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From Education for a Sustainable Development to Ecological Civilization in China: A Just Transition?

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Abstract

This article uses just transition to understand the education for sustainable development (ESD) transition in China. The latter has shifted from an internationally recognized response to support sustainable development to an "ecological civilization," that is, a policy agenda combining domestic environmental and political interests. Using a climate justice framework, this article interprets the ESD transition on three levels: stakeholder engagement, education scope, and environmental governance. The findings reveal that (a) the concept of ecological civilization is heavily political, (b) its scope is limited to environmental sustainability, and (c) stakeholders from the education sector who participated in the new agenda as policy recipients are underrepresented in decision-making processes. Most importantly, despite the heavy political endorsement of the agenda, many previous challenges associated with ESD, such as lack of policy support, inadequate professional training, and exam pressures, continue at the institutional level. This article recommends establishing an overarching ESD or ecological civilization framework in the education sector to sustain the growing attention given to ecological civilization in the Chinese education sector and calls for further research on the roles of education in just transition in the global context.

Keywords

China; ecological civilization; education for sustainable development; environmental governance; just transition

1. Introduction

Just transition, originally focused on ensuring fairness and equity in the labor sector during environmental policy shifts in the 1980s, has been broadened to encompass a more inclusive and holistic approach to societal

transformation in response to climate challenges (McCauley & Heffron, 2018). This is particularly pertinent in the context of a global sustainability agenda, where there have been rapid policy reorientations in economic, environmental, and social sectors to address the urgency of climate change.

Concurrent with these developments, the emergence of education for sustainable development (ESD) offers a pathway to prepare learners to build and live in a sustainable future. Initiated in the 1992 Rio Summit and further developed during the so-called decade of education for sustainable development (2005–2014), ESD has inspired the development of educational pedagogies, policies, and theories to better connect education with sustainable development (SD; Rieckmann, 2018). Following the establishment of 17 SDGs in 2015, ESD has further developed as an integral part of the global sustainability agenda and has been granted key roles in promoting the SDGs. While there has been constant debate over the key function, approach, scope, and implementation of ESD, the interplay between ESD as an educational strategy and other sustainability policy frameworks, such as just transition, is becoming increasingly significant. This research delves into this intersection using China's paradigm shift towards ecological civilization as a case study to explore the dynamics between ESD and just transition.

In China, the transition to an "ecological civilization" marks a significant shift in ESD, moving from a phase of international recognition that aligns with global sustainability goals to a more localized and politicized framework. This transition raises critical questions about the nature as well as the transition process of ESD, including aspects such as the scope of education, public and stakeholder engagement, and the implications for China's environmental governance mode. This article aims to uncover how China's domestic political interests are influenced by the ESD transition and its outcome. This exploration contributes to the broader discourse on the role of education in supporting SD, introducing a novel perspective by revealing the drastic education transformation through the lens of a just transition framework.

This investigation is important because current studies, whether they illustrate the conceptual development of ESD or provide empirical evidence for ESD implementation in China, have largely overlooked the political significance of ESD. To bridge this gap, this article will first explore the key concept of just transition and then provide an overview of ESD in China. This is followed by the methodology and analysis sections, which will present the analytical framework and detail the study's findings. The discussion will synthesize the findings. The article concludes with a call for future research, underlining areas that warrant further exploration in the context of ESD and just transition.

2. Literature Review

2.1. The Global Development of ESD

The term ESD stands for has continuously developed since the UN unveiled its plan at the Rio Summit of 1992. Before ESD was recognized in the global agenda, environment education (EE) emerged in the 1970s due to increasing awareness of environmental degradation and development issues. Gaining insight from *The Limits to Growth* (1972) and other books, conferences, and social activities, the UN quickly proposed an EE framework in the 1975 Belgrade Charter. The goal of the proposed EE framework was to inform the public of the existing state of the environment and its associated problems, and to develop "knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions to current problems and the prevention

of new ones" (UN, 1975, p. 3). The framework was extended two years later in the Tbilisi Declaration of 1977, which proposed bringing "biological, ethical, social, cultural, and economic aspects of environmental issues" into the scope of EE, building the foundation for EE and, later, ESD in a global context (Hume & Barry, 2015, p. 734).

