

Towards a critical pedagogy of place for environmental conservation

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Abstract

This paper considered the changes in education that are needed in response to the rapidly deteriorating state of the Earth's environment. We argued that such changes should be focused on developing an effective education that equips inhabitants of the Earth to understand their environment towards contributing to its conservation, especially with respect to climate change mitigation and adaptation. This is crucial because previously colonised people and their environments are marginalised in their Eurocentric education systems. To escape ethnocentricity, education should be transformed using a polycentric approach that legitimises all knowledge systems and places. Therefore, this study employed a qualitative approach to explore teachers' perceptions of the extent to which their education system is based on local knowledge and places, and how the concept of place might be engaged as the foundation for learning. A selection of teachers participated in the study, which employed in-depth interviews. Factors that contributed to the place-detachment of participants' practice were analysed, along with a discussion of educational reform ideas that included place-based approaches and indigenous methods. The correlation between these ideas and a critical pedagogy of place has implications for environmental conservation in local and global contexts.

Keywords: Environmental conservation; critical pedagogy of place; place-based education; indigenous knowledge; teachers' perceptions

Introduction

This paper seeks to explore the perspectives of teachers in an indigenous context towards an understanding of the extent to which education is based on the local environment and how the concept of place can be engaged as the foundation for learning – taking the case of Nigeria as an example. This is important as studies have shown a strong positive correlation between environmental knowledge on one hand, and environmental attitudes and behaviour on the other hand (Arcury, 1990; Ajaps & McLellan, 2015; Ogunbode, 2013; Pitzén, 2019). In addition, researchers (see Gruenewald, 2003a; Smith & Sobel, 2010; Thiele, 2013) have established that the alienation of people from their places and cultures is one of the leading causes of the profound lack of care for the environment.

It can be argued that the education systems of many previously colonised countries and societies still privilege Western knowledge and cultures, thereby perpetuating the marginalisation of indigenous people's place-based knowledge (Hardman et al., 2008). Given that indigenous knowledge systems are fundamentally relational, linked to the land and language, and are transmitted intergenerationally through songs, ceremonies, protocols, and ways of life (Mbah, Ajaps, & Molthan-Hill, 2021), this alienation inhibits the people's knowledge of their environment and, therefore, their ability to contribute to its conservation.

Where indigenous learning methods and cultures, including languages and places, are absent in the education system, learning becomes abstract and alienated from the places learners know and care about. For example, Nigerian children learn the alphabets as 'A for Apple', an exotic fruit many are not familiar with, and this unfamiliarity is true for many of the nouns associated with the other alphabets. Local languages are also prohibited in many schools and homes, in favour of the dominant English language (Ajepe & Ademowo, 2016). Furthermore, in the Nigerian Geography Curriculum for the final year of secondary school, for example, the first four weeks focus on environmental hazards and features that do not affect Nigeria such as earthquakes, volcanicity, and karst topography. This focus is not given to Nigeria's major environmental problems like pollution (air, land, and water) and drought – which are not mentioned in the curriculum at all, and flooding and erosion – which are only mentioned briefly in the second week of the penultimate year of secondary school. One may ask the following question: Are these learners being prepared to mitigate or adapt to distant environmental problems while overlooking the local problems that actually affect them?

For education to result in actions that could contribute to environmental conservation, it needs to be simultaneously critical and relatable (Kayira, 2015; Reid, 2002). Hence, the rationale for

interrogating a critical pedagogy of place for environmental conservation (Gruenewald, 2003a). Critical pedagogy of place can be referred to as an educational approach that combines critical pedagogy (Freire, 1974) and place-based education (Sobel, 2005), as reviewed later in this paper. This combination is significant because of place-based education's invisible endorsement of colonial narratives and domineering relationships with the land (McInerney, Smyth, & Down, 2011) and critical pedagogy's essentialism of social problems and its downplay of the ecological dimension of social injustice (McLaren & Houston, 2004). Since critical pedagogy has a sociological focus while place-based education has an ecological focus, an effective combination results in the attainment of goals that are fundamental to each and essential for the conservation of our environment. By environmental conservation, attention is given to the practice of protecting the environment to prevent it from deteriorating as a result of human activities such as fossil fuel burning, deforestation, and unsustainable agriculture. The education system the coloniser put in place remain largely unchanged in Nigeria, and it is placeless, authoritarian, and teacher-centred (Hardman et al., 2008). Alternatively, a critical pedagogy of place (Gruenewald, 2003b) could empower indigenous and marginalised people to learn about their environment, thereby providing them with opportunities to create social change by contributing to its conservation.

In the remaining part of the paper, we provided an insight into popular ideologies that frame the discourse on education in Africa. We then examined the critical pedagogy of place as our theoretical framework and explored its role in environmental conservation. Next, the methods, results and discussion of the study were presented, with final considerations for implementing a critical pedagogy of place for environmental conservation.

