

# *A Comparative Analysis of Sustainable Development Education Practices in Japan and Germany*

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**Keywords:** Concept of sustainable development education; localized practice paths; comparative analysis

**Abstract:** The concept of sustainable development education has evolved from environmental education in the 1950s to sustainable development education in the early 21st century. From international concepts to implementation in Japan and Germany, it has passed through various stages involving governments, schools, and businesses among other stakeholders. This paper compares the different developmental stages of sustainable development education practices in the two countries and highlights the similarities and differences in the paths taken by governments and other stakeholders. In terms of development history, the developmental stages of sustainable development education practices in Japan can be divided into three stages. First, there is the “government-led, domestic development” stage. This is followed by the “relying on schools, international cooperation” stage. Finally, there is the stage of “diverse stakeholders, comprehensive collaboration”. For Germany, the stages can be divided into two parts. The first part is the policy-making stage. The second part is the “RCEs” (Regional Centers of Expertise) stage.

## **1. The Concept of Sustainable Development Education**

As the most influential intergovernmental international organization, the United Nations bears the responsibility of addressing environmental issues. In 1972, the United Nations held the first Conference on the Human Environment and issued the Stockholm Declaration. The UN explicitly called for educating the younger generation about environmental issues.<sup>[1]</sup> At this point, the scope of environmental education had expanded beyond simply fostering environmental awareness to emphasizing the knowledge base and skill levels related to environmental protection among learners. Although the seeds of environmental protection were sown, the path to growth was fraught with challenges. Some countries, despite having formulated environmental protection policies, still prioritized economic growth over environmental preservation. To address the conflicts between environmental protection and economic and social development, the 1992 United Nations Conference on Environment and Development introduced the concept of “environment and development education”. The 1997 Declaration of Thessaloniki emphasized the need to transform traditional educational goals, content, and methods, making sustainable development the core issue of the entire education system.<sup>[2]</sup> By this time, the term “environmental education” had significantly declined in use, replaced by “education for sustainable development”.

Entering the 21st century, environmental pollution has worsened into climate issues, and

challenges such as poverty, hunger, gender inequality, and the wealth disparity between the North and South also need to be addressed through education. In 2002, the United Nations General Assembly decided to designate 2005 to 2014 as the “United Nations Decade of Education for Sustainable Development”, officially launching the era of global sustainable development education. Simultaneously, UNESCO clearly stated that sustainable development education includes environmental education.<sup>[3]</sup> In 2015, the United Nations adopted “Transforming Our World: The 2030 Agenda for Sustainable Development”, which proposed 17 sustainable development goals (SDGs).

Sustainable development education has entered a new phase of fostering harmony between humans and the Earth. It enables learners to acquire knowledge, skills, and values to make wise decisions for environmental integrity, economic viability, and a just society, and to take action accordingly. Sustainable development education is a lifelong learning process and an indispensable part of quality education.<sup>[4]</sup> Any education that contributes to the achievement of the 17 SDGs can be considered sustainable development education.

## 2. Political Comparison of Sustainable Development Education Practices

Sustainable development education in Japan began with the United Nations’ decision to make 2005 to 2014 the “United Nations Decade of Education for Sustainable Development” in 2002. In March 2006, Japan actively responded to the UN’s call by adopting the “Decade of Education for Sustainable Development Implementation Plan” (hereinafter referred to as the “Decade Implementation Plan”), which outlined the responsibilities, key issues, and specific plans for various stakeholders including national and local governments, businesses, research institutions, and schools, becoming Japan’s overarching action plan for advancing sustainable development education.<sup>[5]</sup> This plan marked the first phase of Japan’s localized practice of sustainable development education, with the national education system, centered on school education, playing a crucial role.

In January 2008, the Central Council for Education in Japan issued a report titled “On the Improvement of Learning Guidelines for Kindergartens, Elementary Schools, Junior High Schools, High Schools, and Special Education Schools” (hereafter referred to as the “Improvement of Learning Guidelines”). This report aligns with UNESCO’s discussions on the goals of education for sustainable development, aiming to create a sustainable society by emphasizing the importance of nurturing children’s awareness and ability to participate in public affairs. It proposed integrating the concept of sustainable development into the teaching of various subjects.<sup>[6]</sup> To further promote the integration of sustainable development education into various subjects, the Ministry of Education, Culture, Sports, Science, and Technology released revised versions of the “Kindergarten Education Guidelines and Elementary and Junior High School Learning Guidelines” in February 2008 and the “High School Learning Guidelines” in March 2009, based on the “Improvement of Learning Guidelines”. Through these four educational documents, the Japanese government incorporated the concept of sustainable development education into the national school education system and clarified the responsibilities of all involved parties. However, at this stage, sustainable development education was only present as a concept within the school education system, and schools had not yet implemented it in actual teaching. In this initial phase, the Japanese government played a leading role, with other stakeholders passively accepting the policies without actively promoting the localization and practice of sustainable development education concepts.<sup>[7]</sup>

