

Urgency, Equity, and Agency: An Assemblage of Global Concerns and Interests in Early Childhood Education for Sustainability

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ABSTRACT

Global environmental changes and substantial social justice issues are impacting all, raising significant concerns for the Earth's future. There is a need for equitable education as an avenue towards addressing these sustainability challenges. This qualitative content analysis study examined a representation of the concerns and interests of professionals involved in early childhood education for sustainability (ECEfS). We analyzed a conference document collated for the Transnational Dialogues in Early Childhood Education for Sustainability Research (TND) that included contributions from 60 educators and researchers from nineteen different countries. Three significant global and interrelated ECEfS themes emerged from the data: urgency, equity, and agency. The data indicate an urgent need for change as well as a much-needed push for equity alongside stakeholder concerns and interests in the role of children's agency. There was evidence of an inherent tension between child-centered and more teacher-centered pedagogies to achieve specific education for sustainability (EfS) goals. The findings have implications for applied EfS practices, co-operative research, and future investigations on a global scale.

Keywords: early childhood education for sustainability, environmental education, education for sustainable development

In a world that is rapidly changing, education has a significant role in responding to population surges, human migration, depletion of finite resources, and climate change (Roberts, 2015). These global changes impact all of humanity, requiring nations to work together in addressing these worldwide concerns (IPCC, 2021). Beyond the impact of environmental issues, there exist substantial social justice and human rights matters that require collaboration between professional associations, educators, and academic scholars (Elliott et al., 2020a). The United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2016) recognizes the need for the implementation of sustainable development through "inclusive and equitable quality education and lifelong learning for all" (p. 3). Students must be prepared for the present and the future to address worldwide problems, such as environmental destruction, disease, and inequity (The International Commission on the Futures of Education, 2021). Now, more than ever, it is important for educational stakeholders from around the world to recognize other's varied perceptions and research regarding education for sustainability (EfS) to effectively collaborate and address global changes.

The focus of this qualitative study was the document analysis of a conference BioBook collated for the Transnational Dialogues in Early Childhood Education for Sustainability Research (TND) in 2020. The BioBook offers a representation of concerns and interests from sixty participating educators and researchers around the world involved with early childhood education for sustainability (ECEfS), thus generating a potential starting point for

collaboration within the field. The possible implications of this analysis are far-reaching, including applied EFS practices, cooperative research, future investigations, and changes to benefit all.

Education for Sustainability

The definition of sustainability is murky and unclear within the literature. In fact, there have been ongoing international deliberations regarding the terminology surrounding sustainability, as well as its related vocabulary and application (McKeown & Hopkins, 2003). According to various models, sustainability is often conceived within the context of four dimensions – economic, social, cultural, and ecological – although some add a fifth dimension by including the political realm (UNESCO, n.d.). EFS involves the interpretation and implementation of sustainability concepts within an educational setting. Davis (2014) offers a broad outline of EFS as “creating changes in how we think, teach, and learn” (p. 22), a vision aligned with earlier perceptions of EFS as way of thinking (Bonnett, 2002). EFS includes UNESCO’s dimensions of sustainability as integral to the cultivation of the skills and knowledge needed for children to make informed decisions and take appropriate actions (The International Commission on the Futures of Education, 2021).

Over time, various terms have been employed around the implementation of sustainability in educational contexts, and some scholars have previously debated the terms EFS and ESD. For example, McKeown and Hopkins (2003) proposed an interchangeability of terms, yet Bonnett (2002) argued that sustainable development directly contrasts to the conservation of living things and shared concerns about the concept of development as often approached within the framework of Western cultures. Most recently, Williams (2021) has explored the intersections of majority western white countries and climate change, to coin the term ‘climate privilege’. Those who are climate privileged are untroubled by climate change, perceive it as an environmental problem only, and have the means to address any negative personal impacts. The cultural context in which terminology is used can also blur understandings and introduce various nuances. For instance, Nordic countries typically relate EFS to ideas of justice and democracy, whereas other countries, like Japan, traditionally associate early childhood EFS with nature-based environmental activities (Elliott et al., 2020b; Hagglund & Johansson, 2014). Many European studies employ *education for sustainable development (ESD)* or incorporate a global developmental aspect of learning into the consideration of EFS (Hedefalk et al., 2014). Within the United States, the term EFS is not as frequently used as the related term, *environmental education*, even though the former has a more extensive meaning (Carr & Pleyak, 2020). In this study, we employ the more widely accepted term *education for sustainability* to indicate an inclusion of complex social issues closely linked to the physical environment (The International Commission on the Futures of Education, 2021) and because it best aligns with the document analyzed.