Ideologies that underpin African education

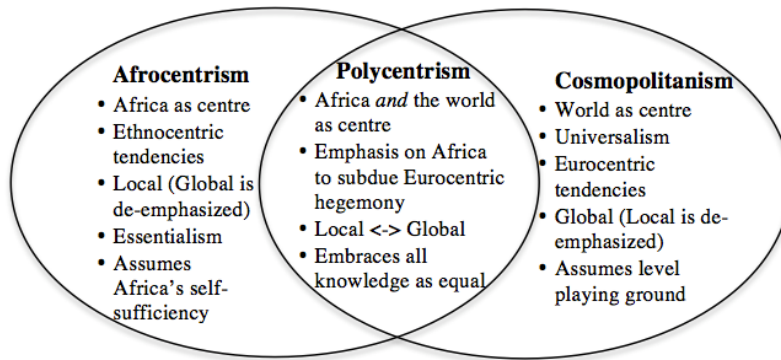
There are two popular ideologies regarding African education: Afrocentrism and cosmopolitanism. Afrocentrism (Olaniyan, 1995; Monsanto, 2018; Williams, 2017; Royster, 2020; Howe, 1999; Kershaw, 1992) argues for absolute or at least central focus on African indigenous knowledge systems and philosophy. Asante (2008) argued that Africans have experienced violent separation from their philosophies, languages, religions, myths, and cultures; thus, they need to reorient themselves to African cultural reality so that they have something authentic to bring to the table of humanity. Beyond its merits, a problem with Afrocentrism is that it assumes an essentialist position; yet African cultures are very diverse. It also upholds the centre-periphery binary and is therefore just as inadequate as the Eurocentrism

it aims to tackle, with both being different forms of ethnocentrism that are detrimental to the people involved and to the world.

Consequently, cosmopolitan adherents believe in a central focus on the world, that is, adopting a universal perspective in African education where Africans do not focus on being African but on being citizens of the world (Breckenridge et al., 2002; Fine, 2007; Cheah, 2006; Brennan & Brennan, 1997). Appiah (2006:69) presented two main ideas of cosmopolitanism: (i) we have obligations to others that are bigger than just sharing citizenship, and (ii) never take the value of life for granted; become informed of the practices and beliefs of others. In essence, cosmopolitanism looks beyond the local to emphasise the global, that is, world citizenship. Yet, this is based on the generalised assumption that Africans are already informed of their own practices and beliefs, thereby disregarding colonisation's subjugation of indigenous knowledge and practices (Spivak, 1988). Knowledge of others, but not of ourselves, does not complete our understanding of the world. Another problem with the cosmopolitan standpoint is that, by taking the world as centre, Africa remains out of focus because of unequal powers (Fanon, 1961). In sum, this 'local versus global' debate is unnecessary, and trying to hold on to one of the two ideologies inhibits a complete understanding of the world.

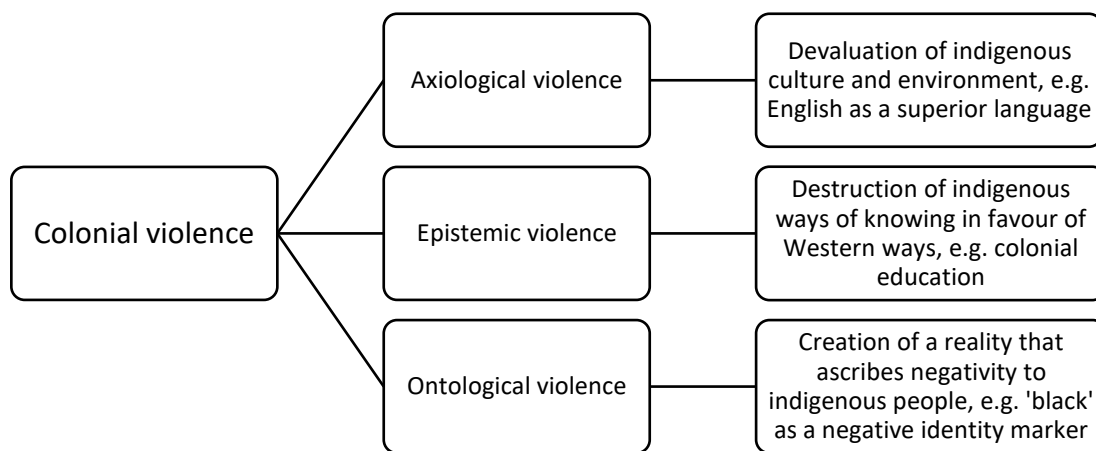
Polycentrism (Hewson, 2015; Zisserman-Brodsky, 2003; Okolo, 2021) resolves this dichotomy by accounting for colonisation's subjugation of Africans in the current era of globalisation. According to Amin (1990), polycentrism assumes a many-centredness which necessitates the absence of a single centre. For example, a polycentric approach to education in Africa means the world as the centre but emphasis on Africa because of unequal power structures. The implication is that all the world's cultures or knowledge are valid and deserve equal status but because of Africa's history with colonisation and the current globalisation era, African cultures should be emphasised more in African education to make the cultures as visible and strong as other cultures, especially those of the West. As Figure 1 shows, polycentrism is the meeting point between Afrocentrism and cosmopolitanism. To have a complete understanding of the world, people must 'study the culture and environment of their own society first, then in relation to the cultures and environments of other societies' (Wa Thiong'o, 1992, p.97). There must be equal engagement with the local and global, of Africa and the world.