Germany’s localized practice of sustainable development education predates Japan’s, beginning with the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. This conference led to the adoption of the “Rio Declaration”, which emphasized the

importance of harmonious coexistence between humans and nature and recommended integrating environmental education into national education systems.<sup>[8]</sup> This recommendation drew attention to environmental education from the participating countries, including Germany. Following the Rio Summit, Germany began to integrate environmental education into its existing education system.

From 1992 to 1998, to implement the “Rio Declaration” and promote sustainable development, the German Bundestag’s Commission for the Protection of Humans and the Environment submitted a report suggesting the formulation of a sustainable development strategy to clarify goals and evaluation metrics in relevant areas. To play a role in promoting sustainable development, the Council for Sustainable Development was established in 2001. The council’s 15 representatives are composed of individuals from the business sector, political sphere, academia, and civil society.<sup>[9]</sup> In 2002, Germany government adopted the recommendations from the aforementioned report. The German Chancellery, as the highest executive authority, played a leading role in formulating the sustainable development strategy. This strategy encompasses numerous themes, focusing on four major areas: inter-generational equity, quality of life, social cohesion, and international cooperation. The emphasis on these four areas indicates that the government is currently prioritizing addressing domestic issues.

In the same year, the German government issued the document “National Strategy for Sustainable Development” (hereinafter referred to as “Development Strategy 2002”). The publication of the “Development Strategy 2002” marked the beginning of the policy-making phase for the localization of sustainable development education in Germany. This strategy emphasized the role of education in promoting sustainable development by raising environmental awareness and equipping learners with relevant knowledge. Since children and young people are crucial for the future development of society, schools should foster interdisciplinary skills in students to advance sustainable development.<sup>[10]</sup> Consequently, school curricula were adjusted to incorporate sustainable development content relevant to each subject, such as geography, science, business, and economics. Alongside these adjustments, teaching methods that facilitate the implementation of sustainable development education, such as participatory teaching and project-based learning, were also employed. Through project-based learning, students have engaged in projects such as energy efficiency, resource utilization, environmental protection, and fair trade, gaining practical experience in researching and solving sustainability issues. Through participatory teaching, students have been involved in school management and decision-making, such as energy-saving measures and emission reduction activities, thereby enhancing their understanding and support of sustainable development concepts. The above-mentioned reforms implemented the “Development Strategy 2002” policy into actual school teaching, successfully integrating sustainable development into the education system.

Analyzing the early stages of implementing sustainable development education concepts in both countries, it is evident that they both operated under the guidance of relevant UN agencies, particularly UNESCO. Japan’s initiation of localized sustainable development education practices was marked by the “Decade of Education for Sustainable Development Implementation Plan”, set against the backdrop of the “UN Decade of Education for Sustainable Development”. The subsequently issued “Kindergarten Education Guidelines and Elementary and Junior High School Learning Guidelines” and the “High School Learning Guidelines” are also consistent with UNESCO’s discourse on the goals of education for sustainable development. Similarly, Germany’s localization of sustainable development education was set against the backdrop of the 1992 Rio Earth Summit organized by the United Nations Conference on Environment and Development (UNCED). To implement the “Rio Declaration” adopted at this summit, Germany promulgated the “National Sustainable Development Strategy” in 2002.

### 3. Comparative Analysis of Diverse Stakeholders in Sustainable Development Education Practices

To implement the concept of sustainable development education into actual teaching practices, the Japanese government held a seminar in February 2008 titled “Promoting Sustainable Development Education through Schools”. To effectively integrate a new educational concept, it is essential to connect it with current educational practices. The seminar specifically emphasized strengthening the links between sustainable development education and existing school subjects like international understanding education and environmental education. Environmental education is a crucial component of sustainable development education, while international understanding education aids in achieving the seventeenth Sustainable Development Goal—establishing global partnerships that facilitate these goals. Therefore, the seminar proposed creating a network of UNESCO Associated Schools to promote these educational fields, addressing both domestic issues and participating in the governance of global issues under an international perspective.<sup>[11]</sup> With this, Japan entered the second phase of its localized practice of sustainable development education, shifting the focus from government-led initiatives to school-based practices and from addressing domestic issues to enhancing both domestic and international cooperation.