Although EFS might appear differently when represented in each country based on a diversity of cultural and social contexts, there are “currently pervasive multidimensional injustices globally across time, majority and minority worlds, and species” (Elliott et al., 2020b, p. 54). Thus, a framework for EFS should include the multiple dimensions of sustainability mentioned earlier – economic, social, cultural, ecological and political – in an interdisciplinary way. UNESCO (2016) reiterates this holistic approach to EFS by emphasizing the multifaceted elements of human existence. While early childhood education research has traditionally explored children spending time engaged *in* the environment via outdoor play, only over the last decade has there been a shift towards inquiry into children learning *about* and *for* the environment through a sustainability lens (Davis, 2009). EFS within early childhood education has rapidly expanded since 2009, leading to a growth in the literature foundation as researchers and practitioners alike begin to see the importance of investing in young children (Ardoin & Bowers, 2020; Davis & Elliott, 2014; Elliott et al. 2020; Hedefalk et al., 2014; Somerville & Williams, 2015). Early childhood education has a great capacity to contribute to the field of EFS, and the pedagogical foundations of this stage of life require significant support (The International Commission on the Futures of Education, 2021). By integrating EFS into early childhood, young children have the opportunity to form pro-environmental knowledge and behaviors that contribute towards their active role for a sustainable world (Yildiz et al., 2020). This study focuses specifically on ECEFS, acknowledging that education and care for the earth begin at early childhood (European Commission, 2022).

A Global Perspective

Despite a solid literature foundation around international education and globalization, there are contested concepts and terms within the field (MacNaughton & Peter, 2015; UNESCO, 2014), similar to that of Efs. Globalization is defined as a perceived shrinking of distances, resulting in narrowing spaces that had previously separated human activities around the globe (Goodwin, 2019). It has led to the inextricable entwinement of humankind, with people's lives interweaving with those from around the world through multiple networks (Goodwin, 2019). The Covid-19 pandemic has further reiterated the interconnections between human societies and the environment, pointing towards the critical role that education plays (European Commission, 2022). Globalization means the challenges that would once only affect a small region are now affecting communities across the globe (Zhao, 2010).

In light of globalization, Efs issues including human rights and intergenerational equity are increasingly impacting across the world (UNICEF, 2021; Visnjic-Jevtic et al., 2021). In particular, Wang et al. (2011) characterize the need to develop global citizens as active participants who are attentive to diverse social and political interests. Global citizenship involves belonging and identity – a connectedness which prompts concern and consideration for future others (Hagglund & Johansson, 2014). Also, UNICEF (2013) incorporates ideas of solidarity in their definition of global citizenship, recognizing the interconnectedness of human beings and the need for collective positive action. According to Zhao (2010), global citizenship involves modeling cultural sensitivity, teaching about sustainability issues, and engaging students in activities that demonstrate the interdependence of the world and prepare them to potentially deal with global issues. Tate (2012) pushes against employing the term “global citizen” and instead reiterates the essential purposes in international education as “global understanding, global commitment, and global engagement” (p. 208). Regardless of the precise term, it is important for students and educators alike to realize that they are, indeed, members of the planet's cohort and have shared responsibilities to care for the Earth and the people who live in it, as well as restore and regenerate all species both now and in the future.

A Global-Efs Worldview

Historically, global education and Efs advocates have engaged in a conceptual debate based on perceptions of integration, primary purposes, and underlying funding issues (Scheunpflug & Asbrand, 2006). Within contemporary Efs literature, there is a juxtaposition between local environments and issues compared to global settings. Certain approaches to Efs, such as place-based education, demonstrate a tension between localized learning and a more cosmopolitan perspective of worldwide interconnection (Greenwood, 2013). Place-based education is best characterized by the local community and environment being a context for authentic, experiential outdoor learning (Dolan, 2016). Yet according to Greenwood (2013), place-based education as a movement has gone global, moving beyond a sole focus on local place, and towards a global mindset that acknowledges a changing world. “In addition to being multinational, the movement for place-consciousness is also complexly multicultural and extraregional, as its development is always shaped by unique vernacular cultures, and sometimes by cultures in conflict” (Greenwood, 2013, p. 452). Others see beyond the local vs global tensions and acknowledge a continuum of local/global identities and education curricular foci (UNESCO, 2014).

