



STANDARDS AND COMPETENCIES FOR TEACHER DEVELOPMENT THROUGH THE LENS OF A CASE STUDY OF SUSTAINABILITY EDUCATION FOR A GREEN ECONOMY IN SOUTH AFRICA

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ABSTRACT

This paper contributes to the unpacking of teaching and learning in Africa, through a reflection on the African Framework of Standards and Competences for the Teaching Profession (African Union, 2019b). These continental guidelines require African Ministries of Education, regulatory authorities and teacher education partners to respond to the need for environmental and economic sustainability as integral to the norms and standards for teacher education. The paper demonstrates what this might look like in practice, through a case example of a teacher development course in Green Economy and Entrepreneurship, that was offered by university partners to primary and secondary school educators in South Africa, in 2020-2021. The case demonstrates teachers' approach to Entrepreneurship Day as part of the Grade 7 Economics and Management Sciences school subject. The teaching practices highlighted in the case example demonstrate values like Ubuntu, creativity, environmental sustainability, the strengthening of community bonds as well as the development of academic and life skills. The author proposes that this example of teachers' practice could well serve as a 'germ cell' to help us reflect critically on what African sustainability solutions, (social) entrepreneurship and sustainable economic development for African contexts may look like.

Keywords

Competencies; Green Economy; Standards; Sustainability Education; Teacher Development

INTRODUCTION: PURPOSE AND OVERVIEW OF PAPER

This paper aims to contribute to the unpacking of teaching and learning in Africa, with a view to excellence through relevance. It does so by providing a reflection on the African Framework of Standards and Competences for the Teaching Profession (AU, 2019b) which outlines the knowledge, skills and conduct expected of teachers and school leaders. The paper argues that these continental guidelines require African Ministries of Education, Regulatory Authorities and teacher education partners to respond to the need for environmental and economic sustainability as integral to the norms and standards for teacher education. The paper further argues that these authorities and partners must give attention to the depth and detail of sustainability as part of the norms and standards for teacher education.

The depth and detail of sustainability in teacher education standards include:

- i. Advancing beyond simple awareness-raising about socio-ecological issues like climate change; water, energy and food security; waste and biodiversity loss, to demonstrate and explore context-relevant solutions
- ii. Acknowledging the tensions between neo-liberal, colonial and inclusive green economy approaches to development, and the implications of these for curriculum and teacher competence
- iii. Equipping teachers and educational leaders accordingly to take an African-centred, solutions

approach to environmental issues that can deal with such tensions and is relevant in African contexts.

The paper demonstrates and motivates for these pointers and what solutions might look like, through a case example of a teacher development course in Green Economy and Entrepreneurship, that was offered by Rhodes University and partners to primary and secondary school educators in South Africa, in 2020-2021. The case demonstrates teachers' approach to Entrepreneurship Day as part of the Grade 7 Economics and Management Sciences (EMS) subject. The teachers in this particular example engage learners to actively participate in entrepreneurial activities, budgeting, planning and profit-making, with some important caveats: environmental sustainability, creativity and community benefits are central to the budding enterprise. Profits are made through recycling, upcycling, creative repurposing and thrifty waste-reducing production processes, and part of the profits are used to 'cook for the community', thus strengthening social cohesion and developing citizenship.

These teaching practices demonstrate values like Ubuntu, creativity, sustainability, the strengthening of community bonds as well as the development of academic and life skills such as accounting, budgeting, production and communications. All of these are eminently relevant in the context of African schools and learners. This example (which may well occur in other forms in schools around the continent) could serve as a 'germ cell' (Engeström, Nummijoki & Sannino, 2012) to help us understand what African sustainability solutions, (social) entrepreneurship and sustainable economic development for African contexts look like. With reference to literature that highlights contradictions in regional agendas related to education for sustainable development (Tikly, 2019), the author proposes that teacher education should encourage an African-centred understanding of sustainability in the development of teacher competencies, that is generic enough to allow for contextual differences, but also specific enough to the (decolonial) needs of the continent.

