

# INDONESIAN STUDENT TEACHERS' KNOWLEDGE, PERCEPTIONS, AND PREPAREDNESS FOR IMPLEMENTING SUSTAINABILITY EDUCATION

Risnawati

([risnawati@mail.uinfasbengkulu.ac.id](mailto:risnawati@mail.uinfasbengkulu.ac.id))

State Islamic University of Fatmawati Sukarno Bengkulu, Indonesia

**Abstract:** Student teachers play a very important role in advancing Education for Sustainable Development (ESD) by promoting sustainability awareness and fostering responsible behaviors among students and communities. This study investigates the knowledge, perceptions, and preparedness of Indonesian student teachers to incorporate sustainability education into their teaching practices. Using a mixed-methods approach, data were gathered through surveys and focus group discussions involving 80 final-year students from the English Language Education Study Program at UIN Fatmawati Sukarno Bengkulu. The findings reveal that participants possess a strong awareness of sustainability concepts but demonstrate limited depth of knowledge, particularly regarding interdisciplinary and contextual aspects. Participants expressed positive perceptions of sustainability education, emphasizing its potential to cultivate responsible citizenship. Nevertheless, significant gaps in preparedness were identified, especially in applying pedagogical strategies such as project-based and inquiry-based learning. These findings highlight the urgent need for teacher education programs to integrate contextualized sustainability content, interdisciplinary teaching approaches, and innovative instructional strategies. Addressing these gaps is critical to preparing student teachers to become effective agents of sustainable development in Indonesia.

**Keywords:** *student teachers; sustainability education; knowledge; perceptions; preparedness*

## INTRODUCTION

The role of student teachers in advancing Education for Sustainable Development (ESD) has received growing global attention, particularly in the wake of the United Nations Decade of Education for Sustainable Development (UNDESD) from 2005 to 2014. As emerging educators, student teachers are critical actors in sustainability initiatives, with their competencies and motivations playing a crucial role in fostering ecological, socio-cultural, and economic transformation within schools and communities. Their active participation in both curricular and co-curricular activities position them as influential agents of sustainability awareness and behavioral change among students and broader society (Nation & Feldman,

2021). However, existing research indicates that many student teachers possess limited awareness and understanding of sustainability concepts (Down, 2011), presenting a significant obstacle to the realization of ESD objectives.

Sustainability, broadly defined as minimizing risks while maximizing opportunities to improve the quality of life at local, regional, and global levels, has emerged as an urgent educational priority. The 2015 World Education Forum in Korea underscored the critical importance of pro-sustainability educators in achieving the 2030 Global Agenda for Sustainable Development. This agenda is anchored in five key pillars—People, Planet, Peace, Partnership, and Prosperity—necessitating the integration of these dimensions into educational practices. Additionally, the Berlin Declaration (UNESCO, 2021) highlights the essential role of teacher education programs in meeting ESD objectives. Scholars such as Goller and Rieckmann (2022) contend that teacher educators and student teachers have the capacity to not only meet but surpass ESD targets by embedding sustainability knowledge, skills, and values into the education of future generations.

Preparing 21st-century educators demands not only professional expertise to design sustainability-focused curricula but also practical skills and values to effectively communicate sustainability principles in schools and communities. Kabadayi (2016) likens well-prepared teachers to active curriculum planners who can drive transformative education. Consequently, evaluating the readiness of student teachers to act as agents of sustainability is essential to addressing current gaps in teacher education programs.

The United Nations' 17 Sustainable Development Goals (SDGs) underscore the critical role of education in advancing sustainability. Goal 4, which emphasizes quality education, and its Target 4.7, which promotes Education for Sustainable Development (ESD), advocate for instructional approaches that foster critical thinking, decision-making, and problem-solving competencies (Kohl & Hopkins, 2020). For ESD to achieve its intended impact, it must adopt a holistic and transformative approach, integrating learning content, pedagogy, and societal outcomes (UNESCO, 2017). These imperatives place significant responsibility on teacher education programs to cultivate graduates who are deeply conscious of sustainability principles and equipped to address global challenges.

Despite global advocacy and technical interventions, substantial progress in fostering sustainability awareness remains heavily reliant on schools, supported by robust teacher education programs (Rodrigo-Cano et al., 2019). However, existing evidence suggests that teacher education programs often fall short in addressing sustainability. For instance, the USTEDS Network (2013) revealed that only a minority of higher education institutions

## CONCLUSION

This study offers valuable insights into the knowledge, perceptions, and preparedness of Indonesian student teachers in implementing sustainability education. While their overall awareness of sustainability concepts is relatively high, the findings reveal significant limitations in the depth of their knowledge and their readiness to translate these concepts into classroom practices. Teachers' positive perceptions of sustainability education underscore its potential to foster responsible citizenship and environmental stewardship. However, persistent contextual gaps, particularly in connecting global sustainability issues to local realities, hinder its effective integration into teaching.

Addressing these challenges requires comprehensive reforms in teacher education programs. Curricula must balance theoretical and practical components, emphasizing localized sustainability challenges to enhance contextual relevance. In-service professional development programs should prioritize interdisciplinary approaches and innovative teaching strategies, such as project-based and inquiry-based learning. Additionally, ensuring access to quality resources and institutional support is vital to building teacher confidence and competence in delivering sustainability education.