The field of global education shares similar goals with Efs, including social justice, environmental concerns, community relations, and both local/global events. For example, the UNESCO (2013; 2014) documents regarding global citizenship education indicate a strong overlap between key thematic areas and the Efs dimensions. For instance, Tawil's (2013) early UNESCO working paper on global citizenship mentioned economic, social, environmental, and political changes and concerns numerous times, and even included sustainable management (and development) as a single issue. The subsequent UNESCO (2014) document approaches global citizenship education from a holistic perspective, once again describing and outlining the same five dimensions of Efs from a curricular approach. The one component that global citizenship education seems to address, beyond Efs, is that of intercultural issues, such as diversity, world heritage, and languages (Tawil, 2013). However, within the Efs literature there are hints of these concepts, particularly Indigenous ways of knowing (Stapleton, 2020). Because of their shared values, a collaboration between global citizenship education and Efs could strengthen both fields to tackle practical challenges, reinforce research and conceptual frameworks, and reach a broader societal spectrum.

Within the field of early childhood education, there are two published texts that have acknowledged and represented an authentic synthesis between Efs and globalization, both the result of collaborative efforts among researchers from around the world. *Research in Early Childhood Education for Sustainability: International Perspectives and Provocations* (Davis & Elliott, 2014) and more recently a second volume, *Researching Early Childhood Education for Sustainability: Challenging Assumptions and Orthodoxies* (Elliott et al., 2020a). These research focused texts include contributions from authors representing many diverse countries and cultures and most were participants in the TND network. As an international network outcome, these books highlight the possibilities when ECEfs researchers cultivate a whole-planet mindset and a global perspective dedicated to ECEfs. There are numerous challenges facing both global education and Efs that we argue can be better addressed through collaboration between these fields. Thus, we approach this exploration from a global-Efs worldview, seeking to understand the concerns and interests of professionals within the field, specifically the TND network participants in the fifth international gathering (TND5). In this way, we propose to more generally augment collaboration within the Efs community across the world and shed light on the global Efs perspectives, particularly across diverse countries. The following research questions led this investigation:

1. *How do the TND5 participants describe their concerns and interests regarding young children and addressing the social/emotional/political/environmental dimensions of sustainability?*
2. *What are the patterns of commonality presented in the TND5 BioBook across multiple countries and which concerns/interests are country-specific?*

Theoretical Framing and Methodology

Our primary study purpose was to examine how ECEfs stakeholders perceived their world within the context of sustainability. More specifically, we were interested in the stated concerns and interests of ECEfs professionals, highly subjective and individual matters. We acknowledge a social constructivist theoretical framing as our epistemological stance, viewing reality as dependent upon individual human meanings and practices that arise out of interactions and social contexts (Crotty, 2015). To this end, a qualitative content analysis methodology (Bengtsson, 2016) was a relevant way to explore these constructed realities, one not easily deduced by numbers or statistical analysis. For this study, we were interested in the inner states of human activity and learning about how people interpret their experiences as stated in the TND5 BioBook document.

Study Background

TND is an international participatory network dedicated to exploring and sharing research based on the premise that children can be active participants in transformative change for global sustainability (Elliott et al., 2020a). The TND gatherings have been occurring since 2010 and tend to attract participants with teaching or research interests in early childhood education and/or environmental sustainability. In the fall of 2020, the fifth gathering took place virtually for the first time and involved sixty participants from around the world. Weeks before the virtual meeting, participants were invited to contribute to a Participant Information Guide, or BioBook, sharing some background information and responding to various prompts. In summary, the TND5 BioBook was a compilation of ECEfs stakeholder perspectives on the field of sustainability, specifically within early childhood education. Although the TND5 BioBook was the sole data source for this study, it offered an interesting and cross-world view from professionals representing nineteen countries across five continents. The lead author specifically chose to analyze content relating to only one of the TND5 BioBook prompts: "What are you concerned about or interested in regarding young children and social/emotional/political/environmental sustainability?" Although this prompt included a multi-dimensional view of sustainability, we considered that it could provide a snapshot of how Efs was viewed by a self-selected group of professionals from around the world who prioritized children's futures. The prompt informed the framing of the previously stated research questions.