Inter-country partnerships are often established through personnel exchanges and interactions. In March 2009, Japan and the United States officially launched the “Japan-U.S. Teacher Exchange Program for Education for Sustainable Development” (hereinafter referred to as the exchange program). The purpose of this program was to enhance the understanding of sustainable development-oriented school projects among teachers from both countries and to strengthen curricula related to sustainable development education. In November of the same year, supported by Japan’s Ministry of Education, Culture, Sports, Science and Technology, the Japanese National Commission for UNESCO, the UNESCO Asia-Pacific Cultural Centre, and the Japanese Association for the United Nations Educational, Scientific and Cultural Organization, Japan hosted the 14th UNESCO Schools and Education for Sustainable Development Conference. The theme of this conference was “The Future of Children, Teachers, and Schools—Exploring School Education Learning Activities Aimed at SDGs”, aiming to promote the implementation of sustainable development education into more schools’ teaching practices. Therefore, this conference invited four advanced schools to introduce their special activities, share achievements, and discuss topics. For instance, Higashiterakata Elementary School in Tama City, Tokyo, introduced two activity groups, “Protect the Forest” and “Revitalize the Forest”, which were established relying on the surrounding forest of the school and integrated into their teaching. Additionally, this conference invited various stakeholders, including UNESCO school officials, teachers from regular kindergartens, junior high schools, and high schools, education and research professionals, companies interested in education for sustainable development, and the media.<sup>[12]</sup> It is evident that this conference not only advanced Japan’s contribution to global sustainable development education by sharing its experiences but also shifted the focus of Japan’s sustainable development education from government-led initiatives to comprehensive school practices and multi-stakeholder participation. By this stage, the practice of sustainable development education in Japan had evolved from being government-led and domestically focused to being guided and supported by government policies, with schools as the primary implementing bodies. Schools leverage their unique resources to conduct teaching and experiments, emphasizing strengthening international exchanges and resonating with UNESCO initiatives.

The participation of multiple stakeholders in Germany occurred almost simultaneously with that in Japan. In 2003, in response to the United Nations’ resolution on the “United Nations Decade of Education for Sustainable Development”, the United Nations University Institute for Advanced

Studies of Sustainability launched the Education for Sustainable Development (ESD) project. This project was designed and implemented through two organizations: the Global Network of Regional Centres of Expertise on ESD (hereinafter referred to as RCEs) and the Promotion of Sustainability in Postgraduate Education and Research Network.<sup>[13]</sup>

Germany's first Global Network of Regional Centers of Expertise on ESD, known as RCE Munich, was established in Munich in 2007, marking the beginning of Germany's RCEs phase. The Munich Center aims to promote the long-term development of sustainable development education in Munich and to foster lifestyles and work practices among citizens that align with the principles of sustainable development. To leverage the city's unique characteristics and promote sustainable development education, participants in the Munich centre come from a wide range of sectors, including schools, non-formal education institutions, non-governmental organizations, foundations, and businesses.<sup>[14]</sup> The Munich Center, integrating local characteristics, has implemented multiple projects to promote sustainable development education. In 2012, the Munich Center hosted the "Sustainable Development Goals Public Lecture Series". This series of lectures holds significant importance in the history of sustainable development education in Germany—it was the first interdisciplinary lecture series in Germany to unite 13 universities within the region, focusing on sustainable development issues. The lecture series is held five times each semester, with over 400 participants gaining interdisciplinary and multidisciplinary knowledge in the field of science and enhancing their awareness of sustainable development.<sup>[15]</sup>

In 2022, the Munich Center was awarded the "National Award for Education for Sustainable Development 2030" by the German UNESCO Commission and the German Federal Ministry of Education and Research. This award recognizes its exemplary commitment to Education for Sustainable Development 2030 and the Sustainable Development Goals of the 2030 Agenda. As of 2023, Germany has established a total of eight Global Network of Regional Centers of Expertise on ESD in the following cities: Hamburg, Munich, Nuremberg, Oldenburg Münsterland, East Württemberg, Southern Black Forest, Stettiner Haff, and Ruhr.<sup>[16]</sup> The Regional Centres of Expertise established in the eight cities played the role of model cities in Germany, leading to this period of sustainable development education being named the "RCEs" phase.