CONTEXTUAL BACKGROUND: THE POLICY CONTEXT

The policy context for the norms, standards and desired learning outcomes for teacher education (pre-service education and training, and in-service upskilling and professional development) in Africa is shaped by:

- i. The social and economic development agendas of Africa, captured e.g. in the African Union's Agenda 2063 (AUC, 2015) and the Continental Education Strategy for Africa (CESA; AU, 2015)
- ii. The rich but threatened environmental resources of the continent and the environmental risks faced by its people including water and food security; energy, health and human development challenges
- iii. Global goals subscribed to by African nations, such as the Sustainable Development Goals (SDGs); Education for Sustainable Development is recognised as an integral element of SDG 4 on Quality Education and a key enabler of all other SDGs (UNESCO, 2015).
- iv. Common challenges facing all of humanity, such as climate change, poverty and inequality, captured in the Education Futures report (UNESCO, 2021) produced by the International Commission on the Futures of Education, chaired by Her Excellency Sahle-Work Zewde, President of the Federal Democratic Republic of Ethiopia, which warn that the future of the planet and humanity is at stake, requiring a significant reimagining of education.

This broad and urgent agenda, that is both African and global in nature, is pertinent to teacher education because it is pertinent to the question: what is education and schooling for in the 21st century? There is general agreement that education must prepare learners for active participation in the economy of a country, and for responsible contributions to its society (DHET, 2011). Thus governments, teacher education institutions and partners work together to produce the values, skills and knowledge that teachers need to prepare learners for a future on the continent, for well-being, economic participation and for societal contributions. The “Africa we want” is a continent that is prosperous and based on inclusive growth and sustainable development (AUC, 2015). The mission of CESA 16-25 is: “Reorienting Africa’s education and training systems to meet the knowledge, competencies, skills, innovation and creativity required to nurture African core values and promote sustainable development at the national, sub-regional and continental levels” (AU, 2015)

The African Teacher Qualification Framework for Teacher Quality, Comparability and International Mobility (AU, 2019a) draws on the African Framework of Standards and Competences for the Teaching Profession (AU, 2019b) which in turn outlines the knowledge, skills and conduct expected of teachers and school leaders.

Table 1 lists the Domains and Standards of the teaching profession and examples of selected related competencies. The competences column is intentionally incomplete. The table has been compiled by the author from: African Union (2019a) and African Union (2019b), Table 3.4: Professional Values/Attributes/Commitment and Table 3.4: Professional Partnership.

Table 1: Domains, standards and competencies for teacher education in Africa

Domains	Standards	Competences (Examples)
1. Professional Knowledge and Understanding	Knowledge and understanding of human development and the learner	
	Knowledge and understanding of the curriculum	
	Knowledge and understanding of the subject matter	
	Knowledge and understanding of interdisciplinary learning	
	Knowledge and understanding of education theory, pedagogy, and teaching practice	
	Knowledge and understanding of assessment, feedback, monitoring, and evaluation of the learner	
	Knowledge and understanding of education-related policies and legislation Knowledge and understanding of digital technologies for teaching and learning	
2. Professional Skills and Practices	Effective teaching and learning	
	Effective classroom organization and management	
	Effective learner assessment	
	Administration of learning	
	Effective use of technologies for teaching and learning	
	Guidance and counselling, support, school health and safety	
3. Professional Values/ Attributes/ Commitment	Awareness of and respect for learners' diversity	
	Respect for learners' rights and dignity	
	Respect for school system and colleagues	
	Role model to learners	<p>Demonstrates the behaviour, character and virtues expected of learners by society.</p> <p>Demonstrates awareness and understanding of developments that affect the community, the country, and the planet (e.g. climate change, sustainable development, global citizenship, among others).</p> <p>Applies practically at all times and in all teaching and learning situations the relevant</p>

		<p>advocacies trending at the community, national and global levels.</p> <p>Exhibits exemplary applications of the advocacies trending at the community, national and global levels.</p> <p>Knows how to work with the local and global community to develop realistic and coherent interdisciplinary contexts for learning, particularly in relation to sustainability.</p> <p>Applies knowledge and skills on interdisciplinary subject matters particularly the sustainable development goals to create local, national and global contexts and integrate same in teaching and learning.</p> <p>Creates teams of colleagues and external experts to work collaboratively on the domestication and implementation of interdisciplinary, multicultural and international goals and programmes.</p>
	Commitment to continued professional development	
4. Professional Partnerships	Partnerships with learners, parents, carers, guardians, communities, and stakeholders	<p>Understands strategies for working effectively, sensitively and confidentially with parents, carers, and guardians in a professional and ethical manner.</p> <p>Demonstrates versatility in relating with parents, guardians and carers, and attracts remarkable trust and dependence from them.</p> <p>Models relationship with parents, guardians and carers marked by exceptional trust, confidentiality and mutual dependence</p> <p>Creates and sustains appropriate working</p>