Data Analysis

The lead author employed a data analysis technique outlined by Attride-Stirling (2001) using thematic networks – web-like illustrations – to summarize key content themes within a given text. According to Attride-Stirling (2001), thematic analyses are applied when a researcher is attempting to uncover salient themes at various levels and represent these themes in a structured way. Attride-Stirling’s (2001) step-by-step guide provided valuable descriptions of analysis stages that involved a reduction, exploration, and then integration of the text. Rather than use a computer analysis program, she chose to hand copy code the data with colored pens and sticky notes to create a tangible web, or thematic network. Before beginning the data analysis process, the answers to the chosen prompt from the TND5 BioBook were extracted and arranged based on country in a separate chart. The lead author also removed all participant names during this process, so we would be working only with country and the response data.

After organizing the data, the analysis process was commenced by devising a coding framework seeking frequently mentioned ideas or words within the data. Next, she dissected the text by applying these codes to the entire document, making note of overlaps and sections that did not initially appear to fit into any code so we could address them later. As Attride-Stirling (2001) posits, “it is imperative that it [the first step] be completed with great rigour and attention to detail.” (p. 391). Thus, the lead author sought to invest an abundance of attention and time into this first step of coding the documented material.

Next, themes were abstracted, starting with rereading the coded segments. These were refined as needed, striking a balance between being adequately specific, but also sufficiently broad. Networks were constructed by beginning with basic themes, moving into organizing themes, and then ending with overriding global themes. Figure 1a illustrates the levels of themes employed within the technique prescribed by Attride-Stirling (2001) as well as an example from this study (Figure 1b).

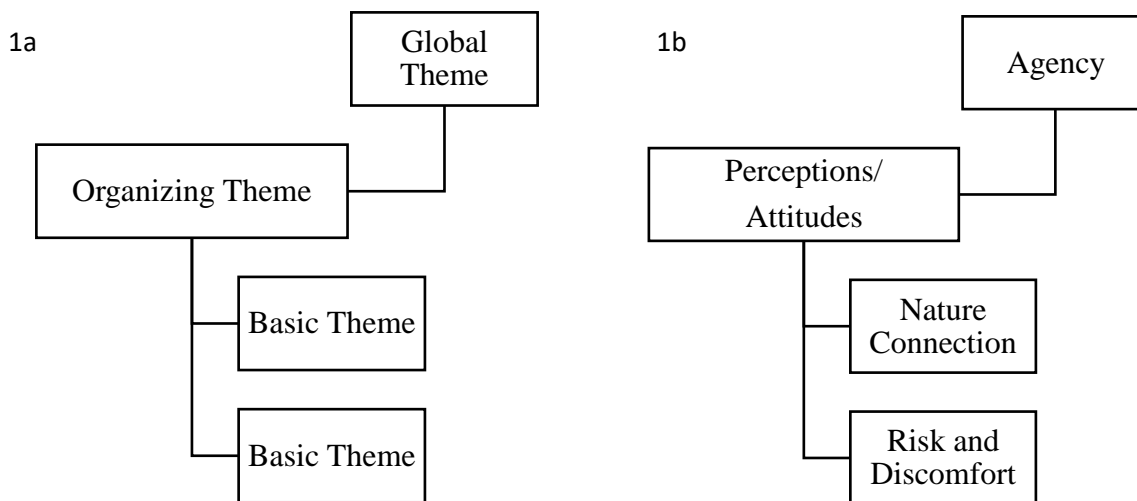


Figure 1a: Attride-Stirling’s (2001) Thematic Network Structure and **Figure 1b:** Example from Study

Throughout the process of creating the thematic network, a large surface was helpful in illustrating the web-like formation. This hands-on process easily allowed the lead author to rethink sections that did not initially appear to fit into any code and then reworking the network to accommodate them. In writing, we have together described the network, explored it for underlying patterns not already discovered, and produced a comprehensive summary. The final step in Attride-Stirling’s (2001) data analysis technique involves interpreting patterns, as addressed in the Findings section below.