Figure 1 *Characteristics of Prominent African Education Ideologies*



Currently, local knowledge, people and places are marginalised in the educational systems and curriculum of some developing countries such as Nigeria (Hardman et al., 2008; Agbedo et al., 2012). Colonialism disrupted Africans' way of life and its violence impacted axiological (what one values), epistemic (knowledge and its scope), and ontological (nature of reality) dimensions of existence, as illustrated in Figure 2. Spivak (1988) has written extensively on epistemic violence, but the other two dimensions were also very damaging to colonised people.

Figure 2 *Paradigms of Colonial Violence*



de Sousa Santos (2014) outlined how and why we need to critically engage and amplify alternate ways of knowing and knowledges sourced from the marginalised Global South, which includes Africa. The idea is to recognise the ecology of knowledges, where all forms of knowing are equally valid, to maximise their respective contributions to build a more democratic and just society and at decolonising knowledge and power (de Sousa Santos, Nunes, & Meneses, 2007). Postcolonial and indigenous peoples' cultures are mixed, evolving, and located in a hybrid or third space (Bhabha, 2012); therefore, postcolonial cultures are a combination of colonist and indigenous cultures and are also influenced by globalisation . It is

within this space that we operationalise the ecology of knowledges, and this space can become emancipatory through successful intercultural translation (de Sousa Santos, 2014), with the ideal of equality and an appreciation of indigenous people's knowledge, culture, and places. Therefore, we argue that the polycentric viewpoint and the ecology of knowledges promote a critical pedagogy of place, as discussed in the ensuing section.

Theoretical framework

The paper is nested in the theoretical framework of critical pedagogy of place. Critical pedagogy is an educational philosophy that considers issues of social justice to be integral to teaching and learning activities. It has been described in various forms, from democratic pedagogy (Dewey, 2010; Freire, 1996) to transformative learning (Mezirow, 1978; Kegan, 2009), engaged pedagogy (hooks, 1994), multicultural education (Banks & Banks, 1995), and anti-oppressive education (Kumashiro, 2000). Based on knowledge acquisition, situational analysis, and action, critical pedagogy is important because ignorance, defined as lack of knowledge and critical thinking skills, is a key tool in the maintenance of oppression (Freire, 1974). Through dialogue and co-learning, people can raise their critical consciousness of reality, and this could help eliminate oppression. Freire (1974) proposed critical pedagogy as a key solution whereby learners are not simply there for knowledge deposition like the banking system, but learners actively contribute to their learning by thinking critically and solving problems. Critical pedagogy fosters critical consciousness and being critically conscious means being able to apply knowledge and critical thinking skills to examine current situations, develop deeper understanding of reality, and generate and implement solutions to problems.

Place-based pedagogy, on the other hand, refers to education that is based on the people and environment engaged with it. Place, land, and environment are synonymous for many indigenous peoples (Kezabu et al., 2018) and are also used interchangeably in this paper. Tuck & McKenzie (2015, p.20) defined place as 'the setting for social rootedness and landscape continuity. They also understand places as being mobile and shifting over time and space through interactions with other species and social practices. However, in an era where places are viewed in terms of 'occupying, exploiting, and profiting' (Gruenewald, 2003b, p.629), a place-based pedagogy acknowledges places to be living entities that deserve to be treated with respect and care. The pedagogy calls for attentiveness to learners' places.

Gruenewald (2003a) critiqued schooling for its role in reproducing oppression by alienating people from places and the spaces they occupy and argued that place-based pedagogy is needed so that education could have some direct bearing on the social and ecological wellbeing of

places. Similarly, Sobel (2005) emphasised the need to connect classrooms with communities and presented four new directions in school reform necessary for the success of place-based education: move from extraction to sustainability as the underlying metaphor, move from fragmentation to systems thinking as a conceptual model, start from here-and-now and move to long-ago-and-far-away as a developmental guideline for curriculum design, and move from mandated monoculture to emergent diversity as a school district goal. School reform is expedient because:

In place of actual experience with the phenomenal world, educators are handed, and largely accept, the mandates of a standardised, ‘placeless’ curriculum and settle for the abstractions and simulations of classroom learning. Though it is true that much significant and beneficial learning can happen here, what is most striking about the classroom as a learning technology is how much it limits, devalues, and distorts local geographical experience (Gruenewald, 2003a; p.8).

Critical and place-based pedagogies collectively result in the transformation model described in Table 1.

