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To whom it may concern

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Introduction: Curriculum Theory and Theorising in Unstable Times in African Higher Education

Kehdinga George Fomunyam

Chapter 1: Quality Education for What, How, Who, and Why in the Fourth Industrial Revolution?

Simon B. Khoza, Kehdinga George Fomunyam

Chapter 2: Curriculum Decision-Making in Times of Uncertainty: A Case Study of a Top-Down Technicist Approach During the Covid-19 Pandemic

Aruna Ankiah-Gangadeen, Ajay Ramful

Chapter 3: 'Brave New World' Revisited: Drama Education in a Virtual Landscape

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Chapter 4: The Curriculum Implementation Dilemma Imposed by the Covid-19 Pandemic: Reengineering the Curriculum through Self-Directed Learning Approaches

Dumsani Wilfred Mncube

Chapter 5: Implementation or Enactment Principles Underpinning the Digitalised Curriculum During the COVID-19 Era in one Lesotho Higher Education Institution

Makhulu A. Makumane

Chapter 6: Theorising the Politics of Curriculum Responsiveness in a Cameroonian University

Kehdinga George Fomunyam, Nnenna Fidelia Ezeonwuachusi

Chapter 7: Pre-Service Science Teachers' Perceptions Towards Developing Isizulu Vocabulary for Teaching and Learning

Mamothibe Amelia Thamae

Chapter 8: Decolonising Teacher Education Curriculum in South Africa: The Realities and Challenges in Higher Education

Oluwatoyin Ayodele Ajani

Chapter 9: Walking the Tightrope of Decolonisation in Education: Critically Gauging Curriculum Emancipation in SIDS Contexts

Aruna Ankiah-Gangadeen, Pascal Nadal

Chapter 10: Decolonising Curriculum Practices: An Analysis of Student Perspectives at a South African University

Lindiwe Tshuma, Kgomotso Ambitious Theledi

Chapter 11: Dancing with Decolonial Curriculum Theorists: Technology as a Shapeshifter in Art and Design Education

Folasayo Enoch Olalere, Mashaole Jacob Makwela

Conclusion: Curriculum Potential for Theory, Theorising, and Praxis

Kehdinga George Fomunyam

We trust that the above should suffice, but please do not hesitate to contact me should you have any further enquiries.

Sincerely,

Wikus van Zyl
Manager: UJ Press

Theorising Curriculum in Unsettling Times in African Higher Education

Kehdinga George Fomunyam

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Kehdinga George Fomunyam

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Chapter 11

Dancing with Decolonial Curriculum Theorists: Technology as a Shapeshifter in Art and Design Education

Folasayo Enoch Olalere
The Open University, UK,
Durban University of Technology
folasayo.olalere@open.ac.uk , folasayoo@dut.ac.za

Mashaole Jacob Makwela
Vaal University of Technology
mashaole@vut.ac.za

Abstract

In the past two decades, the concept of decolonisation of higher education in South Africa gained momentum. Amidst this growing concern, the role players in the education sector have interrogated their role in this discourse and examined how curricula and pedagogical approaches can stand up to this call for decolonisation. Some decolonial theorists have associated the concept with changing the nature of knowledge, shifting our position in relation to knowledge, and economic transformation. Even though there are multiple views and schools of thought, the question that remains unanswered in curriculum development is what the concept of decolonisation will look like in technologically advanced university settings. Will this be about erasing the Western education systems and methodologies? Or will it be about the Western education systems and methodologies used to cater to African indigenous knowledges systems? Or should

it be African indigenous knowledges systems catering for Western education systems and methodologies? Do all these even matter in a place where technology is a shapeshifter, especially in art and design education? In this chapter, we are unravelled and challenged by these questions as art educators in many ways. Thus, the main research question underpinning this study is how formal and informal learning and knowledges, driven by technology, could shape decolonised curriculum and skills to support disadvantage students in art and design education at the African University of Technology. A qualitative research approach is used in a post-colonial or postmodern epistemological setting to answer these questions. A discourse analysis through a desk study was adopted to interrogate and answer these questions. Viewing curriculum as a lived experience, the chapter reviewed various scholarly perspectives of a decolonised curriculum. Three main qualities of a decolonised curriculum emerged from the various views: the dynamic, inclusive, and responsive, curriculum. We believe that, firstly, at African universities of technology the decolonisation of curriculum design and pedagogy in art and design is inevitable because of the nature of knowledge production anchored in digital technology. Secondly, decolonised curriculum and skills could support disadvantaged students to meet industry requirements or employability in art and design disciplines. Lastly, strategies or models in place are generally not outside the boxes of traditional art and design education.

Therefore, considering the epistemological dimensions of education, the chapter postulates that a decolonised education and curriculum is one in which the access to knowledge, the process of acquiring knowledge and the nature of the knowledge gained are dynamic, inclusive, and responsive. Furthermore, the chapter identified areas (such as socioeconomic growth, industrial needs, current and future jobs, alternative knowledges) in which the curriculum should be responsive and acknowledge technology as the driving force. Hence, the chapter re-imagines a decolonised curriculum considering technology as the driving force and

proposes a framework that reflects the dynamic, inclusive, and responsive quality of decolonised art and design education and curriculum.

