

Comparison of Climate Education Policies: Lessons for Indonesia from Australia, the US, and the UK

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ABSTRAK

Penelitian ini menginvestigasi perbandingan kebijakan pendidikan iklim di beberapa negara yaitu Australia, AS, dan Inggris, dengan tujuan menggali pelajaran untuk Indonesia. Bagi Indonesia, penerapan kebijakan pendidikan iklim sangat mendesak dikarenakan kerentanan tinggi terhadap perubahan iklim, pencegahan konflik akibat perubahan iklim, pemberdayaan individu untuk mitigasi, adaptasi perubahan iklim, dan berpartisipasi dalam dialog serta pengambilan keputusan di tingkat lokal hingga internasional. Studi ini menggunakan pendekatan kualitatif melalui studi kepustakaan untuk menganalisis kerangka hukum di negara-negara terpilih. Tujuan utama penelitian ini adalah untuk membandingkan kebijakan pendidikan iklim antar negara dan mengeksplorasi efektivitasnya agar sesuai dengan konteks Indonesia. Metode studi kepustakaan digunakan untuk mengumpulkan dan mengevaluasi data dari berbagai sumber literatur, termasuk peraturan hukum, studi kasus, dan tinjauan akademis yang relevan. Hasil penelitian menunjukkan perbedaan pendekatan kebijakan pendidikan iklim antara negara-negara yang diteliti. Australia, misalnya, mengintegrasikan perubahan iklim ke dalam kurikulumnya seperti sains, geografi, dan studi sosial. Selain itu, dukungan pemerintah Australia melalui berbagai inisiatif dan pendanaan, serta mendorong keterlibatan siswa dalam proyek pengurangan limbah dan konservasi energi. Di sisi lain, pendekatan di AS bervariasi menurut negara bagian, dimana perubahan iklim diintegrasikan ke dalam standar kurikulum sains mereka. AS juga mengakui dan memberi penghargaan kepada sekolah-sekolah atas upaya keberlanjutan mereka, sehingga mendorong partisipasi dan inovasi. Sementara itu, Inggris telah menetapkan kurikulum yang terstruktur dan standar yang mengintegrasikan perubahan iklim ke dalam kurikulum nasional secara konsisten dan komprehensif, dan meningkatkan partisipasi siswa dalam proyek lingkungan. Perbandingan ini menawarkan pelajaran berharga bagi Indonesia untuk memperbaiki kebijakan lokalnya dengan mengadopsi praktik terbaik dari berbagai pendekatan hukum tersebut.

ABSTRACT

This research investigates the comparison of climate education policies in several countries, namely Australia, the US, and the UK, with the aim of drawing lessons for Indonesia. For Indonesia, the implementation of climate education policies is urgent due to its high vulnerability to climate change, the prevention of conflicts caused by climate change, the empowerment of individuals for mitigation, adaptation to climate change, and participation in dialogue and decision-making from local to international levels. This study employs a qualitative approach through literature studies to analyze the legal frameworks in the selected countries. The main objective of this research is to compare climate education policies between countries and explore their effectiveness to fit the context of

Indonesia. The literature study method is used to collect and evaluate data from various sources of literature, including legal regulations, case studies, and relevant academic reviews. The results of the research show differences in the approaches to climate education policies among the studied countries. Australia, for example, integrates climate change into its curriculum, such as science, geography, and social studies. Additionally, the Australian government's support through various initiatives and funding encourages student involvement in waste reduction and energy conservation projects. On the other hand, the approach in the US varies by state, where climate change is integrated into their science curriculum standards. The US also recognizes and rewards schools for their sustainability efforts, thus promoting participation and innovation. Meanwhile, the UK has established a structured curriculum and standards that consistently and comprehensively integrate climate change into the national curriculum, increasing student participation in environmental projects. This comparison offers valuable lessons for Indonesia to improve its local policies by adopting best practices from these various legal approaches.

INTRODUCTION

Climate education refers to educating individuals about climate change, its causes, consequences, and solutions. It encompasses a broad array of subjects, from the science of climate change and its effects on the environment and human populations to mitigation and adaptation strategies, as well as the role of policy and governance in tackling climate concerns (Ghosh et al., 2016; Rousell & Cutter-Mackenzie-Knowles, 2020).