Considerations

The lead author was a new participant in the TND community in 2020 with a unique perspective, compared to the second author as a past TND participant. Potentially a limitation, due to closeness to the study context, but perhaps an advantage for the lead author was a newcomer and possibly able to see data nuances that long-standing participants might miss. The second author did not take on an analysis role but offered TND insights and facilitated the authorship by the lead author. Both author entries were included in the TND5 BioBook and coded along with the rest of the participants while bridling understandings. According to Dahlberg (2006), bridling involves remaining open with restrained pre-understandings and consistently tending to personal perceptions throughout the study duration. Once the lead author BioBook entry was collected alongside those of other participants', she found it easy to consider in her analysis as part of the data as a whole. None of the direct TND5 BioBook quotations listed within the findings relate to the lead author.

The data used in this study were a convenience sample of the professionals who contributed to the TND5 BioBook, a representation of only a portion of the ECEfS or broader EfS international community. Because the ECEfS research community is close-knit and still relatively small, some of the TND5 BioBook entries were from contributing authors to the two aforementioned texts and significantly informed the literature review. Rather than identify this as a limitation, we posit that this is an example of an epistemic culture in which knowledge is actively constructed by those who work within ECEfS and develop specific practices and mechanisms related to ways of knowing within the field (see Knorr-Cetina, 1999).

After gathering the responses to one specific prompt within the TND5 BioBook, the lead author noticed that, on four occasions, one portion of the text used the exact same words as another individual. Because the TND5 BioBook was collected in stages, it is possible that some of those within the TND community copied and pasted responses to prompts that they felt were similarly applicable to their own concerns and interests. Thus, another consideration of this study is the possibility that the wording was possibly based on a preconceived group norm; some participants' responses may have been influenced by other's, resulting in a more cohesive group norm. According to Smith and Louis (2009), social identity within a particular group can lead members to bring their own attitudes and behavior in line with the perceived group standards. In the case of the TND5 BioBook, this may have led to exact replication of wording for some prompt responses. Since communities are typically impacted by group perceptions and affected by others' opinions over time, we argue this is not a strong limitation.

Findings

Three significant global and interrelated ECEfS themes emerged from the data: urgency, equity, and agency. Many of the lower-tier organizing themes or basic themes exhibited overlaps across these three global themes. For example, the organizing theme of *teacher education* related to both equity and agency. While later exploring the constructed analysis network, the lead author recognized more connections between ideas, resulting in a rather complex illustration with many associating lines. Within these findings, a summary is provided of the underlying patterns discovered, as well as a detailed interpretation. Although each of the global themes is discussed separately – urgency, equity, and agency – it is important to note that these are not simple or isolated concepts. The patterns and ideas that emerged within this study are an assemblage of meanings connected deeply throughout the network. Also highlighted are the organizing themes that either exhibited high frequency within the data or were deemed crucial to the overarching global themes. In the conclusion to this paper, we discuss a tension apparent throughout the TND5 BioBook, and what this might mean for the future of ECEfS.

Urgency

Within the TND5 BioBook, participating ECEfS stakeholders referenced pressing worldwide or local issues that called for abrupt action. Some used the term *urgent* or *urgency* directly:

Europe 5¹: There is a new urgency about working towards facilitating change in the Anthropocene, and the human impact on the Earth.

Europe 11: The notion of sustainability is even more urgent in a Covid World

Other participants mentioned Covid-19 as an important issue currently facing the world, highlighting the organizing theme of real-world issues as emergent within the data. Many were concerned with the social disparity and poverty that will indubitably arise from the worldwide upheaval caused by Covid-19. Participants also expressed rising anxiety levels for children as well as physical ailments brought on drought and severe dust storms. Climate change was generally stated as cause for immediate concern, but so were critical issues related to human rights. EFS incorporates more than just ecological issues; it includes an economic, social, and political dimensions as well reflecting the four-dimensional UNESCO sustainable development model (n.d.). A participant from Europe shared their concerns regarding these other dimensions:

Europe 2: I am concerned that the global community does not do enough to fight poverty and that human rights are being violated every day, with children being abused, exploited, and exposed to different forms of violence and human trafficking.

Clearly, there is a need for rapid global change. This sense of urgency was captured by the concerns and interests listed by the TND5 BioBook participants. They mentioned specific real-world issues, such as Covid-19, drought, and human trafficking, all demand calls for urgent action. Others mentioned more generalized issues, like climate change and human rights which are nevertheless just as crucial and necessitate urgent mitigation.

