingness and a deliberate epistemic and cognitive shift on the part of the curriculum planners as well as implementers. This in actuality is what is proposed by Mbah, Johnson and Chipindi (2021) when they state that there is need for engaged universities that play important roles that relate to regional realities through the legitimation of indigenous knowledge systems, and their institutionalization. They further state that the inclusion of indigenous knowledge is essential for sustainable development utilizing a context and culture propelled contrivance. There, of course, has to be political will and a willingness to take a lead through the engagement of key stakeholders. This is possible if the key stakeholders feel that they are part of the shift and not outsiders. This has the effect of creating a sense of ownership of the curriculum. Other stakeholders like industries and other business and commerce actors need to be also brought on board.

In light of what is presented in the foregoing paragraph, what African universities such as those in Zimbabwe, as well as those of other countries in the Global South that are in the same predicament with African countries need to come up with curricula that place value on the subjugated as well as marginalized knowledge of the

formerly colonized. The curricula should therefore place value on indigenous knowledge "not only for the culture that produced it but also for people from different cultures" (Kincheloe & Steinberg, 2008, p. 149). The advantage of being all-embracing lies in the fact that the relevance of what is taught and studied is material that most students, if not all can easily relate to. For Africa, there is a need to also learn from what has been appropriated from her as well as what global capitalism has in addition stolen from other cultures and made it global, but from a different axis. More importantly, however, is the need to include IK into the current university curricula and some studies have proven that this is possible (Pedzisai & Tsvere, 2019).

It is important to look at the value of indigenous ways of imparting knowledge like folktales and storytelling in some, if not all disciplines that are offered by institutions of higher education and training. For example, what is the value of the appropriated African folktales in *The Lion King* to the corporate world in terms of boardroom politics and management? What about to political scientists as regards building consensus and democracy? Naturally, such stories have a bearing to those whose critical thinking skills are well developed. Today we live in a world where some query the value of the humanities in a world that is said to be highly technologized. Those who query the value of humanities or IK fail to realize that technology is more than ICT whose focus is largely on communication. If our stories, religions, myths and legends were not important, one would ask why the US's NASA would name one of the largest craters on the dwarf planet Ceres Chaminuka. Chaminuka was the spirit that possessed one Pasipamire before what is today Zimbabwe was colonized by the British South Africa Company that Queen Victoria had granted a charter to occupy the land north of the Limpopo. He is one of the major supra-territorial and supra-tribal spirits of Zimbabwe (Auret, 2007; Chivaura, 2009). While to some this may appear to be just a naming case, the reality is that the western world and its curricula demonizes the formerly colonized's religions and spiritual leanings, and later misappropriate them (Kumar, 2019; Nayak, 2019). In the paragraphs that follow below, the chapter discusses examples of disciplines offered in Zimbabwean universities that can be indigenized; in other words, that can easily have indigenous knowledge elements incorporated as part of the curriculum.

The foregoing paragraph makes manifest the reality about what indigenous knowledge can contribute to in terms of global

knowledges as well as belief systems as embodied in legends from other regions, and not just from the Global North. Maybe one important question to ask when it comes to programmes of study is: What can a logistics company learn from Indigenous weather forecasting knowledge whether at management or driver level? (Pedzisai & Tsvere, 2019). Outside the issue of myths, legends and the study of celestial bodies and other forms that are in outer space, it can be realized that indigenous ways of life can contribute to other areas such as logistics. Research by Pedzisai and Tsvere (2019) has, for instance, shown the value of indigenous knowledge when it comes to academic disciplines like Supply Chain Management. The duo point out that there is a lot, for instance, that a logistics company can learn from indigenous weather forecasting knowledge. They argue that it is important for employees, especially drivers to be aware of indigenous ways of weather forecasting that are informed by the flora and fauna of their areas of operation. They point out that this knowledge will minimize their chances of, for instance, getting stuck on slippery and muddy roads in some of the areas they would have gone to make deliveries.

With the focus still on Supply Chain Management and the value of indigenizing the existing curricula in universities and other higher education institutions, we realize that it pays to incorporate matters relating to relationships as is realized when it comes to the logistical landscape that relates to most rural businesses, especially as observed in Zimbabwe. What was noted in a study by Mapara and Saidi (2019) was that relationships play a significant role in the supply chain system for most rural businesspersons. Community relationships glued together by *ubuntu* and anchored on practices such as recognition of the value of totems (*mitupo*) place people on a relationship plane that makes some, for example, sons, daughters or even nephew/nieces (*vazukuru/abazukulu*). In such roles, it is relationships that are valued more than money and one who may have space in his vehicle, especially a truck can carry the supplies for a relative who runs a rural business just for money for a 'drink'. This does not mean that businesses do not need the money, but costs for transporting goods, for instance, from a faraway place are minimized and in some cases eliminated. Naturally, it is also essential for curriculum planners to look not just at who brings materials but also at consumers in terms of the use of either cash or other means like labour supply or barter for goods (Mapara & Saidi, 2019).