		<p>relationships with all staff, parents, and partner agencies to support learning and wellbeing, taking a lead role when appropriate.</p> <p>Plans for appropriate and contextually-relevant opportunities for parents, carers, or guardians to be involved in their children’s learning and for children to be involved in their own learning by establishing a culture where learners meaningfully participate in decisions related to their learning and their school.</p> <p>Contributes to community welfare and empowerment by supporting projects and networks.</p> <p>Has organized on a long term basis activities and programmes that cut across learners, parents, partner agencies, cultures, genders with records of successful accomplishments.</p> <p>Motivates colleagues to contribute to projects and programmes of public good</p>
5. Professional Leadership	Leadership and management	

These teacher competencies were evident in an example of entrepreneurship education as part of the South African Grade 7 EMS curriculum. The case example is discussed next.

CASE EXAMPLE

Fundisa for Change Green Economy and Entrepreneurship Course

The Fundisa for Change in-service course has been offered to teachers and education officials for over ten years, by a range of teacher development partners, the support of several government departments, and the participation of most universities in the country. The name means Teaching for Change and the course helps educators to bring the environmental sustainability content in the curriculum, to life. In South Africa environmental sustainability issues include water scarcity, climate change, biodiversity loss among others, and courses have been developed to focus on each of these content areas. The course

helps teachers “Know your content; Improve your practice; Improve your Assessment” (Teacher Competence Domains 1-2 in Table 1). It also has a very strong values dimension which supports Domain 3, and evidence that Domains 4 and 5 are addressed, is found in the fact that some participating teachers choose to study further, up to Masters level, and some became co-authors in a recent book published out of the programme (Schudel et al., 2021).

The most recent version of the course (offered in 2020-2021) focussed on the Green Economy and Entrepreneurship. The relevance of this focus is evident in a Green Economy Accord (EDD, 2011) between government, business and organised labour, which looked to the greening of the economy and a low-carbon, labour-intensive pathway to development, to create employment and reduce environmental risks. Whilst implementation actions have not been to the required scale, the commitment was reiterated by the President in 2020 when he launched the National Climate Change Adaptation Strategy, stating that:

“we should not merely return to where we were before the pandemic struck. We are instead looking at actions that will build a new, inclusive economy that creates employment and fosters sustainable growth. An important aspect of this new economy is that it must be able to withstand the effects of climate change. A climate-resilient economy is necessary to protect jobs, ensure the sustainability of our industries, preserve our natural resources and ensure food security”. (Ramaphosa, 2020)

Entrepreneurship is a popular theme in education given the high levels of youth unemployment in South Africa. The Green Economy and Entrepreneurship course was attended by just over 100 teachers and officials with an interest in the Commerce subjects. Content-wise, the course focussed on Economics and Management Sciences (EMS, Grade 7, Primary School) and Business Studies (Grades 10-12, Secondary School) (course site: <https://course.greenskills.co.za/courses/teaching-green-economy-entrepreneurship-1/>)

During the course, teachers described how they approach a compulsory part of the Grade 7 EMS curriculum, called Entrepreneurs Day (also called Market Day by some teachers). This project-based teaching and learning activity requires planning with learners over several weeks, learner participation on the day, and follow-up with learners afterwards. The intended learning outcomes for this Senior Primary subject include understanding of economics and business processes; budgeting and accounting skills; understanding environmental sustainability; and generic skills like communications, self-organisation and team work (DBE, 2011).