The Rio Summit of 1992 helped transform EE into ESD. The non-binding action plan of the summit—Agenda 21—reoriented education goals toward SD. Chapter 36 of Agenda 21 proposed four education goals: "promote and improve the quality of education, reorient the curricula [toward sustainability], raise public awareness of the concept of sustainable development, [and] train the workforce" (Wals, 2009, p. 7). As a result, the newly proposed education missions were far beyond the scope of EE, as aspects of social justice, economic development, culture, equality, and sustainability were added to the agenda. The concept of ESD was hence created to respond to the increasing concerns regarding climate change and fulfill the needs of the education and development sectors (Hume & Barry, 2015). After nearly three decades of development in the global sustainability agendas, ESD has evolved from being an educational approach focused on promoting environmental protection to a globalized complex with practical and significant functions and roles in support of SD (Leicht et al., 2018; Sinakou et al., 2018). With the establishment of 17 SDGs in 2015, ESD has become part of the SDGs and is seen as a key enabler for all SDGs. According to SDG goal 4.7, ESD now incorporates human rights, gender equality, cultural diversity, and other related issues in constructing a sustainable future (UN, 2015). ESD was given a fundamental role as a tool for spreading values and knowledge related to SD and as a practical approach to training learners in skills and competencies that can contribute to SD.

2.2. Current Landscape of ESD in China

There is still no official national-level ESD policy and framework in China even though it has been nearly three decades since its introduction (Han, 2015; J. Li, 2023; G. Li et al., 2022). Yet, ESD is commonly referenced in the national SD agenda and EE policies to demonstrate the fulfillment of its responsibilities by the Chinese government (Cheng & Yu, 2022). For example, China's sustainable development action outline in the early 21st century was issued to provide overarching SD goals in 2003. The policy was introduced to ensure the infiltration of SD values in all levels of education in China (China State Council, 2003). Following the action outline, and in the same year, the Ministry of Education issued two policies to support it. The first policy, regarding an environmental education curriculum outline for primary and secondary schools (dated 2003), targeted K-12 students and provided curriculum and extracurricular activity guidelines (Chinese Ministry of Education, 2003a). The second policy, concerning implementation guidelines for environmental education in primary and secondary schools (also in 2003), encompassed more details of curriculum development and included EE ideas and concepts in teaching (Chinese Ministry of Education, 2003b). These two policies aimed to promote environmental protection and ecological conservation knowledge in primary education to encourage environmentally friendly values in students.

Aside from the policy level, there were also multiple programs to develop ESD in the education sector. For example, the Chinese Ministry of Education, the World Wildlife Fund (WWF), and BP (British Petroleum) co-established the Environmental Educator Initiative (EEI) that existed from 1997 to 2007. The overall purpose of the project was to cooperate with educational institutions and provide EE opportunities for teachers and students to build an EE foundation for the next generation (Lee & Huang, 2009; Tsang & Lee,

2014). The project fostered school-based curriculum development, stimulated research on EE and ESD in higher education, and elevated EE and ESD implementation by providing training opportunities for education stakeholders (Tsang & Lee, 2014). Eighty-six primary and middle schools piloted the EE/ESD curricula, and more than 5000 teachers had been trained by the end of 2007 (Lee & Huang, 2009). Around the same time, UNESCO also helped China develop ESD opportunities through the project Educating for a Sustainable Future: Environment, Population and Sustainable Development (the EPD project). The objectives of the EPD project were aligned to increase instructors' capacities for understanding the environment, population, and SD, as well as students' overall knowledge and skills thereon, generate the next generation's awareness about these topics, and work with social institutions to provide better living conditions for all (Lee & Huang, 2009). More than 1000 schools from 14 provinces became ESD pilot schools, and EPD frameworks were implemented across China (Lee & Huang, 2009).