Echoing the suggestion of Pedzisai and Tsvere (2019) as well as Mapara and Saidi (2019), though with a focus on STEM subjects and in the South African context, Mudaly (2018, p. 52), states:

> To address the epistemic violence that the colonial education canon inflicts on students, I sought a new orientation to teaching and learning. This was achieved by re-appropriating IK and requesting support from an IK expert to teach part of the module.

These words are important because they underscore the veracity that lies in the values of indigenous knowledges in the creation and development of appropriate higher education curricula as part of the decolonial movement.

Another discipline that can benefit a lot from a deliberate cognitive and epistemic shift when it comes to the indigenization of the curriculum is Agriculture (Ponge, 2013). IK can contribute in the areas such as land use, seed identification and preservation as well as crop harvesting and post-harvest technology, especially in the context of improving livelihoods and food security in communities (Kuyu & Bereka, 2020; Masarirambi, Mavuso, Songwe, Nkambule & Mhazo, 2010). For indigenous communities, land use patterns are dictated by knowledge of local ecology and cultural systems such as belief systems. One way in which the Shona managed and prevented stream bank cultivation was the conversion of stream banks into burial grounds for still borne children as well as those who died before they were three or four years old. To promote this practice, a taboo which stated that if such children were not interred on stream banks, the mother's womb would become dry was used as the propellant. What the proscription meant was that the woman who would have lost her child would never give birth again if her child was buried on ground that was designated as for adults or children from five and above. The effect of this interdiction was that no one wanted to cultivate areas that were not just designated as burial ground for the very young and still-borne but also because of the fear that all stream banks are living burial areas.

The curricula should also promote teaching and research on the importance of indigenous farmers identifying and developing their seeds instead of buying hybrid ones, in the process promoting seed sovereignty, a situation where farmers are not dependent on multinational companies like Monsanto (Petersen, 2014). Although hybrid seeds are said to give better yields, in most economies of former colonies, most farmers cannot afford to always buy seeds for

each cropping season because of financial incapacitation (Ezeanya-Esiobu, 2019). The other disadvantage of relying on hybrid and GMO seeds is that they are less nutritious and less tasty. This means that while they may be filling, they are not necessarily good for consumers' health.

Some elements that are indigenous and that have to be included in developing a curriculum that contributes to sustainable livelihoods and food security include those that focus on the value of the cooperative principle. In Zimbabwe, this can be found in activities like work parties (*humwe/majangano*) where people come together and work on a particular person's fields (Payn, 2012; Siambombe, Mutale & Muzingili, 2018). This is repeated as they move on to the next person's and so on. The cooperative principle also works when it comes to the type of seed to grow as well as when to plant so that people can share the burden of pests and not have one farmer becoming a victim. In addition, the same principle can be extended to working on practices like *zunde ramambo* (the chief's field) where community members either go and work on a given day in a field that is said to be the chief's but in reality is a grain reserve that is kept under the traditional leader's custody for the benefit of widows and orphans. Today, some have modified this method and now allow members to make contributions from their harvests instead of going to that specific field. Emphasis should be placed on the value of such practices to food security and sustainable livelihoods.

Several other indigenous practices can be brought on board to indigenize the higher education curriculum especially in Agriculture and Sustainable Livelihoods programmes. One of such practices is agroforestry which involves the planned and intentional maintenance and planting of trees in a given area for purposes of developing a microclimate that contributes to the protection of crops against weather extremes and also helps in reducing poverty (Nair & Garrity, 2012). By blending agricultural and forestry methods, this helps to control among other elements temperature and sunlight exposure (Liu, Yao, Wang & Liu, 2019; Rosati, Borek & Canali, 2020). The same practice helps to make available a variety of products such as food, firewood and medicine. It also contributes to the improvement of soil quality, reducing erosion, and storing carbon (Perroni, 2017).