Equity

As mentioned earlier, the global themes that arose from this study were not isolated ideas, but an interwoven network with complicated connections. The idea of equity cannot be separated from the sense of urgency towards real-world issues facing all species including humankind on a global scale. For example, human poverty and exploitation are inextricably linked with global equity concepts. Climate change and its specific consequences can be felt in very different ways depending on geography, race, and socioeconomic levels, possibly reflecting climate privilege (Williams, 2021). Ideas connected to equity within the TND5 BioBook were far-reaching, many participants explicitly describing equity issues whereas others alluded to the problem of inequities:

North America 6: Working with a commitment to promote anti-racist and decolonial approaches to early years pedagogy and practice, in particular in the area of nature-based education.

South America 1: The intersection between Indigenous and scientific knowledge, to explore new ways to understand complex scenarios like climate change.

The first quote overtly indicates concern about pervasive racism and colonizing practices within EFS (Stapleton, 2020). The second quote, while not as explicit, asserts the participant's desire to bring Indigenous ways of knowing into the traditional Western sciences. Equity may involve challenging ways of thinking or taking direct action towards injustices across the globe. EFS, by very definition, involves a different way of thinking regarding social issues (Davis & Elliott, 2014). Thus, it is not surprising that ECEFS researchers would include addressing equity within the TND5 BioBook when discussing their concerns for young children.

¹ When referring to the BioBook data, we will denote the speaker's region and his/her randomly assigned number.

Policy

Under equity as the parent category, policy was an organizing theme within the thematic network. Most individuals who referenced policy included a practical application or referred to real-world implications within Efs. A disproportionate number of Australian participants cited policy within their responses, one of the only perceived country-specific themes. Perhaps this was due to the early childhood education and sustainability policy concerns reported within Australia (Elliott et al., 2020b). This particular finding was the only country-specific concern/interest found within the thematic network:

- Oceania 7: Need to keep pushing the ECE [early childhood education] field, policy makers, and general public to understand that sustainability matters have the biggest impact of young children and you and have become urgent.
- Oceania 10: That government agendas can be reframed to focus more intentionally on building stronger EFS foundations in early childhood education.

The first of the above quotes connects back to urgency, demonstrating, once again, the high interconnectivity of the thematic network. It is clear policy plays an important role within Efs and is closely linked to equity. *Who* makes educational decisions? *Whose voices* are being heard within governmental agencies? A key feature of Efs is moving towards a more equitable and just future, and policy has a significant role to play in this undertaking.

Agency

The final global theme that emerged from the data was agency, or the idea that children are active and powerful agents possessing the ability to make their own choices and affect change. Agency indicates they can have influence over and transform their own learning context (Cook-Sather, 2020). Yet beyond the classroom, “student agency is both a condition of a successful society and also one of the outcomes of it.” (Klemencic as cited in Klemencic, 2017, p. 79). The TND5 BioBook data demonstrated that participants perceived agency as closely connected to child-centered learning, an organizational theme that emerged and included children’s skill-development, play, and nature connections. The data suggested that ECEfS researchers from around the world are interested in seeing children engage in active and transformational roles:

- Asia 5: Children’s agency and multiliteracies in a digital world as a part of social and political sustainability.
- Oceania 14: That children are involved genuinely as active and agentic decision-makers.
- North America 1: That children’s voices and agency are important.

The above quotes are only a small representation of the concerns and issues related to agency listed by the BioBook participants. The TND5 BioBook data provide evidence that many individuals internationally within the field of ECEfS are prioritizing children’s agency, albeit some would argue through a post-humanist lens the need for a less anthropocentric view of agency (Weldemariam, 2017). The ideas centered around children’s agentic choice and decision-making abilities can be further elaborated by participants’ perceptions about children as an organizational theme.

Participants’ Perceptions About Children’s Worldviews

Based on the TND5 BioBook data and the thematic network that emerged, practitioner perceptions about children’s worldviews may be significantly connected to Efs and how it is actualized. These connections can be seen in reported children’s worldviews of “their immediate and broader world” (North America 2) as well as children’s “identity and roles... within diverse cultural contexts” (Asia, 1). As part of the BioBook prompt, the TND community responded with interest to how children might perceive the world around them through an economic, social, cultural, ecological, and political sustainability framework:

Asia 6: How does environmental education in early childhood effect his/her perception on the environment and behaviours in his/her later life?