In Indonesia, climate education is vital for multiple reasons. Primarily, Indonesia is highly vulnerable to the adverse impacts of climate change, such as rising sea levels, extreme weather events, and alterations in agricultural productivity (Mahmudah et al., 2021). Raising public awareness through climate education can foster a deeper understanding of the regional and global effects of climate change. Secondly, climate education can inspire and motivate individuals to adopt more sustainable behaviors which are critical for mitigating climate change (Unsworth & McNeill, 2017). This involves waste reduction, energy conservation, and the promotion of renewable energy sources.

In addition, through climate education, communities can learn how to adapt to climate change. This includes disaster preparedness, sustainable farming, and water management practices, all crucial for building resilience against climate-related challenges (Falloon & Betts, 2010). Lastly, providing climate education to the youth equips them to address environmental issues more effectively. This knowledge enables them to take part in informed dialogues and contribute to decision-making processes at various levels, from local to global (Narksompong & Limjirakan, 2015)

Adopting international examples to refine local policies is essential for several reasons, particularly in areas like climate change, biodiversity conservation, and environmental protection. This approach allows for the adaptation of successful and innovative solutions to fit local contexts,

leading to more effective and efficient policy implementation, thereby preventing conflicts over natural resources, such as water and fertile land, exacerbated by environmental stressors.

While previous studies have focused on climate education policies within specific countries, this research adds a unique perspective by performing an in-depth comparison of climate education policies in selected nations, such as Australia, the United States (the US), and the United Kingdom (the UK). This comparative analysis can offer valuable insights for adapting and enhancing climate education policies in Indonesia to suit local context. It is hoped that this research can offer policy recommendations to policymakers, legal practitioners, and academics, thereby strengthening climate education in Indonesia to effectively address climate challenges and promote international cooperation.

METHOD

This research employs a qualitative approach through library research to explore comparative climate education policies in selected countries (Haynes, 2014). This approach was chosen to thoroughly understand the implementation and effectiveness of climate education policies on sustainability in each nation.

Data utilized in this study is sourced from a range of international legal literature, encompassing legal regulations, case studies, academic reviews, and pertinent research reports on climate education policies in Australia, the US, and the UK. Secondary data from these sources is employed to conduct comprehensive comparisons of the legal frameworks governing climate education. The collection of data involved systematic literature search and analysis of literature sources aligned with the research topic. Literature selection was carefully conducted based on research objectives to ensure the accuracy and reliability of the data.

Data compiled from diverse literature sources was analyzed descriptively through comparative analysis. This method involves a comparison between climate education policies across different countries, highlighting differences and similarities in legislative approaches, implementation strategies, and the effectiveness of law enforcement. Such an approach allows researchers to identify patterns, trends, and implications arising from variations in legal frameworks.

RESULTS AND DISCUSSION

Comparison of Climate Education Policies in Australia, the US, and the UK

Presented below is an illustration of a comparison table showcasing climate education policies in selected countries. This table provides an overview of the varying approaches adopted by Australia, the US, and the UK.

Comparison of Climate Education Policies: Lessons for Indonesia from Australia, the US, and the UK

Country	Climate Education Approach	Main Focus	Examples of Programs
Australia	Integrating climate education across various subjects, including science, geography, and social studies.	Integration of sustainability and climate education into the curriculum.	The Australian Sustainable Schools Initiative (AuSSI)
The US	Climate education varies by state, some incorporate climate education into science standards.	State-level initiatives	The Next Generation Science Standards (NGSS)
The UK	Embedding climate change in the national curriculum, particularly in geography and science subjects.	Climate change is embedded in the national curriculum and integrate climate education into school activities.	Eco-Schools

Within Australia, climate change is part of the national curriculum across multiple disciplines, such as science, geography, and social studies. The Australian Curriculum, Assessment and Reporting Authority (ACARA) underscores sustainability as a crucial aspect of education across disciplines. Programs like the Australian Sustainable Schools Initiatives (AuSSI) support schools in embedding sustainability and climate education across their curriculum.

Additionally, the AuSSI program has promoted awareness and spurred action on sustainability within schools, encouraging students to engage in projects such as waste reduction and energy conservation. The Department of Education, Skills and Employment advances climate education through a range of programs and funding to schools aimed at cultivating sustainable practices. Governmental support and adequate funding are pivotal for successful climate education programs.

Across the US, climate education varies among states, with certain states integrating it into their science standards. The Next Generation Science Standards (NGSS) emphasize climate change as a key significant subject (Wysession, 2014). Initiatives such as “Green Ribbon Schools” promote environmental and sustainability education by recognizing and rewarding schools for their efforts in sustainability, thereby fostering broader participation and innovation.

