Dr. Navya Gubbi Sateeshchandra

Professor, Berlin School of Business and Innovation, Berlin, Germany

Abstract: Educating for Earth's Future: Transformative Learning: Addressing Research Gaps in Sustainable Development Innovation in Education

The imperative of sustainable development necessitates a paradigm shift in educational practices, moving beyond traditional knowledge transmission towards fostering critical thinking, systems thinking, and action competence. This abstract addresses the critical research gaps surrounding sustainable development innovation in education, particularly concerning its implementation and impact across diverse contexts. While the integration of Sustainable Development Goals (SDGs) into curricula has gained traction, a significant research deficit persists regarding the efficacy of pedagogical innovations in cultivating deep, transformative learning. Specifically, there is a dearth of empirical studies rigorously evaluating the long-term impact of experiential and participatory learning approaches, such as project-based learning, citizen science, and community-engaged pedagogy, on students' sustainable behaviors and civic engagement.

Furthermore, the existing literature often overlooks the contextual nuances that shape the adoption and adaptation of sustainable development education. A critical research gap exists in understanding how socio-cultural, economic, and political factors influence the implementation of innovative pedagogies in diverse educational settings, particularly in resource-constrained environments. This gap necessitates a more nuanced exploration of the role of teacher agency, institutional support, and community partnerships in fostering sustainable development learning.

Moreover, the assessment of learning outcomes related to sustainability remains a significant challenge. Traditional assessment methods often fail to capture the complex, interdisciplinary, and values-driven nature of sustainable development competencies. A critical research gap lies in developing and validating robust assessment tools that can effectively measure students' ability to engage in critical reflection, ethical reasoning, and collaborative problem-solving related to sustainability challenges. This includes the need to explore the potential of alternative assessment approaches, such as portfolio assessment and performance-based tasks, in providing a more holistic understanding of student learning.

Finally, the integration of digital technologies for sustainable development education presents both opportunities and challenges. While digital tools can enhance access to information and facilitate collaborative learning, a lack of research exists regarding the ethical and equitable use of these technologies in promoting sustainability literacy. Addressing these gaps is crucial for developing evidence-based strategies that can effectively equip learners with the knowledge, skills, and values necessary to contribute to a sustainable future. This conference

aims to foster interdisciplinary dialogue and collaborative research to address these critical gaps and advance the field of sustainable development innovation in education.