Table 1 *Transmission and Transformation Models*

Transmission model	Transformation model
Knowledge transmission	Knowledge co-creation
Uncritical; emphasis is on ‘truths’ and ‘facts’	Critical; emphasis is on advancing understanding
Learners as passive spectators	Learners as active contributors
Adherence to fixed curriculum	Flexible curriculum content
Geared towards standardised testing	Geared towards problem solving
Single perspective or voice (authoritarian)	Multi-perspectives or voices (democratic)
Decontextualised or standardised content	Contextualised or place-based content
Knowledge about a static issue (e.g., law of gravity)	Knowledge about an evolving issue (e.g., climate change)

Gruenewald (2003b) described how five dimensions of place could shape the development of a critical pedagogy of place. The perceptual dimension emphasizes the need for humans to listen to, and perceive places. The sociological dimension illustrates that not only is our experience of places mediated by culture, education, and personal experience, but places themselves are products of culture. The ideological dimension concerns the expression of ideologies and relationships of power in spaces and places because power depends on, is facilitated by, and is reflected in the development and control of geographical spaces. The political dimension draws our attention to how marginality is a place of oppression, but also of

power and resistance. The ecological dimension describes how modern economies function to damage and destroy the ecological systems that support life.

There have been many studies on the empirical application of a critical pedagogy of place. Kayira (2015) reviewed African-centered approaches to a place-based education in Southern Africa using Gruenewald's (2003a) guiding questions of What happened here? What is happening here now and in what direction is this place headed? and What should happen here? They concluded that African educators and learners need to constantly recognise and engage critically with the hegemonic assumptions embedded in education towards paving paths for their own truths and discourses to challenge the dominant Western discourses. Furthermore, Derby et al. (2015) invited North American environmental educators to explore three place-based inquiries: What is happening here? What has happened here? What should happen here? The intention was to explore some of the challenges involved in implementing a critical pedagogy of place and many of the participants seemed unwilling to criticize the way in which a highly industrial and corporatized urban downtown core suppresses the more-than-human aspects of place.

Madden (2015) went further by using Gruenewald's (2003b) curricular approaches to suggest pedagogical pathways to indigenous education that involve reflection and action to articulate and work towards emancipatory possibilities, preparing students to become critical agents involved in questioning knowledge production and distribution. Barnhardt (2016), McInerney, Smyth, & Down (2011), Martusewicz et al. (2014), and Chinn (2007) have also demonstrated how a critical pedagogy of place can be achieved. Focus is on transforming school curriculum to include multiple ways of knowing, connections to communities and places, and action. These have been found to be a more effective way of learning, especially among indigenous people (Bang & Medin, 2010). Consequently, a critical pedagogy of place is imperative for people who have not had their education focused on the places they inhabit and are familiar with. Since environmental knowledge and pro-environmental attitudes and behaviour are positively correlated (Ogunbode, 2013; Pitzén, 2019), a critical pedagogy oriented around learners' places is more likely to contribute to environmental conservation. Thus, more knowledge about how a critical pedagogy of place could be achieved is needed, especially from underrepresented geographical and practitioner perspectives, and the understudied regions of Africa.

Methodological procedure

Nigeria has been chosen to illustrate a phenomenon that has implications in other countries. Nigeria lies on the west coast of Africa with a 2021 population estimate of 211 million (NPGR,

2021). There are over 250 indigenous groups, and each group has several dialects of their local language. The official language is English, and the country's economy is dominated by petroleum and mining. Nigeria ranks 161st out of 189 countries on the Human Development Index, which measures average achievement in a base-line standard of living, knowledge, and a long and healthy life; this puts the country in the Low Human Development category (UNDP, 2020). Despite gaining independence since 1960, Nigeria's education system is still heavily influenced by British educational policies during colonial rule (Hardman et al., 2008; Agbedo et al., 2012). This makes Nigeria an ideal setting for an exemplary exploration of pathways for a critical pedagogy of place that is aimed at transforming education to reflect the aspirations of its people and places.

Data collection and analysis

A qualitative research approach was employed because of its appropriateness for exploring a phenomenon within its context, as well as detailed description and centering the participants' voices in the research through narrative analysis to report on the findings (Baxter & Jack, 2008; Gay, Mills, & Airasian, 2006). Gaining an insider's view (Stake, 2005) was necessary as we explored teachers' perception of the extent to which education is based on local environments and their notions of effective pedagogy with respect to environmental conservation.

Ten teachers were recruited through purposive sampling from five schools in a local area and their details are shown in Table 2. Focus was on particular characteristics of a population that were of interest, and so biology and geography teachers within a school district the researchers had access to were approached to request their participation in this study. These subjects were chosen because they are about the environment and contain significant infusion of environmental education content in them that present opportunities to educate for environmental conservation. Consent forms that provided information about the research, participants rights, and their protection were signed by participating teachers and approved by their school heads. The research was also approved by the Institutional Review Board of New York University.