This study contributes to the growing body of research on sustainability education and teacher preparedness, particularly within the context of developing countries. Future research should expand to include diverse teacher populations, assess the longitudinal impacts of sustainability training, and evaluate the effectiveness of specific pedagogical interventions. By enhancing teacher preparation and fostering a deeper understanding of sustainability's multidimensional nature, policymakers and educators can empower teachers to inspire sustainable practices among students. This, in turn, will contribute to achieving broader sustainable development goals and promoting a more sustainable future for Indonesia.

## REFERENCES

- Bandura, A. (1977). *Social learning theory*. Prentice-Hall.
- Banks, J. A. (2014). Diversity, group identity, and citizenship education in a global age. *The Journal of Education*, 194(3), 1–12. <https://www.jstor.org/stable/43823659>
- Beane, J. A. (1997). *Curriculum integration: Designing the core of democratic education*. Teachers College Press.
- Broman, G. I., & Robèrt, K. H. (2017). A framework for strategic sustainable development. *Journal of Cleaner Production*, 140, 17–31. <https://doi.org/10.1016/j.jclepro.2015.10.121>
- Brundtland Commission. (1987). *Our common future*. World Commission on Environment and Development.
- Bybee, R. W. (2010). *The teaching of science: 21st-century perspectives*. NSTA Press.

- Capra, F. (2004). *The hidden connections: A science for sustainable living*. Anchor Books.
- Chawla, L., & Cushing, D. F. (2007). Education for strategic environmental behavior. *Environmental Education Research*, 13(4), 437–452.
- Coyle, D., Hood, P., & Marsh, D. (2010). *Content and language integrated learning*. Cambridge University Press.
- Cates, K. A. (2002). Teaching for a better world: Global issues and language education. In D. R. Hall & A. Hewings (Eds.), *Innovation in English language teaching: A reader* (pp. 253–258). Routledge.
- Daly, H. E., & Cobb, J. B. (1989). *For the common good: Redirecting the economy toward community, the environment, and a sustainable future*. Beacon Press.
- Falk, J. H., & Dierking, L. D. (2010). The 95 percent solution: School is not where most Americans learn most of their science. *American Scientist*, 98(6), 486–493.
- Filho, W. L., Pace, P., Azeiteiro, U. M., & Mifsud, M. (Eds.). (2018). *Sustainability on university campuses: Learning, skills building and best practices*. Springer.
- Freeman, D. E., & Freeman, Y. S. (2011). *Between worlds: Access to second language acquisition*. Heinemann.
- Frisk, E., & Larson, K. L. (2011). Educating for sustainability: Competencies and practices for transformative action. *Journal of Sustainability Education*, 2(1), 1–20.
- Gilmore, A. (2007). Authentic materials and authenticity in foreign language learning. *Language Teaching*, 40(2), 97–118.
- Gogus, A. (2012). Bloom's taxonomy of learning objectives. In N. M. Seel (Ed.), *Encyclopedia of the sciences of learning* (pp. 451–453). Springer. [https://doi.org/10.1007/978-1-4419-1428-6\\_141](https://doi.org/10.1007/978-1-4419-1428-6_141)
- Huckle, J. (1991). Education for sustainability: Assessing pathways to the future. *Australian Journal of Environmental Education*, 7(1), 43–62.
- Jacobs, G. M., & Cates, K. (2012). Global issues in language education. In S. G. McCafferty, G. M. Jacobs, & A. C. DaSilva Iddings (Eds.), *Cooperative learning and second language teaching* (pp. 53–72). Cambridge University Press.
- Jacobs, G. M., & Goatly, A. (2000). The treatment of ecological issues in ELT coursebooks. *ELT Journal*, 54(3), 256–264. <https://doi.org/10.1093/elt/54.3.256>
- Johnson, R. B. (2019). *Survey research methods: A guide for data collection and analysis*. Sage Publications.
- Johnson, R. B., & Christensen, L. (2014). *Educational research: Quantitative, qualitative, and mixed approaches* (5th ed.). Sage Publications.
- Khalid, F. A. (2002). *Islam and the environment*. Islamic Foundation for Ecology and Environmental Sciences.
- Kusmana, C., Sari, M. A., & Hermanto, B. (2017). Water pollution management in Indonesia: Learning from river basin environmental management approaches. *International Journal of Environment and Resource Management*, 5(2), 23–36.
- Leicht, A., Heiss, J., & Byun, W. J. (Eds.). (2018). *Issues and trends in education for sustainable development*. UNESCO Publishing.
- Margono, B. A., Potapov, P. V., Turubanova, S., Stolle, F., & Hansen, M. C. (2014). Primary forest cover loss in Indonesia over 2000–2012. *Nature Climate Change*, 4(8), 730–735.
- McKeown, R., & Hopkins, C. (2003). EE and ESD: Two paradigms, one crucial goal. *Applied Environmental Education & Communication*, 2(3), 221–225.
- Mulyani, M., & Jepson, P. (2013). REDD+ and forest governance in Indonesia: A multistakeholder study of perceived challenges and opportunities. *Journal of Environment and Development*, 22(3), 261–283. <https://doi.org/10.1177/1070496513494203>
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press.