Meanwhile, climate change in the UK is integrated in the national curriculum, especially in geography and science subjects (Kozłowska, 2021). The curriculum covers topics such as ecosystems, weather, and sustainability. In addition, the Department for Education advocates for initiatives that incorporate climate education into school activities. Government programs like “Eco-Schools” aid schools in establishing environmental education programs and practices (the Pirrie et al., 2006). This program has resulted in significant improvements in school sustainability practices, increased student involvement in environmental projects, and heightened awareness of climate issues. Initiatives such as “Eco-Schools” exemplify the effectiveness of structured, supportive programs in advancing sustainability education. A well-structured and standardized curriculum ensures that all students receive consistent and comprehensive climate education.

Climate Education in Indonesia: Status in Schools

Currently, climate education is gradually being woven into the national curriculum, mainly within science, geography, and social studies. However, it has yet to be introduced as a standalone subject. As a result, there is a lack of comprehensive and standardized materials for climate education. Many teachers feel unprepared to teach this complex topic, indicating the necessity for professional training and additional resources (Sofiyani et al., 2019).

Furthermore, the Indonesian Ministry of Education and Culture has launched initiatives to strengthen environmental education, integrating climate change components. The “Adiwiyata” program, for example, promotes schools to adopt eco-friendly practices (Tompodung et al., 2018). The program aims to create green schools by incorporating sustainable practices into school activities and the curriculum. Participating schools undertake initiatives like waste management, tree planting, and energy conservation.

Also, the National Action Plan on Climate Change and the Indonesian Climate Change Sectoral Roadmap outline the essential role of education in combating climate change. Certain local governments have initiated community-based programs to raise awareness about the impacts of climate change and adaptation strategies, particularly in vulnerable coastal and rural regions.

Challenges in Integrating Climate Education and Areas for Improvement in Indonesia

One major obstacle in embedding climate education is the lack of standardization (Sofiyani et al., 2019). At present, there is no comprehensive, standardized curriculum for climate education across all educational levels. Additionally, many teachers feel underprepared to teach climate change topics due to inadequate training and resources. Consequently, enhancing the curriculum and providing teacher training is vital. This can be accomplished by creating a comprehensive, standardized climate change curriculum for all education levels, from primary to higher education, and by investing in professional development programs to equip teachers with the knowledge and skills needed to effectively teach climate change topics.

Resource constraints also pose a significant hurdle (Djalante, 2018). Insufficient funding for both government and non-government initiatives impedes the progress and implementation of climate education programs. The lack of educational materials and tools specifically for climate education impacts the quality and accessibility of these programs. Hence, it is imperative for the government to allocate more funds to climate education initiatives in the national budget. Moreover, international organizations and donors should be urged to support local non-governmental organizations (NGOs) and civil society organizations (CSOs) in their climate education projects.

Finally, to resolve the shortage of educational materials and tools specifically designed for climate education, fostering research and innovation is key. This can be achieved by supporting research in climate science and education to develop new teaching methods and materials.

Additionally, leveraging technology and digital tools can boost the effectiveness and dissemination of climate education programs.

CONCLUSION

This study reveals the comparisons in climate education policies approach between Australia, the US, and the UK. Climate change is woven into the Australian curriculum across multiple disciplines, including science, geography, and social studies. In addition, the Australian government supports climate education through various initiatives and funding to schools to promote sustainable practices, motivating students to engage in endeavors such as waste reduction and energy conservation projects. The US approach, on the other hand, varies from state to state, with some states integrating it into science curriculum standards. This country stands out for its initiative in honoring schools for their sustainability efforts, thereby encouraging broader engagement and innovation. Meanwhile, in the UK, a well-structured and standardized curriculum has been established and climate change is incorporated in the national curriculum, ensuring consistent and comprehensive education on climate change for all students, while increasing student participation in environmental projects. The implications of this comparison provide valuable insights for Indonesia to refine its local policies, by adopting the best elements of the various legal approaches that have been implemented.

Key recommendations involve developing a comprehensive, standardized climate change curriculum from primary to higher education, and integrating it into various subjects. Then, ensure sufficient funding for climate education initiatives and provide resources for schools to develop and implement sustainability programs. Furthermore, invest in teacher training programs to keep educators updated on the latest climate science and teaching methods. Therefore, research funding in climate science and education to develop innovative teaching strategies and materials is critical. Finally, close collaboration between the Indonesian government and other countries is needed to significantly improve the effectiveness and outreach of climate education programs. It is hoped that these measures can enhance climate education policies in Indonesia.

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