The organizational theme of perceptions goes beyond merely an awareness, and the data excerpt above indicates potentially close connections with children's later behaviors.

In addition to reported children's worldviews, there was some evidence about how teachers perceived the world. How educators perceived EfS and its goals and purposes may also impact how it is actualized. One participant stated that EfS "is a lens or attitude toward life, teachers still ponder how to implement it" (Asia 3). This suggests a potential gap between understandings and practice for teachers.

Inherent Tensions

The three global themes – urgency, equity, and agency – have been discussed and illustrated by direct quotes. Yet how are we to take these three global themes and assemble them? What are the patterns that emerged within this thematic network beyond connecting nodes across the organizational or basic themes? Engaging in the final step of Attride-Stirling's (2001) thematic network analysis involved bringing together the summaries of each network and exploring "significant themes, concepts, patterns and structures that arose in the text" (p. 394). In this step, we returned to our original research questions and constructed tentative responses grounded within the data patterns (Attride-Stirling, 2001).

One significant pattern that emerged within the thematic network was a tension between child-centered and more teacher-centered transmissive pedagogies to achieve specific EfS goals. The data overall indicated an urgent need for change towards child-centered transformative pedagogies reflecting the call by Nxumalo (2017) for educators to pedagogically focus more on shared 'matters of concern' than teaching facts about the world. In addition, we noted a much-needed push for equity alongside participant concerns and interests in the role of children's agency reflecting UNICEF's (2021) current concerns about climate change and children's rights. By definition, agency involves children as decisions-makers (Cook-Sather, 2020), so there are questions regarding the precise pedagogical role of adults in addressing urgent environmental and social concerns with children. For example, considering a child-centered approach as an organizational theme, the TND5 BioBook participants mentioned experiential learning, place-based education, outdoor play, and a community of learners. Yet participants appeared aware of an urgency/equity tension between promptly addressing sustainability and letting children take learning into their own playful hands:

Europe 16: Concerned that pedagogies of play are not usurped by target driven, adult-led curriculums in early childhood education.

North America 4: I am concerned that the approach of using the natural world for open-ended exploration, discovery, and play has been criticized for lacking the transformative power necessary for meaningfully contributing to sustainability issues.

These two separate quotes exemplify the inherent tension that existed between child-centered and more teacher-centered pedagogies with the end goal of transformation. This tension was apparent throughout the data, and there was no evidence of country-specific patterns. especially when reviewing all responses regarding concerns/interests in the TND5 BioBook.

Out of this explicit tension, the question surfaces: What should be our response, as adults involved in ECEfs, seeking to address urgency and equity, while still maintaining children's agency? While we do not believe there is a simple answer, it is clear that some participants have grappled with this question and arrived at tentative resolutions (see Oceania 8 example below). We share three representations of ideas from the TND5 BioBook, offering a continuum of approaches to the tension illustrated in Figure 2.

Oceania 8: Early childhood educators recognise their ethical and moral responsibilities to not only implement EfS, but to be vocal sustainability advocates both with and for young children.

In this case, it appears as if the adults are to take on a great deal of responsibility as well as agency with the hope of implementing the EfS' dimensions. This illustrates the need to advocate for young children, but does not explicitly mention children's ideal role.

Europe 12: That adults take the responsibility for putting sustainability issues on the agenda and are core agents, so that children can sustain their personal resources and can be part of the co-creation of an engaged educational culture.

Another approach to this tension once again places the majority of the responsibility with adults, but offers children roles as co-creators. In this quote, the participant is positing that adults set the agenda, but children have an active role within ECEfS:

Oceania 5: Young children as citizens must be given opportunity to participate in decision making and in taking action, and acknowledged for the contribution they make.

Giving children opportunities to make decisions and take action demonstrates agency and reflects a child-centered approach (Cook-Sather, 2020). This participant (Oceania 5) suggests children can be agents of change if adults offer opportunities and create spaces for their choices.