Data was collected between June and July 2019 via in-depth interviews. The interview method engaged enabled a close collaboration between researchers and participants, and the latter were empowered to describe their perceptions of reality. Centering participants' voices is important for this study to contribute to the legitimization of indigenous voices (Maistry & Lortan, 2017; Ndofirepi & Gwaravanda, 2019). Based on Gruenewald's (2003a) guiding questions of what is happening here and what should happen here, this study's research questions were: (i) To

what extent is Nigeria’s education based on place? and (ii) How might place become the foundation for learning?

Table 2 Participant profile

Pseudonym	Highest academic qualification	Gender	Age	Experience (years)	Average class size	Subject
Ade	MSc Cell Biology	M	56	27	80	Biology
Ayo	PhD Guidance and Counselling	F	59	15	100	Biology
Deen	PhD Biology education	M	35	5	120	Biology
Fami	MSc Fisheries management	F	36	3	30	Biology
Oba	BSc Geological & mineral science	F	36	10	28	Geography
Oja	BSc (Ed) Geography	F	42	12	100	Geography
Ola	BSc Microbiology	F	40	11	90	Biology
Olu	BSc Biochemistry	F	44	18	60	Biology
Ope	NCE Geography	F	38	17	105	Geography
Yemi	BSc Geography	M	45	19	20	Geography

The audio-recorded interviews were transcribed verbatim for thematic analysis (Kiger & Varpio, 2020). The transcripts were read the first time to get a general sense of the data and identify themes based on the research questions. Then we read them again to detect specific issues within the broad themes, which we referred to as codes, and discourses that were related to a particular idea were marked as distinct codes (Bowen, 2009).

Results

Analysis of the interview data produced two major findings – the place-detached nature of education and ideas for a critical pedagogy of place. Excerpts from participants’ narratives have been used in the ensuing sections to support the themes and where this is the case, they have been accompanied with pseudonyms.

6.1 *Place-detached nature of education*

Results showed that the curriculum and pedagogy of Nigeria’s education were not based on the local environment and specific places were barely mentioned in the curriculum and the government-recommended textbooks. Here we present two themes around which the results were discussed, namely cultural alienation and structural factors. Cultural alienation refers to the disenfranchisement of participants from their culture such that they had inaccurate knowledge of indigenous knowledge and practices. Most of the participants’ responses pointed to this; for example, participants did not consider tree-planting an indigenous practice:

Yemi: What I know is that you'd go to a farm, they'd cut one tree for you, they'd place the logs on your head, then you'd go home with it, and that's all. We don't replant.

Ade: Yes, we only know how to cut, we don't do afforestation.

Oja: It's not part of our culture, reforestation. So, we don't do it.

But in pre-colonial times, replanting was a survival strategy in indigenous cultures, along with mixed farming, irrigation, and so on. Participants erroneously attributed their personal experiences of indiscriminate tree felling, which happened in the postcolonial era, to indigenous culture. This was because tree-planting is one of the recent World Bank-sponsored environmental education initiatives in the state where the study was conducted, hence, participants viewed it as a western practice.

Furthermore, most participants could not mention any indigenous education practices and some believed that there was no education in Nigeria until the colonial era and the advent of Western education. In addition, a participant attributed current knowledge about planting and soils to Westerners:

Yemi: [Westerners] are the ones that introduced us to education...they made us realise that soil is important, then we are able to plant. They defined soil and gave us information about it.

Yet, education was widely practised among indigenous peoples long before the colonial era, and they lived closely with the land which they relied on for sustenance, especially subsistence agriculture. Participants' alienation from their culture is also alienation from their place, and with their curriculum and textbooks devoid of indigenous cultures or places, as discussed below, their education is bound to remain detached from their environment if no deliberate efforts are made to critically engage with their places.

With respect to the second theme of structural factors, limited funds, rigid structure, foreign textbooks, standardised assessment, and unfavourable policies such as field trip ban were the main reasons for the placeless nature of education. Participants reported that their schools lacked the resources to integrate place in their practice. For example, classrooms had an average of 80 students, with some teachers having as many as 120 students, and this made it impractical for teachers to take the class out to study their environment. Lack of instructional materials also inhibit place-based learning, since these materials like pictures, videos or crafted objects could suffice where crowded classrooms prevent teachers from taking students out.

Olu: The best way for the student to learn is for the population to be reduced... we have over 120 in a class.

Oja: [The government] should endeavour to provide utilities – visual and audio instructional materials teachers will use in the classroom so that instead of taking students around, because at

times you might not be able to go for field trips but when pictures and videos are available, the students will feel more confident, and it might even be as if they are seeing it.

The rigid structure of the curriculum content and lesson plan templates was also reported as a barrier to place-based learning because teachers felt limited with respect to the extent to which they can make modifications to centre learning on place. However, a few teachers reported being able to bring in examples from their local environment during lessons. The curriculum and textbooks that the government provides to schools is also West-oriented, including the omission of critical issues like the Niger Delta crude oil pollution which has political overtones.

Olu: [The state] have their own means, in fact they even give us a lesson plan mode, so there's a way you must write it.