Although this phase is named "RCEs" for the second phase of the localization practice of Education for Sustainable Development (ESD) in Germany, it does not mean that there were no other events promoting the localization practice of ESD during this phase. For example, the 23rd United Nations Climate Change Conference held in Bonn, Germany, in 2017. The German government promoted awareness and practice of ESD by organizing seminars, lectures, training courses, and other educational activities during the conference. Additionally, Germany showcased practical examples of ESD at the conference.<sup>[17]</sup> In 2020 and 2021, Germany developed the follow-up plan to the Doha Work Programme, known as the Glasgow Work Programme on Action for Climate Empowerment, and advocated for close coordination with education for sustainable development in future educational plans under the United Nations Framework Convention on Climate Change (UNFCCC). It is evident that the "RCEs" phase is characterized by the establishment of regional expert network centers for education for sustainable development in cities as demonstration models. At the same time, Germany actively participates in international activities promoting education for sustainable development and formulates national plans to facilitate the localization of sustainable development education practices.

Japan has further mobilized diverse stakeholders to participate in Education for Sustainable Development (ESD). Following the United Nations' release of "Transforming Our World: The 2030 Agenda for Sustainable Development" in 2015, Japan introduced a new document to guide the development of ESD, known as the "Domestic Implementation Plan". This plan marked the beginning of the third phase of Japan's localized ESD practice, characterized by the involvement of

multiple stakeholders and the construction of a holistic, interconnected ESD system. This phase, which Japan is currently in, emphasizes the relationship between global and local perspectives, urging individuals to think globally and act locally, thus becoming the driving force for building a sustainable society. Historically, Japan focused on exchange programs with developed countries like the United States. The Domestic Implementation Plan outlines how Japan should address ESD challenges in collaboration with both developing and developed countries, detailing strategies to solve respective issues faced in sustainable development education. The plan emphasizes the need to enhance understanding of the issues faced by developing countries, particularly those related to poverty. Japan should achieve the Millennium Development Goals and promote education for all by strengthening cooperation with developing countries. Developed countries, on the other hand, primarily face the challenge of achieving comprehensive improvement and development in environmental, economic, and social spheres.<sup>[18]</sup>

Since the introduction of the “Domestic Implementation Plan”, Japan has organized activities targeting different groups and focusing on various fields, with multiple institutions working in coordination. To promote the practice of education for sustainable development in schools, the “National Youth Environmental Activity Presentation” has been co-hosted by the Ministry of the Environment and the United Nations University Institute for the Advanced Study of Sustainability since 2015. This presentation aims to provide high school students involved in environmental activities with opportunities to exchange practical experiences. On one hand, it promotes the dissemination of excellent practices; on the other hand, it allows students to appreciate the significance of participating in environmental protection. The number of schools registering for this conference has been on the rise. According to statistics, as of 2019, a total of 613 schools registered over five years, with the number increasing from 103 in 2015 to 162 in 2019. It is evident that the influence of this conference and the enthusiasm of schools to actively participate in sustainable development education activities are continuously increasing. To implement the “strengthening cooperation between central and local governments” as proposed in the Domestic Implementation Plan, the Ministry of Education, Culture, Sports, Science and Technology and the Ministry of the Environment jointly established the “National Center for the Promotion of ESD Activities” and the “Regional Center for the Promotion of ESD Activities”. These two institutions, in collaboration with various government ministries and agencies, are promoting the localization of sustainable development education practices, gradually building a comprehensive and interconnected ESD system.

#### 4. Conclusion

Comparing the localization practices of Education for Sustainable Development (ESD) in Japan and Germany offers valuable lessons for China. To promote the localization of ESD, it is essential to rely on strong government policy support in the initial stages. As ESD efforts deepen, engaging diverse stakeholders to create a unified societal effort becomes crucial. Building this collective societal effort is a gradual process requiring policy and project guidance. As the localization of sustainable development education deepened, Japan and Germany, based on their national conditions, developed sustainable development education models with regional characteristics. Japan established a pattern of “multiple stakeholders and whole-area linkage”, while Germany, leveraging model cities, formed “RCEs” to play a radiating and leading role. China should also integrate the concept of sustainable development into its education system based on its own development conditions, promoting localized practices.



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