Sustainability and Cultural Inclusion: Considering Ontological, Epistemological and Educational Diversity

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ABSTRACT

Cultural diversity is important in understanding human-nature relationships and suggesting ways to change them in the face of environmental crises. Therefore, it is important to examine how environmental education (EE) and education for sustainable development (ESD) consider cultural inclusion. The debate between different visions related to humanity, society, nature, the environment, the relationship between humans and the rest of nature, development, growth, etc. opens the spectrum to study cultural inclusion. This editorial briefly overviews how EE and ESD address cultural inclusion. This overview places such a debate as the basis of this special issue (SI) of the Interdisciplinary Journal of Environmental and Science Education (IJESE). Most of the papers in this SI are expanded and peer-reviewed versions of conferences presented at the Sustainable Globe Conference 2021. The papers highlight sustainability problems in different scenarios, propose alternative viewpoints to what sustainability or ESD establish, and use diverse methods for producing knowledge.

Keywords: sustainability, education for sustainable development, environmental education, cultural diversity, cultural inclusion

INTRODUCTION

Cultural diversity is important in understanding human-nature relationships and suggesting ways to change them when environmental crises occur. Thus, each cultural group has different beliefs, actions, customs, values, priorities, goals, means, and intentions (Castaño, 2021; Tovar-Gálvez, 2021) to address the environmental crisis. The academic and modern world has addressed human-nature relations mainly through environmental education (EE) and education for sustainable development (ESD). Both approaches see it as problematic how societies develop to the detriment of nature.

Communities use EE to solve problems about the negative impact of human activitiy on nature, but ESD guides communities toward more specific goals and considers ecological, social, and economic dimensions. For this reason, it is important to examine how EE and ESD address cultural inclusion and its implications.

There is debate about EE and ESD because of their apparent limitations. Some reviews describe EE as limited to the ecological dimension, while ESD is broader in scope as it also considers the social and economic dimensions (Berglund et al., 2020). Other reviews recognize an EE branch that addresses conservation and disconnected activities and another

complexity-based branch (Tovar-Gálvez, 2013). In regions such as Latin America, there is a debate between EE and ESD. Some communities consider that ESD emerged from a capitalist system that prioritises economic growth over the ecosystem and social well-being, while EE is open, contextualized, critical, decolonial, and intercultural (Mora, 2009; Valero & Febres-Cordero, 2019). On the other hand, supporters of EE point out that ESD is limiting because it depends on a single vision of the human-nature relationship that originates in Western culture and focuses on fixed goals and economic development. Thus, EE would allow communities to develop processes without having a commitment to capitalism, Western culture, and unlimited economic growth.

Buen Vivir (Good Living) is an alternative that does not adhere to unlimited economic development. Like other Native American and African American visions, Buen Vivir assumes that humans are part of nature, that nature is a subject of rights, and that perhaps the best way to overcome the environmental crisis is to stop economic-industrial development (Gudynas, 2011). However, other intermediary positions in scholarship propose to distinguish between "sostenibilidad" (sustained economic growth) and "sustentabilidad" (responsible social development) (Rivera-Hernández et al., 2017). Zarta (2018) points to translation errors from English to Spanish and associated semantic

distortions. Moreover, the academic sector argues that the crucial point is to define development in social and ecological justice terms (Macarrón, 2012). Nonetheless, some indigenous peoples around the world adhere to sustainability but securing their human rights and land tenure (IPMG, 2017).

The endless debate between this diversity of visions regarding humanity, society, nature, the environment, the relationship between humans and the rest of nature, development, growth, and many others opens the spectrum to explore cultural inclusion in this context. This editorial provides a brief overview of how EE and ESD address cultural inclusion with this motivation. This overview places such a debate as the basis of this special issue (SI) of the Interdisciplinary Journal of Environmental and Science Education.

Education for Sustainable Development and Cultural Inclusion/Exclusion

Some researchers argue that cultural exclusion is the origin and foundation of ESD. First, some studies provide qualitative and quantitative evidence that culture influences how subjects, communities, and nations understand sustainability (S), sustainable development (SD), and ESD. For example, Berglund et al. (2020) demonstrated the difference in sustainability consciousness between populations in Sweden and Taiwan. The authors note a cultural difference between students from both countries.

In addition, some authors demonstrates how local ideas or viewpoints shape ideas and policies related to ESD and SD, as Burnett and McArdle (2011) present for Australia and Zhou and Lee (2022) for China. This phenomenon reveals that while institutional documents exist at ESD, divergent interests and viewpoints can alter this uniformity.