Fami: [The textbooks] talk about environmental pollution, but you know they will not be using Niger Delta as example... But we know that they are talking about Niger Delta because it has caused a lot of problems in Nigeria.

Ade: Most of the textbooks we are using are not really focusing [on Nigeria] ... when they are talking of the biomes generally, I think you will see a situation where they are mentioning tundra, their weather in western, what do we have to do with that, it doesn't concern us here.

Most participants criticised the Western focus of Nigerian schools as well as the increasing prominence of local schools that have adopted British or American curriculum, for example:

Ope: We have some students that, starting from primary school, their parents decide to take them to foreign school, instead of taking them to our local schools here. In our local schools here, we take them out, show them the immediate environment, but over there they would just put them inside school, they will not allow them to go out.

Nonetheless, a participant believed that the British curriculum was better for Nigerian students:

Deen: I think if we can adopt the British curriculum, I think that is the best.

This surprising response may be due to the participant's frustration with the government and the poor state of public schools. It may also be due to the pervasive colonial mentality – a servile attitude or the colonised's normalisation of colonialism's injustices usually accompanied by a feeling of gratitude that the Westerners granted them some access into their world and made them 'civilised' (Fanon, 1961).

However, a few textbooks are bringing in local focus...

Ade: For example, this College Biology, I think I most of the things they mentioned there have nothing to do with our own environment here...but Essential Biology, I think if you look at it, to a certain extent, it's somehow [focusing on Nigeria].

Another factor contributing to the place-detached nature of Nigerian education is standardised assessment. The curriculum and textbooks must be complied with to prepare students to pass examinations set at state and national levels.

Oba: But our emphasis should not be so much on only the local environment. Because the questions that they will answer at the end of the day will combine everything. Like WAEC [the regional examination at the end of secondary education in West Africa]. Like topics about Africa. It's been a long time WAEC stopped asking questions on it, and it's still in the scheme of work. Some of these Western features that we're talking about, if we neglect them, they'll meet it in their exams.

Unfavourable policies, especially the ban on field trips, also contribute to placeless education.

Oba: Let us take the children out, the children are confined to the wall of the school, they don't know what is outside. There should be provision for us to take them out to see those things, but because of the security and the financial aspect, we can't take them out.

Ope: This aspect of field trip that government stopped, that's one of it, government should not stop field trip, they should allow children to go out to see things.

In sum, limited funds presented major challenges for teachers' implementation of their idea of effective learning, especially with respect to field trips and audio and visual instructional materials. Participants also felt limited by the rigid lesson structures and standardised examinations. Furthermore, the teachers who believed that students are not interested in learning employed less effort and improvisation in overcoming the reported barriers, such as engaging students in the production of instructional materials or holding lessons around the school premises.

6.2 *Ideas for a critical pedagogy of place*

Participants identified avenues for incorporating students' places in their learning, and these were presented under two themes: contextualisation and indigenisation. Contextualisation refers to the placement of learning within the contexts of actual environments or places, from local to global. Named places, place-based approaches, and discussing the importance of learning content constituted the ways participants visualised a contextualised education.

Ayo: There is outbreak of cholera microorganism where does this happen? In the North now! So, when we are making examples, we should go back to our environment. If at all we are bringing an example from outside our country or Africa, it should be supplementary.

Yemi: I was looking at the riverine areas of [a local community]. If we take our students out, they will know how that environment is. Riverine areas are prone to flooding, waste disposal, and some other challenges and health issues.

When environmental processes or problems are discussed with a mention of the names of the places where they occur, learning becomes less abstract and more concrete. When these places are familiar to students, learning becomes more relatable and meaningful. This is why participants stated that beyond naming the places relevant to learning content, it is also important to situate the learning within the local environment students are familiar with.

Olu: They normally have nature walk every Wednesday at my son's school, they are not more than 30 in a class. You see them around their school environment, they go for nature walk then they will ask them 'have you seen this leaf before?', 'have you seen this butterfly before?', 'this is the name

of that animal', something like that, at least from that little age, those children are familiar with their environment.

Oba: Waves, water body... some of these things, the children don't have access to them... remove [content] that are not Nigerian based completely from their curriculum, so that we go local, things that they can see, experience, feel, they know about, it will be better off.

A few participants also emphasised the importance of learning about distant places as well.

Olu: Learning the terrain of distant places can really help for the present and the future. Like we are here now, and you might have never been to Europe or Asia before, but when you learn about the climate of such places, it would not be new to you when you get there eventually. So, it helps you to prepare ahead of time.

Discussing the importance of learning content and activities also contribute to the contextualisation of learning based on the immediate environment, towards the application of knowledge to provide solutions. A critical pedagogy of place becomes possible when students can see the relationship between what they are learning and their real-world experiences.

Oja: I was teaching conservation of the environment, after the class, I told them that let's think of what we can do like when you have resources that we use at home or around you, gather them together and sit down and think on what to do. You know it was amazing and I discovered that some of them made aeroplane and the fan was rolling, I feel very glad within me that at least, I can encourage them – some of them built a car – I didn't even expect that, and I just said that's going to be your test, no written test and you know with joy, they really performed extraordinarily.