Keywords: *curriculum, 4IR skills, technology, decolonisation, new media art skills, pedagogy, epistemology*

Introduction

The call for the decolonisation of knowledge, identity, and culture of higher education in South Africa has been advocated by politicians, academics, researchers, and students, amongst others. Researchers in higher education, internationally and nationally, have interrogated their role in this discourse and examined how curricula and pedagogical approaches can stand up to this call for decolonisation. Some decolonial theorists have associated the concept with changing the nature of knowledge, shifting our position in relation to knowledge, and economic transformation. Strategies, models, and criteria on how universities can be transformed from the institutional level to the teaching and learning curriculum that transcends the current outcomes-based approach seem necessary. However, to develop such strategies, models and criteria, the concept of decolonisation and its implications and implementation in the curriculum must be unpacked.

Over the years, the definition and understanding of curriculum have evolved and continue to evolve. Around five decades ago, Grumet (1981) defined curriculum as the stories we tell students about the past, present, and future, and a decolonial view of this curriculum definition questions the stories students are being told about their past, present, and future, and who tells the story. More recently, Le Grange (2016) opines that curriculum is explicit (what students are provided), hidden (what students learn about the dominant culture of a university), and null (what institutions leave out). However, (Fomunyam & Khoza, 2021) question these definitions or views, stating that they give little or no consideration to the changing state of knowledge. In Aoki's (1999) view, a curriculum should not focus only on the planned

(curriculum-as-plan) but also on how it is lived (curriculum-as-lived) by students and educators. Wallin (2010) stressed the significance of individual experience, stating that the curriculum should not be fixed or closed but rather thought of as an active conceptual force that prioritises individual experience while aligning with society and the economy. Hence, a decolonial curriculum could be viewed through a merge of these multiple perspectives, such as the curriculum as the stories being told, curriculum-as-lived, and curriculum as an active conceptual force.

The conceptualisation of decolonial curriculum in general and specific to art and design education at the universities of technology is faced with theoretical and practical implementation problems in many ways in South Africa. Researchers provided evidence on what the decolonisation of knowledge in teaching and learning could look like in art and design education (Carey Piers, 2017; Collet & Economou, 2017; de Wet, 2017; Morreira, 2017; Sidogi & Rasedile, 2017; Vorster & Quinn, 2017) but there is limited theoretical and practical interrogation on the decolonial curriculum concept in the context of a technology-driven era. Decolonial curriculum theorists such as Vandeyar (2020, p.13) concluded that "*any attempt at decolonising the curriculum on its own will be futile and at most superficial and cosmetic in nature….*" Considering Aoki (1999), who argued that curriculum should not focus only on the planned (curriculum-as-plan) but also on how it is lived (curriculum-as-lived), how then are inclusive curriculum and student-centred learning practicable in a rainbow nation? In contrast to curriculum dynamics, decolonial (as a noun) and decolonisation (as a process) add to the complexity of understanding the decolonial curriculum. The defining factors of decolonisation (transformation or development) include racism and epistemology (Mignolo, 2009), geopolitics (North versus South) and specific to identity, and aesthetics (Mignolo & Vazquez, 2013), technology (Kiran, 2015; Ogungbure, 2011), indigenous language and culture (Botwe-Asamoah, 2005; Thiong'o, 1998), production

(research) (Munro, 2017) and Pedagogy and education (Jansen, 2017; Le Grange, 2020; Valenzuela, 2021).

Given the complexity of the issue at hand, by joining decolonial curriculum theorists on a dancing stage, how will our engagement intend to achieve a decolonised curriculum? Will this be about erasing the Western education systems and methodologies? Or about the Western education systems and methodologies used to cater to African indigenous knowledges systems? Or should it be African indigenous knowledges systems catering for Western education systems and methodologies? Do all these matter in a place where technology is a shapeshifter, especially in art and design education at a university of technology? While extensive literature has explored various definitions, perspectives and understanding of decolonisation, the concept of decolonisation in education has mainly focused on IKS (Indigenous knowledge systems) and debates about the knowledges from the north and the south, identity, and culture of higher education. There is a lack of critical engagement or literature interrogation of the concept of decoloniality from technology point of view in curriculum development or methods of teaching and learning. Therefore, this chapter seeks to contribute to the discourse of decoloniality from a technology context in education. This was achieved through three set-out objectives: i)- To unpack the concepts of decolonisation from curriculum theorists; ii)- To reconceptualise the meaning of decoloniality from a technology-driven view-point; iii)- To identify solutions and implications of decolonial approach to knowledge in a technology-drive era. The chapter addresses some pertinent questions, such as why the decolonisation of curriculum design and pedagogy matters so much for African universities in the technological space. Why and how should decolonised curriculum and skills support students to meet industry requirements or employability? What strategies or models are in place to decolonise traditional art and design education at the African university of technology? Subsequently, we argue that informal learning knowledges driven by technology (Third and Fourth Industrial Revolutions) outside the

boxes of curriculum (Art and Design) are needed to support disadvantaged students to meet industry requirements or employability in art and design disciplines.