Indeed, ESD generated a positive impact on the education system in the past three decades (J. Li, 2023; R. Zhou, 2020). For example, the PuTuo District of Shanghai integrated ESD concepts into regional education plans that were implemented by all primary schools in the district. These new plans include focusing on students' innovative literacy, supplying education resources, school culture, infrastructure, etc. (Wang, 2019). However, there are also multiple challenges in current ESD practices in China. Interview results demonstrated that the Jingshan Primary School, the first ESD pilot school, was unable to fulfill the duties and accomplish the expected responsibilities of ESD practices due to a lack of ESD guidelines and local policy support (Witoszek, 2018). ESD was viewed as a tool to increase the school's reputation, rather than as an illustrative and constructive instrument to improve the quality of education: "Many schools have created fake websites for the ESD program....They don't lead to any actual implementation of the professed objectives" (Witoszek, 2018, p. 836). Other ESD pilot schools in Guangzhou encountered similar issues and showed that the lack of an interdisciplinary approach of ESD practices and the increasing pressure on exam scores shifted teachers' and students' attention away from ESD (Witoszek, 2018). Teacher training, textbook design, and curriculum innovation, as argued by Guo et al. (2018), were insufficient to promote ESD practices in geography education in China. Guo et al. (2018) gathered data from 237 geography teachers and found a lack of basic infrastructure for geography activities, which ultimately reduced students' opportunities to participate in geography education and further restricted efforts to promote ESD in schools. This situation underscores a crucial gap between the intended objectives of ESD and the practical realities within educational settings in China.

3. Just Transition

Just transition was originally used to describe energy transition in the 1970s. The term was first used by Tony Mazzochi, who postulated that workers and families whose livelihoods are affected by an energy transition should receive financial and educational support from the state during this transition (Eisenberg, 2019). When the Occupational Safety and Health Act in the United States was successfully passed in 1973, just transition became a concept that highlighted the dilemma of significant job losses due to increasing environmental regulations in contemporary society (Eisenberg, 2019). Given the global sustainability agenda since the 1990s, just transition invokes and incorporates divergent meanings and visions and engages multiple disciplines. Just transition has become an internationally recognized concept used to explore and resolve tensions around jobs, health, and the environment, and highlight justice and equality issues in SD (UNRISD, 2018).

Two prevalent viewpoints underpin the current development of just transition (Eisenberg, 2019). The "narrow lens" examines the theoretical implications in the contemporary world: Aside from being a labor-oriented concept targeting workers and communities in the transitioning energy industry, just transition is often defined as an integrated framework for climate, energy, and environmental justice (McCauley & Heffron, 2018). Just transition, hence, interconnects these aspects of justice through considerations of distributional, procedural, and restorative justice to assess and evaluate the transition process and outcomes (McCauley & Heffron, 2018). The second approach, or the "broader lens," investigates the extensive use and plain-language interpretations of justice (Eisenberg, 2019). The core concept of this approach "emphasises the importance of not continuing to sacrifice the well-being of vulnerable groups for the sake of advantaging others" (Eisenberg, 2019, p. 286). This idea of balance from the broader view of just transition aligns with the SD agenda, including the UN's SDGs, which promote a balanced mode of economic, environmental, and social development for a sustainable future (Delina & Sovacool, 2018).

Instead of focusing on the education inequality and injustice of the marginalized group in the energy transition, it is urgent to reconsider the roles of education in fulfilling the needs of learners to foster and live in a world with renewable energy (Trott et al., 2023). Under the global sustainability agenda, current and future generations need certain knowledge and skills to tackle the intricate complexities and profound challenges in reforming the education sector (Droubi et al., 2023). Derived from Heffron and McCauley's (2018) just transition framework, which highlights distributional, procedural, and restorative justice, climate justice is closely linked to education under just transition (Byrnes et al., 2022; Routledge et al., 2018; Schlosberg & Collins, 2014). Newell et al. (2021) suggested three dimensions for transformative climate justice that engage with the pathways for just transition: an inclusive one, a deepening one, and one of governance. Inclusive climate justice refers to the participation of stakeholders from different levels concerning the broader social mobilizations beyond the limits of regions, class, race, and gender (Newell et al., 2021). This is done through cognitive justice, stressing the importance of recognizing the value of experiential and lived knowledge from the forefront of climate justice struggles, such as marginalized stakeholders. Inclusive climate justice calls for integrating diverse knowledge systems, which challenges the traditional power dynamics in knowledge production and dissemination.

Deepening climate justice addresses the fundamental cause of climate injustice by reviewing the meaning-making and implementation stages (Newell et al., 2021). Newell et al. (2021) called for attention to the justice dimension, including equitable distribution of transition costs and attention to marginalized workers and communities affected by the transition. The key is to not worsen existing social inequalities while addressing the need for the transition. Governance for climate justice highlights the governance mode for accessing and sustaining climate justice (Newell et al., 2021). Governance focuses on access to justice, law, democracy, and climate justice within and beyond state boundaries. Newell et al. (2021) emphasize the critical role of deepening democracy to challenge existing power structures to enhance the representation of vulnerable groups in climate decision-making. It is also essential to understand the international impacts of climate justice governance and draw implications for the broader global community. Newell et al. (2021) argue that effective climate justice governance transcends national borders and requires a concerted effort in international forums to ensure equitable and just outcomes.