Indigenisation refers to a reorientation of learning activities around indigenous or local knowledge and methods. Indigenous learning methods, activity-based learning, community involvement, and local textbooks were participants' suggestions for an indigenised education. Problem solving, as well as songs, stories, and proverbs are some of the indigenous learning methods mentioned by a few participants, along with the use of local languages.

Fami: We were talking about taxonomy and the English name, and we sang it in Yoruba and then they will be like, 'it's that animal you're talking about!'. I use Yoruba to teach them so that they will be able to identify things they are not familiar with in English language.

Participants also recommended activity-based learning, with learners acting on acquired knowledge.

Deen: Nigeria is still lagging behind because even the British that we copy, they've changed their method and have gone far ahead of us...most of their teaching now is activity based, while ours is about memorizing.

This is remarkable because although this participant attributed activity-based learning to the 'progressive Britons', the African indigenous education abolished at the onset of the colonial era was practical and functional, therefore, activity-based (Mushi, 2009; Kasulwe, 2014).

Community involvement was also mentioned by a few participants, as well as the use of textbooks written by Nigerians for Nigerians. Even though only a few of the textbooks are

imported, content for Nigerian-authored textbooks is usually taken off the internet, particularly Wikipedia, without connecting it to the Nigerian environment and learners.

Fami: In [biology textbooks], we need to put more indigenous focus, because when you're talking about the environment we are living, we should not focus on other regions when we have something pertaining to our own environment.

Ope: I will tell [students], tomorrow we are going to do this, ask your parents about it. You know, your parents know more than you do, and they are older than you.

Finally, the need to contextualise learning by associating curriculum content with places, especially local places, was emphasised by participants. Before the recent ban on field trip, a few of the teachers had taken students out to see and experience what they were learning about, so they provided first-hand advantages of place-based education. Field trips also made it easier for students to appreciate the implications of the learning activities for themselves and for the local environment they were immersed in. the importance of indigenous learning methods like songs and local languages were also highlighted by participants as a way to respect learners' places and identities and draw on these to make learning more meaningful.

Discussion

Participants in this study described the place-detached nature of their teaching practice and they also generated ideas for a critical pedagogy of place. By discussing their textbooks and curriculum, it was revealed that Nigeria's education is not based on Nigerian people and their environment. Colonial violence (Spivak, 1988; Fanon, 1961) discussed earlier helps us to comprehend this phenomenon. Colonialism discredited indigenous ways of knowing and knowledge transmission and this led to the current preference for foreign curriculum and textbook content due to the belief that Westerners have superior knowledge and methods of learning (Omolewa, 2006). A critical pedagogy of place based on polycentrism is an antidote to this colonial mentality. Neither cosmopolitanism nor afrocentricism, as discussed earlier, is ideal because many Africans are not well informed about their indigenous cultures and these cultures should not be essentialised. A polycentric approach means the study of local environments in addition to Western or global environments, to make the former as visible as the latter in African education systems.

Indigenous cultures, including languages, were devalued in the colonial era. This explains the continued prevalence of the uncontextualized textbooks in use by this study's participants, and is similar to the findings of Ronoh (2018) in a South African primary school, where the curriculum content and textbooks were challenged for not being inclusive of Africans and their

cultures. The current textbooks in use by this study's participants are presented as universal. Thus, specific places are rarely mentioned and when they are, they are places or things found in the Western world. The rigid structure and standardised assessment of the current education system are also legacies of the education system established during the colonial era (Anderson, 1970; Mushi, 2009). The untransformed colonial education system in many previously colonised countries alienates learners from their own places, and this has also been reported by other studies (e.g. Ronoh, 2018; Kezabu et al., 2018). However, as our findings reveal, a critical pedagogy of place can improve students' connection to their environment. Similarly, Kezabu et al. (2018) found that place-based pedagogy reconnected students to their communities, cultures, and places, especially through community service projects undertaken by students, teachers, and elders in a Ugandan community. Also, the inclusion of multiple ways of knowing and connections to communities were found to be effective for learning and the transformation of school curriculum among indigenous peoples (Bang & Medin, 2010; Barnhardt, 2016). Furthermore, this study found that the ban on field trips based on financial and security reasons, also contributed to place-detached learning. Field trips enhance students' knowledge and attitudes about multicultural concepts (Salako, 2014) and they also provide opportunities for students to learn about themselves and others, as they engage with diverse places.