An Overview and Concepts of Decolonisation

The concept of decolonisation is like a shapeshifter character archetype that changes roles and is not easy to understand. Historically, the concept is generally related to both the aftermath and process of the political liberation of the colonised countries for independence and the abolition of slavery. According to Fanon (2008, p. 33), *"if the last shall be first, this will only come to pass after a murderous and decisive struggle between the two protagonists"*. In simple terms, Fanon refers to the violence involved in this process between the leading characters (the coloniser versus the colonised) in the story unfolding from a historical process. On the other hand, Ashcroft *et al.* (2007, p. 63) talk about *"revealing and dismantling colonialist power in all its forms"*. This view is rather radical and mission impossible when thinking about pragmatic rather than theoretical or rhetoric utterances. One of the challenges is that the process of dismantling colonialist power involves a raging fight between two main characters at almost all levels of their lives.

While several scholars try to explore what decolonisation entails, some question the need for decolonisation. According to Le Grange (2016), decolonisation is necessary to respond to first- and second-generation colonialism. These two generations of colonialism decimated indigenous knowledges by first conquering the physical spaces and bodies of the colonised and later colonising the mind through education, economics and law (Odora-Hoppers & Richards, 2011, p. 7). It is believed that the educational system made Africans doubt themselves regarding culture and history. This is attested by Botwe-Asamoah (2005, p. 4), who stated that Africans *"were made to believe that we had no culture and history to be proud of and that our people had made no contribution towards human"*. In this background, epistemologically and ideologically, the

concept of decolonisation presents more theoretical problems and fierce contestation of power relations in many ways in a different context. However, a holistic view of knowledge formation shows that the bodies of knowledge continually influence each other, which means that all knowledge systems are dynamic. Hence, according to (Dei, 2000, p. 113), indigenous knowledge does not reside in 'pristine fashion' outside of the influences of other knowledges. Therefore, decolonisation is not necessarily a process of destroying Western knowledge but rather decentring it or de-territorialising it (Le Grange, 2016).

Over the past five centuries, curriculum theorisation has been drawn from platforms laid by Western Eurocentric ontologies and epistemologies, resulting in epistemic-privilege knowledge that relegated other epistemologies to epistemic inferiority. Grosfoguel (2013) refers to this duality of knowledge structures (epistemic privilege and epistemic inferiority) as Cartesian logic, where knowledge from the Global South is considered inferior, non-Western, and too exotic to be taken seriously because it is alleged to lack scientific reasoning. Thus, Le Grange (2015) proposed that the central approach to decolonising curriculum is by rethinking the subject to liberate thought from the fetters of cartesian duality, which Le Grange (2016) suggested could be achieved through 4Rs central to an indigenous paradigm (relational accountability, respectful representation, reciprocal appropriation, and rights and regulation). Relational accountability acknowledges the accountability of the curriculum to all relations. Respectful representation concerns how the curriculum acknowledges and creates space for the voices and knowledges of indigenous peoples. Reciprocal appropriation ensures that both communities and universities share the benefits of knowledge produced and transmitted. Rights and regulations ensure that ethical protocols that accord ownership of knowledge are observed (Chilisa, 2012).

South Africa's former President Thabo Mbeki, in his famous speech *"I am an African"* in 1998, which was grounded on the writings of the former president of Ghana Kwame Nkrumah - *"African renaissance,"* advocates for a shift from

colonial legacies of Western or European ways of knowledge production, colonisation, systems or methods, pedagogical models amongst other educational challenges. However, McLaughlin & Whatman (2011: 365) argues that the success of the decolonisation of education within university curricula in Australia lies in the hands of those who have power, non-indigenous peoples, to change the status core. They suggest that the sustainability of embedded indigenous perspectives within university curricula can be achieved through the critical race theory that is not explored adequately by largely a white academy (McLaughlin & Whatman, 2011, p. 374). The arguments put forward by Grosfoguel (2011) and McLaughlin & Whatman (2011) indicate that it is the responsibility of both the characters of the coloniser and the colonised in order to have a meaningful and sustainable change. However, according to Ndlovu-Gatsheni (2015, p. 493), in Africa, *"What is envisioned by decoloniality are African people as active and free makers of their own futures".*

Steve Biko's writings, "*I write what I like*", on the importance of restoring the dignity of black people, for example, stated that *"the most potent weapon in the hand of the oppressor is the mind of the oppressed"* (Biko, 1978, p. 92). This statement can be understood in terms of the negative representation of black people in history books and the kinds of knowledge disseminated to perpetuate the inferiority perception. While alternative knowledges and perspectives are critical to restoring the dignity of the colonised character in education and curriculum, the questions that keep lingering are how these alternative knowledges and processes can be made possible. What does the decoloniality of the curriculum in art and design mean in that context? Is that about language and tools (IKS - indigenous knowledge system or technology), content (visual IKS and aesthetics: murals, colours, patterns, designs, fauna and flora, architecture, attire)? Moreover, what will this shift mean in multicultural and technological universities in South Africa? How could this support disadvantaged students to meet industry requirements or employability?