Among the limitations of ESD in promoting inclusion is a dilemma between the economic and ecological dimensions. For Berglund et al. (2020) and Kopnina (2020), there is an incompatibility between economic growth and ecological preservation. For the authors, the ESD idea of sustainability based on economic growth does not lead to a critique of environmental exploitation, consumption, or social inequalities. Nevertheless, some studies suggest that SD and ESD solve cultural and ecological problems that other positions cannot. For example, Burnett and McArdle (2011) found that local economic development policies have displaced multicultural policies in Australia, but ESD is one way to achieve balance. In addition, Zhou and Lee (2022) argue that China focuses on ecology, but in contradiction, China's economic and social development indices are twice the environmental development index.

Other authors believe the exclusion is based on the colonialist understanding of ESD. For instance, O'Donoghue and Roncevic (2020) and Ogwari et al. (2021) emphasize that African education and ESD emerged from colonialist Western cultures. They argue that mainstream education does little to promote cultural inclusion and transformative social participation and that ESD is not clear on how to put cultural diversity and intercultural dialog into practice.

Opposing positions, however, criticise local knowledge and see it as a limitation to implementing ESD and SD. For example, Burnett and McArdle (2011) found in their study that Australian education policy and teachers focus more on EE and therefore do not develop all the elements of ESD. Furthermore, Zhou and Lee (2022) point out that the local Chinese concept of 'ecological civilisation, which focuses on ecological protection, replaces ESD and weakens links to SD.

Additionally, some researchers note limitations to enact cultural inclusion in the practice of ESD. For example, Jørgensen et al. (2020) examined some ESD activities that do not incorporate students' alternative ideas, values, and experiences related to nature. Furthermore, Warlenius (2022) believes that while some ESD experiences bring in indigenous knowledge, ESD never leads to critiquing or changing the power relations between cultures and the capitalist system.

Nevertheless, some viewpoints highlight the contribution of ESD to cultural inclusion. For example, Catarci (2021) considers ESD as a way to overcome the limitations of intercultural education, which mainly aims to change or adapt to foreigners and does not include local citizens. For the author, ESD is key to ensuring that all citizens have the knowledge, ability to exercise rights and tools to participate in SD. Similarly, Inocian (2021) describes the goals of ESD as broad, so the author includes cultural sites and assets to create a culturally responsible education model.

Environmental Education and Cultural Inclusion/Exclusion

Some researchers argue that the problem of cultural exclusion is at the level of the EE curriculum. For example, the general curriculum excludes minorities' knowledge and cultures, as noted by Kapyrka and Dockstator (2012), Salgado-Orellana et al. (2019), and Tishler et al. (2020). Other authors, such as Blanchet-Cohen and Reilly (2013), Renteria-Jiménez and Vélez De La Calle (2021), and Zeyer and Kelsey (2013), see the problem of cultural exclusion specifically in the curriculum of EE. The EE is unaware of cultural diversity and contexts for these authors. Moreover, Baptista et al. (2020) describe the problem as the need to bring intercultural policies in the curriculum. In the case studied by Rathore et al. (2020), immigrant teachers do not conform to the local intercultural EE curriculum.

Since EE relays on ontologies that conceive the environment as part of reality, EE has epistemological, pedagogical and, in general, cultural implications. The cited authors mention that cultural tensions arise from the clash of different life systems, beliefs, knowledge, values, and interests. However, the same authors also suggest alternatives to becoming EE in culturally inclusive processes.

Some researchers propose the symmetrical articulation of ontologies and epistemologies (Baptista et al., 2020; García-Campos, 2019; Kapyrka & Dockstator, 2012; Williamson, 2009). These works conceptualise the environment, EE, and environmental change considering the contributions of each culture. Other authors recommend a general pedagogical shift to promote cultural inclusion (Blanchet-Cohen & Reilly, 2013; Rathore et al., 2020; Renteria-Jiménez and Vélez De La Calle, 2021). Other proposals address specific didactic changes based on new approaches to teaching and learning (Tishler et al., 2020; Zeyer & Kelsey, 2013).

THE SUSTAINABLE GLOBE CONFERENCE 2021

The education conferences presented at the Sustainable Globe Conference 2021 (SGC 2021) reflect the diversity of views on the environmental crisis and its education. Most papers in this SI are expanded and peer-reviewed versions of those conferences. SGC 2021 was an online event held September 08-10 and organised by Martin-Luther-University Halle-Wittenberg (Germany) and RootsGoods (India). The goal was to "to address the challenges associated with education, nutrition, urban and rural development, and natural and cultural resources management in regards to their sustainability for climate action by creating a knowledge-sharing platform for sustainability" (Sustainable Globe Project, 2021).