Another important indigenous practice that contributes to food security worth incorporating into the higher education curriculum is that of crop rotation which has been in use for millennia and is still in use today in many African communities. Through this technique,

farmers grow diverse crops on the same piece of land so that no plot has the same produce planted in consecutive seasons (Hamed, Fouda & Emara, 2019). Crop rotation contributes to the preservation of the productive capability of the soil (Woźniak, 2019). It also contributes to pest and disease control which increases the chances of reduction in the use of chemical herbicides and pesticides (Woźniak, 2019).

Other indigenous methods that have been marginalized but are significant in their contribution to food security, and have to be included as part of the higher education Agriculture curriculum are mixed cropping and polyculture. Also known as intercropping, mixed cropping is when farmers sow more than two crops at the same time on the same piece of land (Perroni, 2017). Through planting multiple crops, farmers make the most of land use at the same time reducing the risks associated with single crop failure. Intercropping also creates biodiversity, which attracts a variety of beneficial and predatory insects that reduce pests and increase soil organic matter, decontaminate the soil (Perroni, 2017). They, in addition, suppress weed growth while some of the weeds are harvested as vegetables that can be used later after being dried when the wet season is over (Altieri, 1995). Polyculture is related to intercropping but the two are not the same. It is a system that involves growing several plants of different varieties in the same area, often in a manner that emulates nature (Dewar, 2007). There is an advantage in increasing plant biodiversity because polyculture as a practice promotes diet diversity in local communities and also makes them more adaptable to climate inconsistency and severe weather occurrences (Dewar, 2007; Perroni, 2017). Like mixed cropping, it contributes to more resilience to pests and diseases. Polyculture additionally contributes to better soil quality, less soil erosion, and more stable yields when compared to monoculture systems that are a product of Euro-American agricultural practices.

In the areas of Agriculture, Environmental Engineering and Food Science Technology, there is a lot that the curriculum can benefit when it comes to the incorporation of IK. One widespread practice that indigenous communities in Zimbabwe follow is to collect organic waste that is scattered around the homestead to create composites. This organic waste includes cow dung that is not dropped in cattle pens as well as dead leaves of certain trees that quickly decompose. The manure that comes from such composites is used in the rainy season to feed crops. It is interesting to observe that this practice appears widespread because according to Ajibade

(2007) organic wastes from food, farmland, animal faeces, dead plants and animals is put in a container with some water, then stirred and left for some time to decompose and later used as manure.

What is as well important to take note of is the fact that in pre-colonial Africa, and specifically Zimbabwe, iron was an important commodity that was used even in marriage as a form of currency. Another important mineral was copper (known in Shona as *mhangura*). When axes and hoes got worn out they were never thrown away but were re-forged as new smaller hoes and battles axes. Some were re-fashioned into knives and razor blades, a practice that was not peculiar to the Bantu of Zimbabwe, but something that is still being done by the Veps in the Russian Federation as well as some communities in Kano, northern Nigeria (Siragusa & Arzyutov, 2020; Ajibade, 2007). In some instances, they were remade into arrows and spear weights. Like copper, it was turned into bangles that were commonly referred to as *ndarira* that were worn on ankles or as amulets. In the area of food science, the conversion of leftovers like *sadza* into *mahewu* is meant to minimize loss. It is also part of indigenous green skills that contribute to a less polluted and dirty environment.

Another area that needs serious attention is that relating to legal education. There are areas that from an indigenous perspective point to the western models of legal dispensation as vindictive and not rehabilitative. There is for instance the issue of restorative justice and restitution (Mekonnen, 2010). While the indigenous legal frame allows for restitution and rehabilitation of the offender, the western system requires that the complainant goes to the courts for restitution even after a case has been tried. This makes it clear that the system then is some form of penal approach that focuses on the state as a collective and not at the wronged part.

Conclusion

This chapter has, through examples, shown the feasibility of an epistemic and cognitive shift in higher education. It has argued a case for the inclusion of indigenous knowledge into the higher education curriculum and has further pointed out that the peripherization of indigenous knowledge has led to the self-sustaining character of colonialism which has denigrated other knowledge forms. The chapter has gone on to further argue that by embracing the same western education that has alienated them, the indigenous

communities contribute not just to the dismemberment of their knowledge but also their dislocation and death as specific groups of people. Through highlighting the importance of cognitive shifting, the chapter has argued that an epistemic shift is only possible if there is a deliberate shift in the way the curriculum is constructed and implemented. Additionally, the chapter has given examples of disciplines where IK can be incorporated so that matters relating to this form of knowledge are brought to life in the lecture room as well as in research. The areas that it has focused as examples are Agriculture, Environmental Engineering, legal education and Sustainable Development and Livelihoods.

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