Internationally, according to McLaughlin and Whatman (2011, p. 367), *"[d]ecolonizing knowledge in universities, therefore, involves a deep sense of recognition of and challenge to colonial forms of knowledge, pedagogical strategies and research methodologies"*. From the Latin American universities' perspective, Valenzuela (2021, pp. 1029-1031) talks about three levels that can be decolonised in universities, namely a) institutional level, b) degree programmes, and c) teaching level (pedagogical methods, strategies and learning assessment methods). The author further suggests six possible dimensions that can be used as guiding criteria at Latin American universities to decolonise the curricula and teaching and learning processes, namely, political, economic, ecological, relational, epistemological and cultural (Valenzuela, 2021, p. 1033), although in all these levels or criteria, the author identifies the problem of power relations between top-down educational policies and bottom-up educational initiatives when it comes to IKS. Similarly, in South Africa, Fomunyam *et al.* (2020, p. 47) identified five elements that universities can follow in order to decolonise curriculum, namely, *"changing the nature of knowledge, reviewing the curriculum, deconstructing teaching and learning, institutional identity, architecture and culture, and Africanization."* Although the identified elements are critical, Africanist perspectives are what makes this different from the South American universities. Amidst these different perspectives, the whole concept of decolonisation remains the same, which is to expand our worldview in relation to knowledge by i) cultivating alternative knowledges that contest the supremacy of one form of knowledge, ii) building relationships, a sense of community and inclusivity in the pedagogical practices, and iii) promoting and preserving indigenous culture, which includes languages, practices, knowledges and history.

As discussed in the previous section, the notion of the curriculum opens multiple pathways and a basis for decolonisation. From Aoki's (1999, 2005) notion of curriculum as lived experience and Wallin's (2010) definition of curriculum as an active conceptual force, we could draw

that decolonisation of the curriculum is indeed not an event but a process that is responsive and inclusive and dynamic. As reflected by various authors, curriculum as a lived experience means constructing and reconstructing knowledge through experience (Okyere, 2018), connecting knowledge acquired in institutions to knowledge acquired from the realities of life (Fomunyam & Khoza, 2021), taking into account the dynamics and uniqueness of the educators and students involved in the learning process (Okyere, 2018), accommodating societal and individual differences, lived meaning and narratives (Aoki, 2005), and ensuring the curriculum is relevant to societal environment and needs (Pinar, 2011). From these various views, three main qualities of a decolonised curriculum emerge, which are dynamic, inclusive, and responsive curriculum (Aoki, 2005; Fomunyam & Khoza, 2021; Okyere, 2018; Wallin, 2010). These qualities can be used as indicators to evaluate, construct, and reconstruct the epistemological aspects of education, which are: access to knowledge, the process of acquiring knowledge, and the nature of the knowledge acquired (Rosenberger & Verbeek, 2015). That is, as a way of decolonising education and curriculum, the access to knowledge, the process of acquiring knowledge, and the nature of the knowledge acquired must be dynamic, inclusive, and responsive.

Higher education institutions operate in a knowledge economy, where their knowledge packages (curricula) are expected to contribute to the nation's socioeconomic development and global society. The curricula are expected to provide students with the necessary skills and innovation-oriented education experience (Fomunyam & Khoza, 2021). Therefore, as part of the responsive quality of a decolonised education, the curriculum must be responsive to the ever-changing and technologically driven society and equip students with the needed skills to combat new challenges. According to Peters (2000), a responsive curriculum should be flexible and adaptable to the current realities of life and consider the challenges and demands of the present while anticipating the future. Hence, considering technology as

the driver of change in the Fourth Industrial revolution, this chapter proposed that the process of decolonisation should include a significant consideration of technology as one of the driving forces of economic growth. Thus, the arguments and postulations in the rest of this chapter are based on the understanding that i) dynamic, inclusiveness and responsiveness are the main qualities of a decolonised education and curriculum (Fomunyan & Khoza, 2021; Peters, 2000; Aoki, 2005; Wallin, 2010; Okyere, 2018); ii) access, process, and nature of knowledge are three critical epistemological aspects to consider in decolonising education (Horsthemke, 2017; Rosenberger & Verbeek, 2015; Valenzuela, 2021); and lastly, iii) technology is the driver of the current knowledge economy and should be considered and integrated into the decolonisation process of curriculum and education in general and specific to art and design (Kiran, 2015; Makwela & Olalere, 2021).

Decoloniality in the Technology-Driven Era

While the previous section has provided a detailed understanding of the various concepts, views, and schools of thought around decolonisation, the bottom line is that decolonisation is not just about places or things; it includes ideas and thought processes (Rao, 2019). Hence, the concept of decoloniality focuses on untangling how knowledge is produced. According to Mignolo (2011), decoloniality is synonymous with decolonial thinking and doing, which questions the perceived universality of Western knowledge. Over many centuries, this single worldview has been considered normal, and identity and knowledge were constructed from this position. In order to delink from this Eurocentric episteme, decolonial theorists proposed a shift in position in relation to knowledge (Quijano & Ennis, 2000).

