



OPEN ACCESS

EDITED AND REVIEWED BY
Margaret Grogan,
Chapman University, United States

*CORRESPONDENCE
Francis Thaise A. Cimene
✉ francis.cimene@ustp.edu.ph

RECEIVED 22 March 2024
ACCEPTED 08 April 2024
PUBLISHED 16 April 2024

CITATION
Cimene FTA and Otterpohl R (2024) Editorial:
Towards 2030: Sustainable Development Goal
6: clean water and sanitation. An educational
perspective. *Front. Educ.* 9:1405207.
doi: 10.3389/feduc.2024.1405207

COPYRIGHT
© 2024 Cimene and Otterpohl. This is an
open-access article distributed under the
terms of the [Creative Commons Attribution
License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that the
original publication in this journal is cited, in
accordance with accepted academic practice.
No use, distribution or reproduction is
permitted which does not comply with these
terms.

Editorial: Towards 2030: Sustainable Development Goal 6: clean water and sanitation. An educational perspective

Francis Thaise A. Cimene^{1*} and Ralf Otterpohl²

¹Center for Inclusive Development Studies, University of Science and Technology of Southern Philippines, Cagayan de Oro, Philippines, ²Institute of Wastewater Management and Water Protection, Hamburg University of Technology, Hamburg, Germany

KEYWORDS

sustainable, development, Goal 6, water, sanitation

Editorial on the Research Topic

[Towards 2030: Sustainable Development Goal 6: clean water and sanitation. An educational perspective](#)

The United Nations Sustainable Development Goals (UN SDGs) constitute the cornerstone of the ambitious 2030 Agenda for Sustainable Development. These 17 goals, envisioned to be achieved by 2030, embody an integrated approach that balances economic, social, and environmental dimensions of sustainability. They are structured around five fundamental pillars:

- **People:** striving to eradicate poverty and hunger, ensuring that all individuals can thrive in a healthy and dignified environment.
- **Planet:** safeguarding the environment while promoting sustainable utilization and management of natural resources.
- **Prosperity:** fostering environmentally sustainable economic growth, mutual prosperity, and providing decent work opportunities for all.
- **Peace:** cultivating peaceful, just, and inclusive societies where human rights and gender equality are upheld.
- **Partnership:** enhancing global solidarity to address inequalities within and between nations, with a focus on the most vulnerable populations.

Among these objectives, the sixth SDG, “Ensure access to water and sanitation for all,” holds profound significance in advancing global sustainability and wellbeing. Despite progress in improving access to sanitation and clean drinking water, billions of people still lack these essential services, a situation exacerbated by the COVID-19 pandemic, which highlighted the critical role of hygiene and sanitation in disease prevention. Surprisingly, one in three individuals worldwide lacks access to safe drinking water, while two in five lack basic hand-washing facilities.

Moreover, the escalating rate of global water consumption, coupled with challenges such as pollution, scarcity, and ecosystem degradation, underscores the urgency of addressing water-related issues. Tragically, preventable diseases linked to poor water and sanitation access claim the lives of nearly 1,000 children daily, while water-related disasters contribute to a significant portion of natural disaster fatalities. Furthermore, the discharge

of over 80% of wastewater into oceans, seas, and rivers without adequate treatment exacerbates environmental degradation.

Because of these formidable challenges, the global community finds itself falling short of the targets set forth by Goal 6, signaling an urgent need for a radical acceleration in adopting comprehensive water management strategies. As the clock ticks toward the 2030 deadline, it is evident that mere incremental progress will not suffice. The situation demands a paradigm shift—a concerted effort to overhaul existing practices and embrace innovative solutions that prioritize the equitable distribution, sustainable use, and conservation of water resources.

In this critical juncture, education emerges as a beacon of hope and a powerful catalyst for change. Its role extends far beyond the confines of traditional classrooms; it is a force capable of permeating communities, shaping attitudes, and instigating meaningful action. This editorial aims to underscore the indispensable role of education in the pursuit of SDG 6, shedding light on recent research endeavors that illuminate its transformative potential.

By delving into the educational dimension of SDG 6, we recognize that education serves as a cornerstone in cultivating a deep understanding of water-related challenges and fostering a sense of collective responsibility toward addressing them. Through targeted educational interventions, individuals can be empowered with the knowledge, skills, and mindset necessary to enact positive change in their communities. From grassroots initiatives to policy advocacy, education equips individuals with the tools to navigate the complexities of water management and champion sustainable practices.

Drawing insights from a diverse array of research studies in this Research Topic: *Towards 2030: Sustainable Development Goal 6: clean water and sanitation. An educational perspective*, we aim to showcase the multifaceted impact of education in advancing SDG 6. These studies offer compelling evidence of how educational interventions—from integrating water and sanitation education into curricula to promoting hygiene awareness among primary school students—can yield tangible results in improving access to clean water and sanitation facilities. Furthermore, they highlight the pivotal role of educators in shaping attitudes and behaviors toward water conservation, underscoring the importance of equipping teachers with the necessary knowledge and resources to effectively incorporate sustainability principles into their teaching practices.

One noteworthy contribution is a study by [Dittmar and Eilks](#) of the University of Bremen, Germany, titled “*Cooperative Learning with and about Internet Forums: A Case Study on a Unit on the Consumption and Chemistry of Mineral Water vs. Tap Water.*” This study highlights the significance of incorporating water and sanitation education into academic programs, utilizing creative teaching approaches to actively involve students in comprehending water usage and chemical processes, thereby promoting sustainable behaviors.

Similarly, [Berhanu et al.](#)'s study, “*Hand washing practice among public primary school children and associated factors in Harar town, eastern Ethiopia: An institution-based cross-sectional study,*” underscores the critical link between hygiene

behavior and education. By examining handwashing practices among primary school students, the study advocates for targeted educational interventions to promote hygiene awareness, contributing not only to SDG 6 but also to broader public health goals.

Insights from “*An international study of high school teachers' experience of incorporating water resources in their teaching,*” authored by [Kwee and Dos Santos](#), highlight the pivotal role of educators in driving sustainable action. Understanding teachers' motivations and contextual factors can inform pedagogical approaches, promoting a holistic understanding of environmental stewardship among students.

Central to these efforts is the cultivation of teachers' understanding of Education for Sustainable Development (ESD), as demonstrated in [Schönstein and Budke's](#) study, “*Teaching action competence in education for sustainable development – a qualitative study on teachers' ideas, opinions, attitudes and self-conceptions.*” By equipping teachers with the knowledge and skills to impart goal-oriented action competence, education becomes a catalyst for empowering students to tackle sustainability challenges effectively.

In conclusion, achieving SDG 6 hinges on prioritizing education as a catalyst for change. This involves targeted curriculum enhancements, heightened hygiene awareness, and educator capacity-building. Investing in education is crucial as we move toward 2030, paving the way for a fairer, more resilient, and sustainable future. Key research areas include integrating water and sanitation education into curricula, enhancing educator training, and evaluating hygiene promotion programs in schools. Exploring these avenues offers valuable insights for leveraging education in SDG 6 attainment.

Author contributions

FC: Writing – original draft, Writing – review & editing. RO: Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Acknowledgments

We would like to acknowledge the support of Frontiers in Education Team for making this Research Topic possible. We are also grateful to the published authors for their significant contributions in this collection.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.