Overall, just transition provides a perspective for investigating justice issues (economic, energy, environmental, social, etc.) in the transition to a sustainable future and questioning the balance between different forms of

justice. Given these considerations of just transition, the three-dimensional approach offers a constructive lens to evaluate the ESD transition in China. By reviewing the recent change of ESD from an internationally recognized scheme to an education agenda that synthesizes domestic environmental and political interests, this article intends to explore the following research questions:

1. How do political factors shape the ESD development and transition within China's education sector?
2. To what extent is this transition considered as a "just transition" and what are the implications?

4. Methodology

This article mainly used documentary analysis and semi-structured interviews to address the proposed research questions. Documentary analysis was conducted to analyze the political significance of ESD, or ecological civilization, in this article. Key policies and documents were selected from keyword searches (e.g., ESD; ecological civilization; environmental education) on the Chinese Ministry of Education website (http://en.moe.gov.cn). Preliminary experience from the pilot study showed that these words were effective in identifying key information. These keywords are particularly pertinent to identifying policy documents and are in line with the objectives of this study. The empirical data is based on part of the study conducted in three primary schools in China. Semi-structured interviews were conducted with 28 school stakeholders, including teachers and school principals, to collect their perspectives regarding ESD. All interview data were recorded and transcribed verbatim through professional software. The author conducted a second round of transcription to validate the authenticity of the data. The author then used NVivo to code and analyze the data. This article also integrated secondary data from existing literature and synthesized various data sources in the analysis section. This combination constituted a comprehensive approach to addressing the research questions holistically.

5. From ESD to Ecological Civilization: The ESD Transition in China

The ESD transition in China emerged along with the development of an environmental agenda in late 2000. Hu Jintao, the president of China at the time, introduced the concept of "ecological civilization" (*sheng tai wen ming*). Ecological civilization, according to Hu's speech at the 17th National Congress of the Chinese Communist Party in 2007, was "to be a resource-efficient and environmentally friendly society that is based on resource and environmental capacity, following natural laws and targeted at sustainable development" (Pan, 2014, p. 48). "Ecological civilization" is also a political slogan created in response to the imbalanced and unsustainable domestic development pattern concentrating on industrialisation and economic growth (Gare, 2012). The ecological civilization concept was designed to alleviate the conflict between economic development and environmental sustainability that had been growing since the 1990s (Gu et al., 2020). Ecological civilization is, thus, an approach that signals an economic, environmental, and social transition to achieve SD in China (Geall & Ely, 2018).

Xi Jinping, the current president of China, has further developed and promoted the concept of ecological civilization since the 2010s. In fact, Xi coined the term "green development" in China when he was the governor of Zhejiang Province in 2005 (Geall & Ely, 2018). Political agenda items such as "clear waters and lush mountains are invaluable assets like mountains of gold and silver," "greenisation," and the "war on air, water, and soil pollution" were embedded in his governance and later became an image that China presented

in multiple international forums, such as the B20 Business Summit (2016) and the APEC Leaders Forum (2017) (Geall & Ely, 2018).

At the policy level, however, ecological civilization refers to environmental protection and ecological conservation that could reduce the burdens caused by economic activities (Yang et al., 2021). In short, ecological civilization aims to coordinate ecological protection and economic development and establish a new form of SD adapted for China (Meng et al., 2021). Ecological civilization endorses the idea of harmonious coexistence between humans and nature and theoretically promotes "environmentally friendly technology and green economic indicators, good government decision-making, environmental nomocracy, and social welfare, as well as extensive public participation, and green culture" (X. Zhou, 2021, p. 86). Overall, ecological civilization indicates China's SD path (Gare, 2012) and the increase in ecological considerations in the political agenda has contextually influenced ESD transition.

ESD has continued to feature in Chinese domestic policies since the 2000s. In 2010, the Chinese Ministry of Education issued the *Outline of China's National Plan for Medium- and Long-Term Education Reform and Development 2010–2020*. The outline was a ten-year plan for the education system, demonstrating the education priorities and interests for the decade. In the document, ESD appeared as an education priority along with safety education, life education, and national defense education (People's Republic of China, 2010). All of these were listed under the goal of promoting all-round development education and the policy further outlined the importance of ESD in China's education system.