This ‘shift’ is neither about erasing the Western education systems and methodologies nor returning to the precolonial ways of thinking. The shift focuses on creating new systems of thinking based on an expanded worldview that

no longer centres on colonial meaning-making. The shift or new system of thinking, according to Bhabha (2004), is 'The Third Space' that draws from the past where necessary but acknowledges that culture is generative and creative. From an epistemological dimension, the concept of expanding worldview focuses on three main aspects: i) the nature of knowledge that contests the supremacy of just one form of knowledge (Western knowledge), and open spaces to promote a dialogue amongst others (such as alternative knowledges) and responsive to societal needs; ii) the process of acquiring dynamic knowledge (not static), and goes beyond the four walls of formal education; and ii) the access to knowledge, which should be inclusive.

Formal education (especially higher education) has undergone different phases (elite, mass, and post-massification) due to its connection with the socioeconomic structures and its constant association with the socio-technological forces in the different phases of the industrial revolution. With the technological advancement in the Fourth Industrial Revolution, the epistemological understanding of the nature and process of acquiring knowledge is expanding and directly or indirectly driving decoloniality. For example, technology such as the Internet expands worldviews by providing global access to information that blurs the line between formal and informal learning. Hence, the emergence of practices such as self-taught, DIY approaches, e-learning, and the recognition of prior learning (RPL), where non-formal learning is recognised as equivalent to formal education. Advancement in technology provides opportunities for collaborative activities that overlap silos and allow cross-functionality. A good example is the multi-/inter-/trans-disciplinary approaches in education. These are all examples of how technology is disrupting and expanding the nature and process of acquiring knowledge.

Therefore, the influence of technological advancement in teaching and learning should not be excluded in conceptualising or theorising decoloniality. On the one hand, technology will inevitably shape the future. According to

the post-phenomenology theory, one of the implications is the expansion of human-world relations, where technology promotes experiential knowledge and interaction in the process of acquiring knowledge (Kiran, 2015). Within the art and design disciplines, technology is impacting and expanding the types of skills required, epistemological curiosity, intellectual tools, authorship, commodification, and representation or aesthetics (Makwela & Olalere, 2021). These impacts on knowledge acquisition and requirements can be linked to the dynamic and responsive qualities of a decolonised education and curriculum. As explained in the previous section, a decolonised curriculum is expected to be responsive to the ever-changing socioeconomic needs, dynamic and inclusive. Compared to technology's impact, the expansion and disruption of the nature and process of acquiring knowledge signal decolonisation qualities. For example, the self-taught and do-it-yourself (DIY) approaches and the blurring of formal and informal learning are dynamic qualities promoted through decolonisation. Furthermore, the emergence of trans-multidisciplinary approaches and the promotion of experiential knowledge is the responsive quality of a decolonised education and curriculum. Hence, technology could be a driving force towards achieving a decolonised education system where knowledge is viewed from multiple perspectives and the pedagogic process of acquiring it is dynamic.

Decoloniality should also be tailored towards expanding knowledge and developing skill sets for future jobs while keeping in mind the role of culture. The reference to culture is based on the idea that technological advancement without the skilful exploration of people's culture is impossible, because culture fuels and inspires technological accomplishments in human society. Unarguably, every technology within a social praxis is a product of culture since culture is a phenomenon that encompasses all the material and non-material expressions of a people; it affects how people interact with nature and, therefore, varies with the environment. To take advantage of science and technology for development, African

societies must reconcile their traditional cultural environment with the different circumstances of the modern international environment, which has been largely shaped by science and technology. Also, it is essential to note that technology is not just a catalogue of tools and expert demonstration of its usage. It is, forthrightly, a cultural mindset that ensures the acquisition and usage of techniques, methods and skills acquired as an integral part of society. In order to grapple with this issue efficiently, we must pursue a conceptual clarification of critical notions (Ogungbure, 2011).

This chapter opines that culture plays a germane role in any society's scientific and technological transformation. This is in recognition that any significant intellectual or ideological creation of an individual thinker is derived broadly from a broad spectrum of societal legacies engineered by culture. Consequently, African people cannot make much progress in a quest for technological advancement if the dynamism of culture is not used. In addition, there is a need for self-reawakening and reorientation that will place more value on the technological products of local industries. Thus, there is a need to pursue an agenda in Africa that will encourage the sophistication of cultural practices that would bring about the development of a culture of technology. Hence, decolonisation in a technology-driven era requires that policymakers and governments in Africa promote a culture of technology via the eyes of African culture and take a crucial look at the limited technological developments of industries in the continent and, therefore, adopt an African-centred agenda to build and strengthen technological capabilities in Africa, which can assist critical social change. (Ogungbure, 2011)

It is important to note that two basic tendencies are discernible; one is almost exclusively concerned with the technical aspect of the subject matter, while the other emphasises the socio-economic and cultural dimensions. The first school of thought (technical aspect) regards technology as the systematic knowledge for the manufacture of a product, for the application of a process or for the rendering of services which may include managerial marketing

technologies. In contrast, the second school (socio-economic and cultural) conceives of technology as all elements of productive knowledge needed for transforming inputs into products, in the development and rendering of services, and in generational shifts to further the tentacles of productive knowledge. In addition to this view, technology includes the social and economic atmosphere in which the application takes place as well as the ways of fulfilling particular needs deriving satisfaction (Ogungbure, 2011)

Decolonial Approach to Knowledge: Solutions and Implications in Art and Design Education