Examples of teaching practices shared by EMS teachers on the course are recounted here because of its exemplary value. The date for Market Day is determined well in advance to fit into the school calendar, and to enable whole school participation. Planning involves teachers and learners. Learners produce posters and the event is advertised in the surrounding communities. Learners also produce items that can be sold for profit. While some purchase bulk items like sweets to repackage, they also repurpose old jeans into environmentally friendly bags; grow seedlings or succulent cuttings as new plants in re-used tins; decorate other discarded tins to make pen holders and other ‘upcycled’ containers; and crochet used plastic bags into attractive stationary bags. Most items are found or inexpensive, which suits the socio-economic circumstances of the learners’ homes. Those schools with food gardens can sell produce in season. During the much-anticipated Market Day itself, learners experience all the aspects - social, practical, financial - of commercial activity, and the team work it requires. Afterwards

the venue is cleaned and any garbage, of which there would be very little given the ‘sustainable’ nature of the retail items, carefully disposed of. After cashing up, accounting commences in earnest. Working with their teacher, learners calculate the overall profit or loss. At this point, some teachers then suggest that profits be used to cook a meal at the school and invite the elderly and unemployed members of the surrounding community to join them. Market Day is so popular at some schools that learners look forward to being in Grade 7! This despite the fact that assessment takes place along various stages of this curriculum activity.

DISCUSSION

The example demonstrates competent teachers who know their subject content and have the skills to teach and assess it (Domains 1 and 2 in the African Framework of Standards and Competences for the Teaching Profession). The Entrepreneurs Day project is an EMS curriculum requirement, rather than a fun extra-curricular add-on. Similarly, the environmental sustainability content of EMS is a curriculum requirement, rather than a ‘nice to have’ add-on. What is not a curriculum requirement per se, is investing in good community relationships through a meal for the needy. Here teachers demonstrate their professional leadership roles and model good citizenship to their learners (Domain 3, 4 and 5 in the African Framework of Standards and Competences for the Teaching Profession).

Moreover, it is an example of social entrepreneurship - doing business for the common good, addressing social needs while creating a livelihood for oneself. It requires collaboration, small-scale and sustainable production processes, a desire to ‘give back’ in order to sustain community bonds as much as sustaining environmental resources and reducing waste. These might be seen as good business principles for any enterprise anywhere in the world and in particular in Africa where Ubuntu and similar values that prioritise human and social relations have held societies together through-out periods of abundance and scarcity. However, in many ‘standard’ business and entrepreneurship training programmes the emphasis is on a competitive edge and growth above all, with scant attention to potential negative social and environmental impacts. This is perhaps the reason why in the Fundisa for Change course, teachers of the secondary school subject Business Studies had no examples of environmental sustainability to share, despite this being a curriculum requirement for them as well. It would seem that in this more specialised subject in the higher grades, social and environmental values start to take a back seat as teaching becomes more focussed on the ‘real’ business world the learners would soon enter.

But what is the real business world or economy in Africa, and what should it be? Tikly (2016) analysed the tensions that characterise regional economies. The majority of Africans are not directly participating in the formal economy, eking out a living as low-skill workers with precarious jobs, or subsistence farmers. The modernisation drive introduced with colonial rule, and tenaciously enduring into post-colonial periods, promised that industrialisation and extraction of natural resources (through mining and large-scale agriculture, forestry and fisheries) would provide a good life for all. This promise has failed Africa, but might still be taught in our schools. Extractive industries provide mostly short-term employment for un- and semi-skilled workers, before leaving displaced people behind in degraded environments; they are also increasingly mechanised (Rosenberg, et al., 2021). Extractive industries, as well as entrepreneurship based on the Elon Musk/Dragons Den model, might well build elites, but cannot provide a decent living for the majority of citizens. They are neither environmentally sustainable, nor economically, as periodic crashes in the global economy would

suggest. Alternatives such as circular and regenerative, ‘green’ and inclusive economies, are possible, even if on a small and localised scale. They are not a pipe dream; the ‘germ cell’ in the EMS example is testimony to that. (For examples from elsewhere, refer to Raworth, 2017.)

CONCLUSION

Where Africans thrive in healthy communities, they use their creativity and indigenous knowledge to farm sustainably, offer services like child minding, hair-dressing and repair shops, and create beautiful and functional art, crafts, fashion, and more. Could our education systems take these realities into account and help learners to create real, sustainable livelihoods and businesses, while also preparing them to work with deep care for social, environmental and economic sustainability in government and big industries? We argue that our Primary School Market Day example demonstrated that this can be done, but also that by Secondary School, the teachers’ emphasis have shifted. This demonstrates in our view that teacher education norms and standards such as the African Framework of Standards and Competences for the Teaching Profession, while quite suitable for sustainable development, need to be interpreted and applied with attention to depth and detail.

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