The current SI is dedicated to the education focus of SGC 2021, Sustainable Development Goal 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."

A total of 29 presentations by authors from 13 countries, and four continents (Africa, America, Asia, and Europe) and ten speakers were part of SGC 2021 (Regmi et al., 2022). The next section analyses the contributions in the SI and highlights diversity in ESD and EE as one of the core themes.

THIS SPECIAL ISSUE

This SI gathers contributions that address sustainability from diverse perspectives and broadens the research horizon. The papers identify sustainability problems in different scenarios, propose alternative viewpoints to waht sustainability or ESD establish, and use different methods for producing knowledge.

The development of the paper relies on several problems or motivations:

A) About teacher education and practice–Castaño and Bravo address teacher education for culturally diverse contexts. Laub inquires how teachers deal with responsibility and judgments in ESD, and Tovar-Gálvez wonders how to guide teachers to integrate disciplines to achieve complexity in individuals' interpretation of reality.

B) Around extracurricular communities–Encarnación explores how to recover indigenous communities' traditional knowledge and practices. Sedano is interested in how individuals' interpretation of reality affects the environment. Vasques et al. argue that social and environmental inequalities are due to the historical colonisation and exploitation of the Global North over the Global South.

C) Challenges for educational institutions–Lindau and Kuckuck ask how textbooks guide students to recognise, evaluate, and act sustainably on complex systems. In addition, Puerto explores the contribution of school/home gardens to back to school after the COVID-19 pandemic.

The alternative views or proposals are characteristic of this special issue:

A) Castaño and Bravo seek to make visible the ontologies and epistemologies of indigenous biology teachers to understand life and the relationship between humans and nature.

B) Encarnación proposes to recover the indigenous environmental history to transform the communities' comprehension of environmental issues.

C) Laub proposes an ESD based on values such as responsibility and ethical judgments rather than normative behavioural aspects.

D) Lindau and Kuckuck look for an ESD that guide students to enact ethical judgment, evaluation, and ethical action in the context of ESD in geography lessons.

E) Puerto analyzes how adults with farming backgrounds engage in the school/home garden project and provide new knowledge to students and teachers.

F) Sedano examines whether individuals interpret environmental reality from an interaction between different ontologies and epistemologies.

G) Tovar-Gálvez illustrates how to achieve complexity in individuals' interpretation of reality when teachers integrate epistemologies from different cultural backgrounds.

H) Vasques et al. propose ecosocialism and Freirean EE for decolonization and changing power relationships between the Global North and the Global South.

Furthermore, methodological diversity is also a contribution to this special issue:

A) Some researchers conduct content analyses–Castaño and Bravo's study documents what Colombian indigenous students (communities: Muruy, Bora, Muinane, and Okaina) wrote in their final dissertations at the end of their biology teacher studies. Laub examines argumentative texts on ESD written by pre-service teachers at German universities. Lindau and Kuckuck evaluate textbooks from Bavaria and North Rhine-Westphalia (NRW), Germany. Sedano also analyses interviews with people from the rural region in Landazuri, Colombia.

B) Other scholars use literature analysis–Tovar-Gálvez opts for a qualitative and descriptive study of cases purposely chosen to illustrate mono-, multi-, inter-, and trans-disciplinary, and inter-epistemic experiences; and Vasques et al. purposely select historical facts to support the claim that imperialist capitalism leads to environmental degradation that affects social classes.

C) Encarnación chooses hermeneutics to conduct dialogs with elders of the indigenous Otomí community and establish an "interpretive narrative debate" to reconstruct knowledge and experience.

D) Puerto systematises the school/home garden experience already lived by the educational community by reconstructing the process and identifying lessons learned and transferable contributions.

CONCLUSIONS

The SI offers inclusive proposals, as the contributions go beyond the correct behaviours and theoretical-technical knowledge from the official curriculum and hegemonic culture. Sustainability is not a unique concept for the environment and human-nature relations, a limited and imposed set of goals, or an infallible truth of a particular culture. Not all communities are interested in development, unstoppable economic growth, a mercantile view of nature, or convergence with an imposed cultural tradition. However, these alternative views are excluded from mainstream concepts of sustainability and ESD and from the policies that are supposed to implement them. The authors of this SI contribute to transforming this reality by

a) acknowledging different ontologies, epistemologies, and interpretations of reality,

b) promoting relationships between disciplines and knowledge systems,

c) emphasizing ethical, critical, decolonial, and transformative teaching and learning,

d) seeking recognition of non-hegemonic cultures,

e) promoting the production of knowledge and meaning within contexts, and

f) hoping to change power relations between cultures and between humans and the rest of nature.

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