South Africa is known for its vast disparities in income, with just over 10 per cent of the population enjoying affluent lifestyles (Moloi *et al.*, 2017). As a result, students entering universities in South Africa do so from positions of extreme inequality, which includes varying quality of schooling, level of exposure and financial resources. Hence, according to Ndebele *et al.*, (2013, p. 92), *"[a] curriculum structure can be either enabling or constraining in relation to key goals. Given South Africa's inequalities and development needs, curriculum structure should as far as possible enable students' underlying potential to be realised, provided that the quality of the qualification is maintained."* Even though the post-apartheid policies have generally widened access to higher education, the percentage of participation from historically disadvantaged groups remains relatively low (Chetty & Pather, 2015). While there has been an improvement in the participation rate over the years, evidence shows that the universities of technology in South Africa contributed significantly towards providing education to the historically disadvantaged group (Macupe, 2020).

The concept of decolonising curriculum in art and design education at universities of technology in South Africa faces similar challenges of either enabling or constraining the access or the improvement of disadvantaged students. One of the constraints can be linked to the criteria for art and design student selection for first degree or diploma entry at the five

universities of technology (UoTs) offering the art and design courses in South Africa, namely the Tshwane University of Technology, Vaal University of Technology, Durban University of Technology, Central University of Technology and Cape Peninsula University of Technology. Art and design comprise creative disciplines (such as design or applied arts, film or video, and fine and studio art) that fall under the broad field of visual and performing arts (Department of Education South Africa, 2008). Even though arts and design programmes offered at the UoTs widen access to these creative disciplines, the reality is that most historically disadvantaged students struggle to meet the admission criteria because they exited a schooling system that did not expose them to the needed creative skills. The access or entry requirements are primarily based on admission point scores (APS) with compulsory matric results (including English and Maths or Maths Lit) or TVET college results equivalent to Grade 12 requirements. Age exemption is considered for adult students above the age of 23 years. The selection process includes submitting a portfolio of practical work demonstrating talent, creativity, and potential to complete the courses successfully.

Given that the selection process for admission into art and design programmes at these institutions includes portfolio-based evidence and the minimum APS, in most cases, applicants do not have an extensive portfolio of evidence to prove their creative skills due to a lack of exposure to creative subjects at secondary school. This can be related to the articulation gap, which is reported as one of the contributing factors to student failure and dropout, especially, the students from disadvantaged educational backgrounds. The main problem with the articulation gap is the mismatch between secondary school entry-level and higher education (Ndebele *et al.*, 2013). The mismatch or articulation gap also questions the idea of decolonisation, where students function as co-creators or constructors of knowledge. In situations where students have no prior exposure to creative subjects in secondary school, they cannot drive learning or construct knowledge. This is one of the main challenges faced in art

and design education. Above this, art and design courses are technologically driven in terms of creative computer software applications as tools that merge the traditional ways of production and digital production through teaching and learning. The affordability of such technology and the lack of computer skills present an additional problem. However, the National Student Financial Aid Scheme (NSFAS) has played an essential role in funding disadvantaged learners.

This led to the question, what are the major art and design discipline transition challenges from secondary education to higher education for learners who did not have art and design education? In a three-year diploma with 360 credits or bachelor's degree (first degree) with 360 credits estimated to be 3600 notional hours, will the students meet industry requirements or employability in art and design disciplines? According to Ndebele *et al.* (2013), reforms have been proposed to lengthen the core programmes' duration by introducing extended courses to address the articulation gap, although in art and design, extended courses are not offered or are discontinued. In this context, what are the strategies to decolonise the traditional perspective in art and design education, considering the influence of the rapidly changing technology?

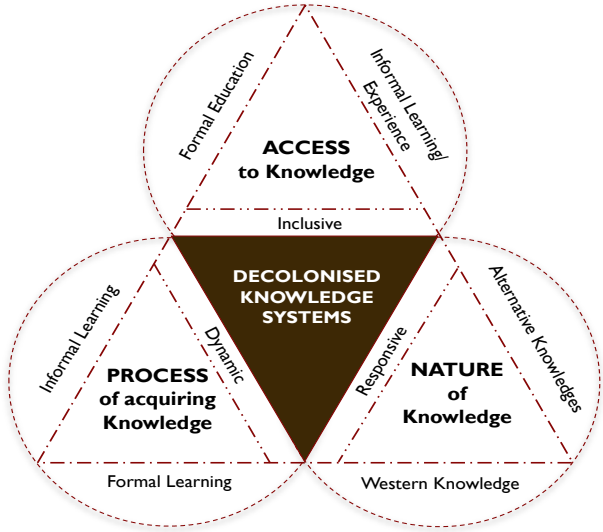

Figure 11.1: Solution-based perspective towards decolonising art and design education (Rosenberger & Verbeek, 2015)

As illustrated in Figure 11.1, decoloniality from an epistemological dimension should address three key aspects (access, process and nature) (Rosenberger & Verbeek, 2015). Firstly, access to knowledge (higher education) should be inclusive, where the criteria set at entry-level enable rather than constrain access to knowledge. Universities should develop a more structured alternative access to programmes through, for example, RPL, where informal learning and experiences can be assessed and considered equivalent to formal learning. Even though RPL has been in place in most universities for a while, the reality is that this pathway to entering higher education programmes remains dormant. Hence, this alternative pathway goes beyond just developing RPL policy; the government and higher institutions should spearhead training on assessment, campaigns to raise awareness and sensitise people to the significance of RPL and develop a straightforward process and strategy with details of the ontological knowledge on what counts as RPL. Also, indigenous languages such as Sesotho, Sepedi, SeTsonga,

TshiVenda, isiZulu, isiSwati, SeTswana, isiXhosa, isiNdebele amongst others, can be considered in place of English for students who do not meet the minimum of four scores in English. Formal education requirements could be expanded to include extended, bridging or foundation courses focusing on creative skills development to train and prepare potential students without creative education.