Two years after the establishment of the SDGs, the Chinese Ministry of Education issued the *Outline of the 13th Five-Year Plan for the National Cause of Education* (2017). In this policy, ESD was listed and redefined under the heading "enhancing ecological civilization competence" and its goals were described as follows:

> To extensively carry out education for sustainable development; deepen water, electricity, and food saving education; guide students to practice strict economy and combat waste; establish an ecological civilization consciousness of respecting, conforming to, and protecting nature and, therefore, form sustainable development concepts, knowledge, and competences; practice a thrifty, green, and low-carbon, civilised, and healthy lifestyle; and lead the green trend in society. (People's Republic of China, 2017, translation by the author)

In this policy, the scope of ESD was expanded beyond the EE approach from previous policies. ESD now turned to an education approach to inspire diligence and thriftiness, environmental awareness, and the formation of SD values. Compared to the UNESCO framework of ESD, including the 17 SDGs and the key function of ESD in promoting quality education, the new approaches of ESD in China remained environmental. However, the absence of topics such as education equity and cultural diversity in UNESCO's ESD framework did not necessarily mean they were excluded from China's education system altogether. In the same policy, education equality, gender equality education, cultural education, and other targets that UNESCO proposed at the international level were listed independently and mentioned as priorities for the sector (People's Republic of China, 2017). Thus, ESD concepts and scopes were moderated in the context of China but not necessarily under the UNESCO ESD umbrella (R. Zhou & Lee, 2022).

As a result, independent educational targets and intentions, such as life-long learning, were not considered within the category of ESD in China. In 2019, the Ministry of Education aligned with three other ministries to

issue a policy on implementing Xi Jinping's ecological civilization thought in primary and secondary schools and enhancing ecological environmental awareness to further catalyze the concept of ecological civilization in schools. Besides establishing a new monitoring scheme to oversee progress and provide support for the development of ecological civilization in primary schools, the policy also emphasizes the importance of EE in the curriculum. The policy aimed to provide an environmentally friendly atmosphere in schools to promote values of diligence and thriftiness, encourage a low-carbon lifestyle, and foster green development. Although this trend of merging ecological civilization is often seen as political, ESD was inevitably transformed to satisfy the domestic agenda of ecological civilization in the education sector in China (G. Li et al., 2022).

The ESD transition in China was both educational and political. From the perspective of the education sector, the establishment of "an ecological civilization" in ESD indicated environmental significance in the promotion of social transformations (Kuhn, 2016). That is, EE continued to hold a prominent position in the educational aspect of ESD. The re-emphasis on ecological protection gave education an important role because part of the goal of ESD is to enhance civil awareness for respecting, conforming to, and protecting the environment. The political aspects of ecological civilization, in contrast, brought the possibility of reconnecting SD and ESD within China's development agenda (Zeng, 2019). Ecological civilization "promises…[the enhancement of] environmental consciousness of all citizens, a turn towards green need, not reduced economic growth" (M. Hansen & Liu, 2018, p. 323). As a political discourse, ecological civilization was an eco-environmental strategy that fostered ecological protection and continued generating economic development concurrently (Meng et al., 2021). Over the past three decades, China has focused extensively on development—especially economic growth—rather than sustainability in its SD agenda. The creation of the environmental agenda that Xi proposed provided political support for the ecological civilization that underpinned the seriousness of consistently promoting ecological development in development objectives (H. M. Hansen et al., 2018). This agenda reconciled the conflict between the orientations of SD and ESD (R. Zhou & Lee, 2022), given the increasing role of ecological civilization in the political agenda in China.

In short, the ESD transition expanded the educational and political aspects of ESD in China. The content and scope of ESD became responsible for promoting consumption patterns and values of diligence and thriftiness concerning environmental protection and ecological conservation. Politically, the rise of ecological civilization has emphasized the importance of environmental sustainability in development and education agendas, illustrating political support for ESD after two decades of development in China. ESD was, thus, internalized as a complex educational and political agenda after the ESD transition in China.