Although participants' responses evidenced cultural alienation, their ideas for the transformation of their education system showed that many of them were critically conscious of their reality (Freire, 1974). Their suggestions for place-based approaches and discussing the importance of learning content with students contribute to a contextualised education. Furthermore, indigenous learning methods, especially the use of local languages, songs, and stories, are more natural and relatable to students, and spur increased participation of students (Mushi, 2009; Manyike & Shava, 2018; Kezabu et al., 2018). Lessons also align with learners' indigenous experiences when they are activity-based, involve parents, elders, and other members of learners' communities, and textbook content is contextualised to focus more on local places and phenomena. Schools' engagement with local communities aids learners' appreciation of the connections between their learning and their environment, and this could contribute to environmental conservation (Mbah, 2019). In sum, the changes desired by participants are in line with the transformation model presented earlier, whose components have been proposed by educational researchers such as Freire (1996; critical pedagogy), Dewey (2010; democratic and experiential education), hooks (1994; engaged pedagogy), Elgin (1999; learning as advancing understanding), and Gruenewald (2003a; place-based pedagogy).

The transformation described above constitute a critical pedagogy of place, whereby learners become aware of their own environment in addition to distant environments, based on the polycentric approach. This provides them with more tools to understand their reality and effect necessary changes towards the preservation of themselves, their cultures, and their environments. In line with polycentrism, no place or knowledge is regarded as being superior. Even though local places are emphasised in a critical pedagogy of place, this is important for Africa because of the marginalisation of its culture and environment in the education system (Ajepe & Ademowo, 2016). Yet, caution is required to prevent the elimination of the current Eurocentrism (Abdulrahman et al., 2021) and Cosmopolitanism (Appiah, 2006) from resulting in the establishment of Afrocentrism (Asante, 2008). Polycentrism (Amin, 1990; Hewson, 2015) allows for multiple centres, and it is within this framework that a critical pedagogy of place in Africa should be situated.

The theory of the ecology of knowledges (de Sousa Santos, 2014) discussed earlier also supports the polycentric approach with its emphasis on all knowledges existing within an ecology where all forms of knowing are equally valid. Thus, the Nigerian education should start from learners' places and expand outwards, or in other words, start from here-and-now and move to long-ago-and-far-away as a developmental guideline for curriculum design (Sobel, 2005). For example, while it is great for Nigerians to learn about environmental hazards like hurricanes and earthquakes that occur in foreign places, this should not be at the expense of learning about local environmental hazards like flooding and pollution from crude oil exploration and electricity generator fumes that affect learners' lives. A contextualised and indigenised education constitute a critical pedagogy of place, which is necessary for more effective environmental conservation, including climate change mitigation and adaptation.

Final considerations

This is an initial foray into the difficulties and importance of incorporating a critical pedagogy of place in Nigerian schools to better prepare youths to be participants in efforts to conserve the environment. Making the necessary changes in schools will not be easy due to cultural alienation and the structural factors discussed above. However, some of the potential strategies we discussed for overcoming these challenges are place-based approaches, indigenous learning methods, and the use of place-focused textbooks. Local activists and policymakers can support this transition by creating awareness about issues within local environments, promoting or recommending local-based textbooks in schools, student-centred learning with emphasis on democratic and experiential learning, and implementation of policies that protect the local

environment. In addition, researchers should work with indigenous teachers in diverse places to understand the nature of cultural alienation, where it exists, and its relationship to place-detached education and environmental conservation. Ideas for implementing a critical pedagogy of place should also be drawn from teachers due to their experience and wealth of knowledge, but also because implementing the ideas would be easier if they co-create it. This transformation is necessary because of the numerous studies that have revealed the importance of environmental knowledge and place awareness for pro-environmental behaviour and environmental conservation.

This study's findings and their implications are limited due to the participation of teachers selected from the same locality. Future studies need to employ more randomised participant selection and engage more teachers across different parts of the country. In addition, the interview method employed relies on participant self-report and researchers' interpretation, which could be biased or incomplete. Thus, the application of a variation of data collection and analysis techniques would widen our understanding of this phenomenon, including how to work towards its transformation to improve the quality of education systems and the environment. Nonetheless, the insights generated from this study's participants has contributed to our analysis of the place-detached nature of education and avenues to transform it towards a critical pedagogy of place, especially in previously colonised countries where indigenous cultures and environments have been relegated.

Some interesting findings of this study include the notion of tree-planting (afforestation and reforestation) as a Western practice held by some participants, limited knowledge of indigenous cultures and practices from self-reports, for example, belief that education did not exist in Nigeria before the colonial era, and the belief that the British curriculum is better for Nigerians. These result in the lack of critical and place-based education. Nonetheless, participants provided ideas about how to implement a critical and place-based education, with emphasis on contextualisation and indigenisation. Considering the urgent need for everyone to mitigate and adapt to climate change, as well as other environmental problems, it is crucial for people's education to reflect their realities and environments. A critical pedagogy of place provides learners with better chances of understanding and solving environmental problems, including climate change. For Africans, a critical pedagogy of place also restores their marginalised knowledge, culture, and environment, thereby, contributing to a more impartial world. All sources of knowledge are valid, and it is in the best interest of environmental

conservation for everyone to engage with the entire ecology of knowledges across all places. We need to understand our environment to solve its problems, locally and globally.

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Declaration of interest statement

There are no conflicts of interest to declare.

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