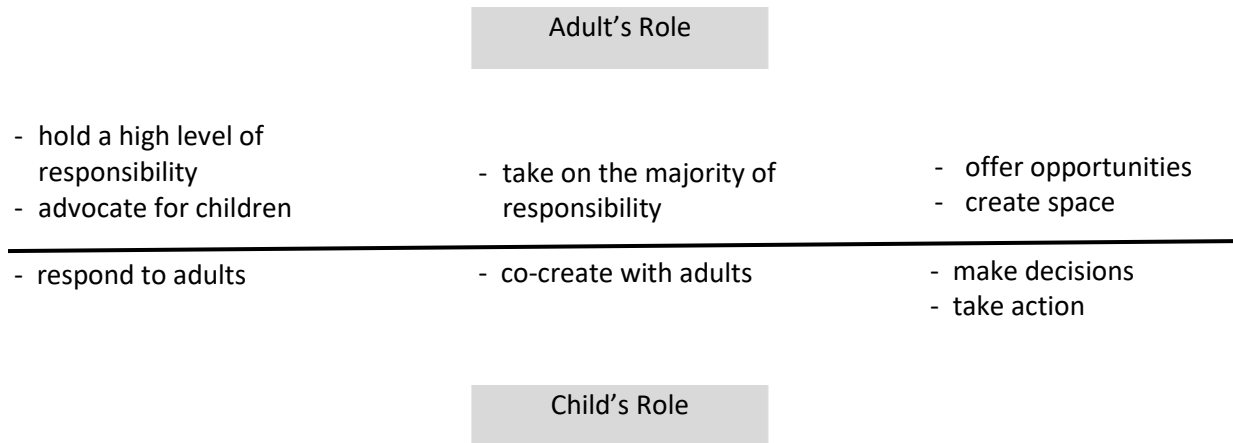


Figure 2: Continuum of Approaches to Inherent Tension

Implications

Because current environmental issues are impacting all species including humanity, this study has implications across all sustainability dimensions. The three emergent global themes in this study— urgency, equity, and agency – are important to keep at the forefront of considerations regarding ECEfS and EfS more broadly. These themes represent the concerns and interests of sixty individuals from nineteen countries and five continents around the globe. This content analysis study has showcased the similar professional perceptions about ECEfS, both in research and in practice, despite participants culturally and geographically diverse contexts. There are current ECEfS collaborations around the globe, such as a climate change project in Canada, Australia, and the United States (Nelson & Hodgins, 2020) and historically, the TND network has been collaborating about ECEfS research since 2010, exploring and

sharing investigations within the field (Elliott et al., 2020a). Moving forward, continued collaborative efforts in ECEfS invite professionals to address challenges in research, practice, and theoretical framing.

The similarity of concerns and interests within the TND5 BioBook, points to the importance of ECEfS professionals persisting in working together transnationally to improve the overall understandings and implementation of ECEfS. There were no apparent cultural differences that affect the three themes we found within this study. We suggest that the stated tension between the global themes that emerged can be analyzed collaboratively in hope of growing competencies and strategies regarding the roles of children and teachers in addressing critical worldwide concerns. A variety of perspectives from multiple countries could lead to improved practice, increased support, and overall development in ECEfS.

As mentioned in the literature review, education for global citizenship shares similar goals to EFS, particularly concerning the environment and social justice. Thus, in addition to a collaborative effort within ECEfS, this study elucidates the necessity for an ongoing conversation between global education and ECEfS. UNESCO's (2013; 2014) documents make it clear that global citizenship education is holistic and has significant similarities with ECEfS. The three global themes that emerged from this study are comprehensive and pertinent to all geographical locations. The worldwide relevance of urgency, equity, and agency further demonstrates the shared values of ECEfS and global education. This study coupled with prior literature indicates the overlap in interests and concerns between these oft-separated domains. A collaboration between EFS and global education has the potential to strengthen both fields with far-reaching implications for research, application, and conceptual frameworks.

In this qualitative content analysis study, we sought to analyze the concerns and interests of ECEfS professionals representing multiple countries as a potential starting point for collaboration within the field. The findings have implications for applied EFS practices, co-operative research, and future investigations on a global scale. Global environmental changes are impacting all and raising significant concerns for the Earth's future. Additionally, globalization is affecting human economic, social, and political life, leading to a sense of urgency that is particularly concerning for the younger generations. "For our children to live successfully and peacefully in this globalized world, we need to help them develop the appropriate skills, knowledge, attitudes, and perspectives." (Zhao, 2010, p. 429). Education plays a powerful role in promoting equity and empowering children to be active agents in bringing about positive change. Now, more than ever, it is important for ECEfS professionals to come together, understand worldwide concerns and interests, and collaboratively address environmental issues and global restoration.

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