6. Interpreting ESD Transition Through the Lens of Climate Justice

The transition history of ESD over the past decade reflects the development of ESD in China from an internationally recognized concept to a domestically synthesized education agenda. This section interprets this ESD "internalization" through Newell et al.'s (2021) transformative climate justice dimension (inclusive, deepening, and one of governance). This section discusses the inclusive and governance dimensions through China's environmental governance and then addresses the deepening dimension.

Environmental governance has played an important role in understanding the political aspect of the ESD transition in China. Sometimes characterized as "public ignorance, free-riding, and a lack of available heuristics to motivate social action and multiple stakeholders' engagement," environmental governance in

China has provided an interpretive lens for climate justice (Gilley, 2012, p. 292). This mode of environmental governance is often referred to as "authoritarian environmentalism," a centralized system formed in a hierarchical structure that can allow for uniformly enacting order, policy, or instructions related to environmental development (Y. Li & Shapiro, 2020; Lo, 2015). In China, where an authoritarian government emphasizes top-down and non-participatory decision-making, public inclusion and participation are suppressed (Lo, 2020).

The introduction of ESD in China in the early 1990s and the transformation of ESD into ecological civilization in the 2010s conformed to the authoritarian environmentalist approach. The ESD transition was led by the political interests of China—a response to the urgent demand to connect development with environmental sustainability at the international level (Stimpson & Kwan, 2001). Environmental policies and initiatives were implemented command-and-control through a top-down administrative structure. As a result, the voice of education stakeholders, such as local school principals, teachers, and even bureaus at the lower level in the government, is underrepresented in authoritarian environmentalist governance. This is particularly reflected in teachers' and principals' interviews, of which this is an example:

> We only form school implementation plans according to the orders or policies made above...it's normally the administrative department that talks about policies. I mean, it is the district education department, yes, they may, I mean, based on the requests from the National Ministry of Education or the Ministry of Environment, you know. They will formulate a policy, a document, a document similar to a notice, and then send it down to school. Our school will make our implementation plans, based on the needs and principles of the document. (Teacher O)

Teacher O used the words "above" and "down" to describe the policy flow within the education system. Such governance structure is also confirmed by both teachers and school principals. In this regard, frontline educators' procedural justice in terms of participation in the decision-making for the ESD transition is limited. They act as receivers of the change, and their participation is highlighted during the implementation stage (Lee & Tilbury, 1998) to carry out the prescribed ecological civilization orientation, promote environmental responsibility, and encourage such transformation at local institutions.

Although often criticized for restraining social justice, authoritarian environmentalism can provide fast and rigorous responses to environmental crises compared to democratic environmentalism (Shahar, 2015). The strong advocacy for the ecological civilization agenda at the national level has immediate positive contributions in that ecological civilization has become one of the policy priorities in the education sector. In Tianjin, the sixth-largest city in China, for example, the municipal government followed up with an EE agenda for compulsory education stipulating that "half of the primary and middle schools in the city...qualify for green-school certificates" (Luova, 2020, p. 497). The project Green School was established in 1996 with the Ministry of Education and aimed to promote EE in primary and secondary schools (Wu, 2002). To receive the certificate, schools were asked to maintain a low-carbon campus, increase greenness on campus, provide extracurricular environmental conservation lectures and activities to students, and maintain the existing EE practices in the curriculum and teaching (Luova, 2020). Another example of the ecological civilization agenda is the waste classification policy endorsed by the Ministry of Education in 2018. Following its distribution to the district level, all school principals in this study reported implementing related activities, such as lecturing students about recycling, within a week of receiving the policy. The implementation of ecological civilization

under such an authoritarian scheme has proven to be highly efficient. The increased presence of ecological civilization in the education system indicated that the local government considered environmental sustainability a policy priority in response to the national directive. In other words, promoting ESD or ecological civilization has become politically correct in China (Luova, 2020).

However, the transition to ecological civilization has had limited improvement to the curriculum at the implementation stage. Previously, ESD in China has been criticized for being symbolic at the policy level for a long time (G. Li et al., 2022). Detailed follow-up ESD guidelines and implementation plans at the municipal level for education stakeholders were scarce (Witoszek, 2018). The implementation of ESD is often disjointed and lacks direction due to the absence of an overarching framework in the education sector (G. Li et al., 2022). At the institutional level, studies have found a lack of policy endorsement and supportive guidelines at the municipal level (Guo et al., 2018; Tian & Wang, 2016). These phenomena continued after the establishment of ecological civilization. Using the local waste classification policy as an example, although the policy was widely practiced in all primary schools at the municipal level, some of the issues identified in the literature still exist. Teacher H described the current status of the policy in their school:

> You just talk about it [the policy] to students. The actual implementation is not—not very strong, not mandatory….Lots of these things are done to meet the inspection from the superiors, so I think the environmental protection, the waste classification, I think it's still very [smiles], you know, right?