Secondly, the process of acquiring knowledge should be dynamic and not static. For example, engaging in technology-mediated informal learning (self-directed by a learner and unstructured) and extra-curriculum activities could be the way forward in bridging the knowledge and articulation gap while preparing students for the dynamic job requirements. Online tutorials (or short courses), without formal structure or accreditation through knowledge commons, can supplement procedural knowledge (curriculum or content) and provide inclusive access to knowledge to empower students. YouTube stars, for example, Mdu Ntuli Izikhokho's show, Jonas Lekganyane, and Adventure of Noko Mashaba were self-taught through open sources online on Google and YouTube, amongst others. Informal education or learning or knowledge obtained through such open sources plays a critical role in using technology and sharing knowledge.

In education, Budge (2012a) explored the socially wise approach to creativity through the inclusion of blogs by educators for the learning experiences for students. Although these activities are within the universities, Budge (2012b) suggests that they foster creativity through *"community, sharing of creative practice, environmental awareness, support for the creative work of others and awareness of globalism."* Hence, supplementing formal learning with informal learning activities could enhance the process of acquiring knowledge. However, for informal learning to be effective, it is essential to design formal learning in a way that accommodates, encourages and supports informal learning. A good approach is the flipped classroom approach, where traditional learning happens at home, while classroom activities focus on experiential learning. Self-directed learning, open learning,

and extra-curriculum activities are examples of approaches that could drive informal learning.

Thirdly, the nature of knowledge acquired must be responsive to the immediate and global society's needs. It is important to broaden the nature of knowledge acquired by opening spaces for alternative knowledges. These alternative knowledges are not limited to indigenous knowledge and ways of knowing; it encompasses all alternative knowledges, which can be acquired through internationalisation (such as academic exchange programmes) and interactive collaborations (such as the Triple Helix approach, Collaborative Online International Learning (COIL)), field trips (to the industry, indigenous knowledge sites etc), guest or visiting lecturers (from the industry, government, IK holders, etc). All these practices or activities broaden students' worldviews in relation to knowledge. The nature of knowledge should be responsive to socioeconomic needs. For example, the ever-changing job requirements and skills, the technological impacts and needs, and the multi-disciplinary expansion of job roles.

The Nature of a Decolonised Art and Design Education in the Fourth Industrial Revolution Era

While these three aspects (access, process, and nature) are crucial to address in a decolonised educational approach to knowledge, it is important to note that the goal of every higher institution is the employability of graduates. Hence, amidst the decolonisation attempts, it is important to ensure that the graduate attributes and skills align with the needs of the industry and the nature of the future jobs they are being trained for. Technology development has always presented challenges and opportunities in the creative industry, mainly because creative disciplines are often tied to technological development. The Fourth Industrial Revolution presents a gradual release of the labour force from physical activity and mental efforts in favour of more exceptional creativity (Prisecaru, 2016). These technological developments affect the art and design ecosystem, especially the skill sets for future

jobs. Therefore, we argue that to adapt to the technological drivers of change in the 4IR, a multidisciplinary approach in developing skill sets for future jobs is one way to achieve a decolonised education that equips students with the needed skills for future jobs.

As illustrated in Figure 11-2, the multidisciplinary approach requires integrating technological skills as a driving force rather than replacing discipline-specific skills. We believe that discipline-specific skills will still play pivotal roles in future jobs but will require technological skills to function effectively in the changing landscape. Such technological skills will include artificial intelligence (AI), augmented reality (AR), virtual reality (VR), programming or coding, Internet of Things (IoT), three-dimensional (3D CAD) modelling and simulation, and additive manufacturing (3D printing). This multidisciplinary approach will require entrepreneurial and management skills exposure to drive multi and transdisciplinary collaborations and interactions. The entrepreneurial skills will include strategic and critical thinking, financial, analytical, and organisational skills. In contrast, management skills will include planning or organising with set guidelines, good communication skills (interpersonal skills), and excellent decision-making and problem-solving skills. Even though the relevance of the technological skills will vary across different specialisations, the dynamic nature of the technological applications will require keeping up to date with the technological development to stay aware of what is obtainable.

