

Policy Brief: Promoting Procedural Environmental Rights (PER) through Pre-Service Science Teacher Training: A Policy Brief for Teacher Training Institutions

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Executive Summary

In most countries in Southeast Asia, the existing environmental legal framework heavily relies on government regulation through administrative and criminal measures (Mustafa, 2020). However, the effectiveness of the traditional 'command and control' mechanism has been questioned (Memon, 2000). Based on a general overview of the Southeast Asia context, this policy brief recommends mainstreaming environmental rights within the current policy framework, emphasizing subtle strategies, particularly through the existing teacher training ecosystems. Recognizing the significant influence of the education system, the integration of procedural environmental rights (PER) into the training should reflect the subject-based training curriculum for pre-service teachers. Focusing on science education, the objective of this policy recommendation is to call for training institutions in Southeast Asia to recognize the agency of future science teachers in integrating the environmental rights and justice.

Problem Statement

The UN Transforming Education Summit (United Nations, 2022) addressed environmental challenges as a shared concern requiring proactive measures in the global education ecosystem. Nevertheless, a survey by UNESCO (2021), revealed a significant gap, with only less than 30% primary and secondary teachers expressing readiness to teach PER, despite 95% acknowledging its importance. Often, the lack of training on incorporating the principle of PER hampered the future generation's understanding of their rights and responsibilities in fostering a sustainable future.

In recognition that school can be the catalyst of systemic societal changes, PER could be embedded in the pedagogical strategies. Given that the nature of science education involves logical consequences, evidence-based discussion and objectivity, the capacity of future science teachers to bolster their content knowledge by focusing on PER in the classroom should be a target in teacher training institutions. Hence, the use of responsive, locally relevant content, aimed at transforming people's visions and aspirations into reality for the present and future generations should be considered in pedagogical strategies (UNEP, 2022)

to promote PER. Therefore, the integration of PER into pedagogical strategies within science education requires a deliberate and strategic approach by training institutions.

Analysis of the current landscape of PER in Science Pre-Service Training in Southeast Asia

Currently, pre-service teacher training programs are predominantly subject-specific and disciplinary, structured to meet national standards and requirements. Considering that environmentalism is commonly approached as multidimensional and interdisciplinary at the school level, it opposes the existing pre-service training system, which is disciplinary based. Furthermore, the policies and research in Southeast Asia concerning pre-service science teacher on addressing PER in regional or intergovernmental institutions and reputable journals are limited. Therefore, rather than developing a new policy, the PER could be mainstreamed in pre-service teacher training based on the existing framework. Therefore, this recommendation for pre-service science teacher training pivots on the three fundamental aspects of PER: access as in the First Global Report on the Environment Rule of Law (Kumar et al., 2019), i.e. information; public participation in decision making; and access to justice in environmental matters.

Policy Recommendations

1. Align with science epistemology

PER in the framework of pre-service training must align with the unique epistemological standpoint of the subject matter. Therefore, this policy recommendation suggests including PER into the pre-service training curriculum, ensuring conformity with subject-related considerations. By equipping science teachers with the requisite resources on the introductory framework alongside the scientific concepts, teachers could address PER in their various science classrooms to create avenues for a systematic transformation in science education that extends beyond the confines of the classroom and laboratory.

2. Co-create a PER framework in science teacher training

The current gap in the readiness of primary and secondary teachers to address environmental challenges is rooted in the lack of specific training on PER. Therefore, a framework for implementation of PER should be developed by providing voices for the trainees themselves

to co-create strategies. Rather than being based on a surface awareness-, the module should cover introductory legal frameworks, scientific concepts, and practical strategies for integrating PER into the classroom setting by incorporating local instances fostering critical thinking and environmental literacy among the future generation.

3. Revisit the role of the teacher as environmental advocate

Teachers are always regarded as the policy implementer in an educational setting. Given that ASEAN is moving towards a people-centered policy, pre-service teacher training should coach teachers to voice and articulate their thoughts respectfully. By sensing ownership and responsibility through active participatory techniques and experiential learning, the voices of everyone will be heard and acknowledged, including the students, in a shared concern about environmental challenges. Strategically, the teachers should look into other best practices, research findings and successful implementation of PER in education. Case studies from different teaching contexts would be helpful in understanding the process of integrating PER in science education. Teachers could utilize existing networking platforms through associations and intergovernmental institutions.

4. Legal literacy and digital literacy for the pre-service teacher

Legal and digital literacy is important for preparing the future teacher to navigate the abundance of easily accessible information and the complexities of the modern educational landscape. As misinformation proliferates, digital literacy enables teachers to evaluate online information and teaches the students to do the same. At the same time, teachers should utilize advances in technology to foster the dynamic and interactive learning environments that a digital technology could offer. Legal literacy ensures that the teachers operate within ethical and legal boundaries, fosters a safe and conducive learning environment, safeguards the rights of both teachers and students, and could shape the minds of future generations. Therefore, both forms of literacy should operate in parallel while teachers address global issues transparently and responsibly, fostering an informed and critically thinking citizenry, especially when they engage with external organizations, by ensuring ethical and legal considerations are met.

Learning environments that a digital technology could offer.

Conclusion

The Global Report emphasizes the urgency of tackling environmental challenges, revealing a significant readiness gap among teachers. The gap could be filled by embedding PER in pre-service teacher training. Recognizing the mismatch between the current disciplinary based training and the multidisciplinary approach in environmentalism in school-level education, this policy highlights the strategy of embedding PER in the existing framework of pre-service teacher training. The key recommendations include aligning PER with science epistemology, co-creating a PER framework in pre-service science teacher training to address the readiness gap, emphasizing the teacher's role as an environmental advocate through active participatory and experiential learning, and highlighting legal and digital literacy in pre-service training. Overall, this policy brief emphasizes the mainstreaming of PER, aiming to cultivate informed and critically thinking science teachers.

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