Additionally, several teachers reported a lack of professional training necessary for educating students about waste classification and other initiatives under the ecological civilization agenda, raising further concerns about its overall implementation. Without sufficient training and resources, educators often find themselves unprepared to effectively teach knowledge and develop competence in students, thereby failing to meet the intended policy and activity goals. This deficiency limits students' engagement with and understanding of vital environmental issues, thereby undermining the overarching goals of ecological civilization.

Witoszek (2018) also found that the extensive teaching and exam pressures in schools suppressed efforts to accommodate EE at schools. Such findings are also found in interviews with teachers, where many participants highlighted the significance of academic pressures in daily teaching. According to Teacher A, "the traditional exam-oriented education is still strong, emphasizing knowledge over values…because the superior leaders consider test results as large parts of our performance—yes, just test results." Teacher G agreed and added: "The graduating class always takes a district-wide exam. Therefore, you know, we [teachers] will definitely compare our performance, you know, so the pressure of performance is still relatively high." These challenges continue confronting the roles of ecological civilization in the curriculum, raising questions about the effectiveness and integration of such an agenda in China's education system. As the implementation has largely followed a "business as usual" trajectory, this ESD transition, while it made efforts to raise awareness about environmental sustainability through political motivation, has failed to reshape the ESD landscape at the practical level within China's education system.

Overall, the discrepancy between the government's advocacy for ecological civilization and its practical application in educational settings underscores a broader and systemic misalignment. This gap between policy and practice not only impedes the successful implementation of ecological civilization but also reflects

a more pervasive challenge within the educational paradigm—even policies characterized by authoritarian environmentalism can struggle under the prevailing and conventional educational system in China.

7. Conclusion

This article used just transition to explore the transition of ESD in China. Using the transformative climate justice framework, this article revealed the intentions, processes, and impacts of the ESD transition in China, from a well-established international convention to a political discourse that extensively focuses on EE. Overall, the transition to ecological civilization demonstrates the Chinese government's commitment to integrating sustainability within its governance structures, particularly in the education sector. This approach aligns well with the original concept of just transition, especially in its emphasis on environmental sustainability. Through the climate justice lens proposed by Newell et al. (2021), ecological civilization currently leads to a systematic endorsement of EE in the Chinese education system but offers limited changes to the existing status quo of the EE landscape, as many of the issues identified in previous experiences and case studies continue. This is presumably due to the underrepresentation of frontline stakeholders in steering the transition, coupled with the heavily political nature of the concept, which may not align with the broader educational objectives of ecological civilization.

To further progress the ESD transition, an overarching ESD, or an educational framework for ecological civilization is required in China. This new framework will allow the configuration of new strategies and initiatives to further embed ecological civilization in the education system under political support. The framework will also allow the Chinese government to systematically develop ecological civilization at all levels of educational institutions—moving beyond mere rhetoric in the political agenda. The proposed framework could also facilitate broader participation from stakeholders at all levels, not necessarily in direct decision-making, but in contributing to progress monitoring, evaluation, and recommendation within the existing governance model. The insights and feedback from students, teachers, principals, and municipal bureaus are crucial for providing perspectives on educational outcomes, implementation challenges, and innovative teaching methods. Their voices and opinions are important for continuing the development of ESD, or ecological civilization, in the Chinese education system.

Overall, this article provides new perspectives on just transition and ESD advances in China. However, this study has several limitations. Access to some documents listed on the Ministry of Education's website required special permissions, leading to potential gaps in the policy documents gathered for analysis. The empirical data used in this study are from 2020, and most secondary data originate from research conducted in the late 2010s. Considering the growing momentum of the ecological civilization in China's political arena over the past three years, the findings of this study may only reflect the situation as it was at the time of data collection. Therefore, future research is encouraged to provide updated insights and to continue exploring the political and educational dynamics of this agenda.

Conflict of Interests

The author declares no conflict of interests.

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