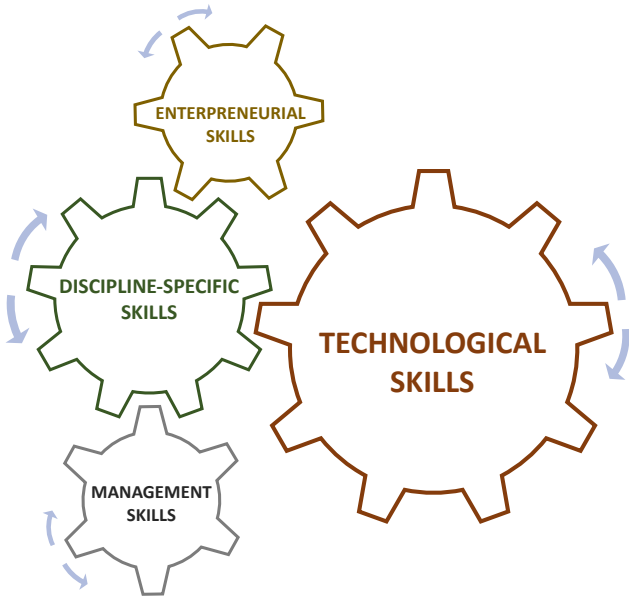

Figure 11-2: Multidisciplinary approach in developing skills sets for future jobs. Source: (Makwela & Olalere, 2021)

However, while those skills (technological, entrepreneurial, management and discipline-specific skills) are critical, the means of accessing and the process of acquiring those skills are necessary. Hence, a decolonial approach (shown in Figure 11-1) is a possible way to go, where the skills are acquired from multiple worldviews. Figure 11.3 illustrates how the skill sets for future jobs in art and design disciplines can be developed through multidisciplinary and decolonial approaches. According to Schwab & Samans (2016), three categories of skill sets cut across all industries, namely, abilities (cognitive skills, physical skills), basic skills (content skills and process skills), and cross-functional skills (social skills, resource management, system skills, complex problem-solving skills and technical skills). As shown in Figure 11.3, decolonised art and design education goes beyond providing inclusive access or incorporating informal and formal learning as a valid process of acquiring knowledge or engaging both

Western and alternative knowledge systems. The nature of the knowledge acquired should include discipline-specific skills, technical or technological skills to engage with emerging technologies effectively, and soft skills to drive an effective multidisciplinary interaction and aid the technological drivers of change.

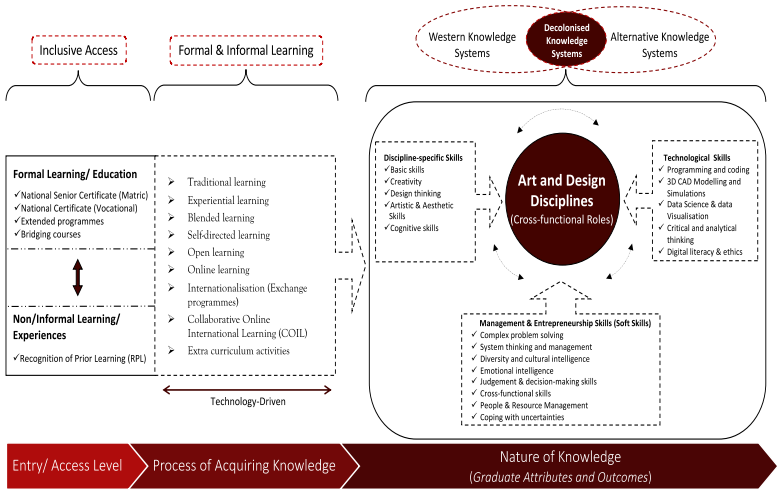

Figure 11.3: Responsively decolonised art and design education

Conclusion

This chapter address some pertinent questions and concerns around decolonisation, especially in art and design education, where technology is seen as a shapeshifter. The chapter begins by providing an overview and concepts of decolonisation, which include identifying various definitions, approaches, elements, and dimensions of decolonisation. The findings from this exploration revealed that the main qualities of a decolonised education and curriculum is being dynamic, inclusive, and responsive. The exploration also revealed the importance of technology as the driver of the current

knowledge economy, and hence, should be considered and integrated into the decolonisation process of curriculum and education. From this understanding, the concepts of decoloniality were unpacked through technology-driven lenses to establish the role of technology in the decolonisation discourse. The findings show that technology is impacting and expanding the types of skills required for future jobs, however, the culture of technology should be promoted from the eyes of African culture. Subsequently, the chapter explores the decolonial approach to knowledge and identifies three key aspects (access to knowledge, process of acquiring knowledge, and nature of the knowledge) that need to be addressed in a decolonised knowledge system. Some challenges emerged from the findings such as, vast socio-economic disparities among students, which could limit potential access and exploration of technology. There is also articulation gap between secondary school and higher education, especially disadvantage students exiting schooling system that did not expose them to creative skills. Finally, the chapter proposes a framework for decolonising art and design education in a technology-driven era. The framework was developed using the multidisciplinary and decolonial approaches aimed at decolonising educational practices and developing the needed skill sets required for the future job. It is important to note that technology is not just a catalogue of tools and the expert demonstration of its usage. It is forthrightly, a cultural mindset that ensures the acquisition and usage of techniques, methods and skills acquired as an integral part of society. Therefore, decoloniality should be tailored towards the expansion of knowledge and developing skill sets for future jobs, while keeping in mind the role of culture.

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