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INCLUDING SUSTAINABILITY PEDAGOGY AND CURRICULA

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RESEARCH ARTICLE

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Abstract
This paper presents a study on the interaction between sustainability pedagogy and curricula within systemic structures. Environment advancement the natural world and human society. In academic contexts, sustainability should cultivate skills and abilities in these two interconnected domains of sustainability. ability should be developing competencies in these specific closely related areas of sustainability. By embedding sustainability into pedagogy and curricula, educators can inspire students to become agents of positive change. This approach prepares students to navigate and address the complex sustainability Preparing for future obstacles by equipping individuals with insights, abilities, and ethics required to contribute to a more sustainable world. The teaching projects implement by primarily emphasized professional competencies not explicitly tied to sustainability, while competencies directly related to sustainability whether sociocultural, environmental, or economic were less frequently examined. The most common terms in the content descriptors reflected this professional focus. Sustainability pedagogy refers to the teaching methods, practices, and philosophies specifically designed to educate students about sustainability, environmental stewardship, and social responsibility. The purpose of studying sustainability pedagogy is to explore how education can foster a deeper understanding of sustainability issues, inspire action toward more sustainable practices, and cultivate critical thinking skills that enable students to engage with the challenges of building a sustainable future. the purpose of a research paper on sustainability curricula is to explore, analyse, and provide insights into how educational systems and institutions can design and implement curricula that effectively teach sustainability concepts, skills, and values. The paper aims to understand the effectiveness, challenges, and opportunities related to integrating sustainability into various educational levels and subjects. This study identified the sustainability pedagogy and curricula has been stimulated by socio-cultural factors, like local sustainability issues and global sustainability agenda.

Keywords: *Sustainability Pedagogy, Sustainability Curricula, Systems Structure, Teaching Methods*

Introduction

Education for Sustainable Development (ESD) or Education for Sustainability is a technique aimed at enhancing individuals' understanding, proficiency, mindsets, and values, empowering them to actively participate in sustainable progress at the local, national, and global scales, while driving them toward a fairer and more sustainable future. Particularly, it equips people to blend social and cultural factors with ecological and economic decision-making, fostering well-rounded sustainability practices. Sustainability Pedagogy and Curricula relate to teaching approaches and educational content structured to arm learners with the expertise, competencies, and perspectives required to confront environmental challenges effectively. Sustainability Pedagogy refers to the methods and approaches used in teaching. Sustainability pedagogy focuses on teaching methods that Encourage critical thinking about environmental, social, and economic issues Promote active, participatory learning (like projects, community involvement, problem-solving) skills and focus of lifelong learning thinking and systems thinking (understanding the connections between environment, society, and economy. Promote Critical Thinking: Encouraging students to think critically about sustainability issues, including environmental degradation, climate change, social inequality, and economic disparity. Active Engagement, Sustainability education often requires participatory, hands-on learning, where students engage in real-world issues through projects, community involvement, and practical applications. Interdisciplinary Learning, Sustainability issues are complex and interconnected, so sustainability pedagogy often incorporates an interdisciplinary approach. This may involve blending subjects like science, ethics, economics, politics, and culture to provide a holistic understanding of sustainability.

Promote Systemic Change

Teaching students not just about sustainability but also about the systemic changes needed in institutions, policies, and cultures to achieve sustainable futures. Capabilities related to sustainability and those associated with education for sustainable development in initial teacher education.

Dealing with concepts of sustainability and education means entering into a debate that is difficult to solve. It is therefore considered that both the concept of education and the one of education are highly complex. The relations established between both notions are therefore always influenced by circumstances and characteristics of participants and situations. Jicking & Wals specify education is determined by numerous factors How educators and curriculum theorists respond to these varied perspectives about education for sustainable development will depend on how they think about 'education' and the role education plays, or needs to play, in society. It will also depend on their image of 'educated persons', and their interactions within respective societies in particular, the perceived role people are to assume in decision-making processes sustainability competencies or competencies for sustainable development are basic competencies that train people to adopt personal lifestyles ensuring a balance between economic growth, respect for the environment and social justice Sustainability competencies which are of a more individual nature, are identified with They must enable human beings to face challenges such as climate change, inequality, water shortage, hunger or responsible consumption, among others, from a global perspective that favors sustainable development. The United Nations Economic Commission for Europe (UNECE) Strategy for Education for Sustainable Development characterizes sustainable development as grounded in principles of solidarity, equity, and reciprocal respect among individuals, nations, cultures, and generations. It emphasizes progress that aligns with ecological balance, fulfilling current needs without hindering future generations from fulfilling theirs. This interpretation of sustainable development aligns with the United Nations Declaration on the Right to. "Development, as set out in General Assembly resolution of 4 December 1986, and the Rio Declaration on Environment and Development (United Nations Conference on Environment and Development, Rio de Janeiro, including sustainability pedagogy and curricula in education aims to not only educate students about the importance of sustainability but also to empower them with the tools, knowledge, and critical thinking skills necessary to address the complex challenges of today's world (Huckle & Sterling, 1996) . This involves integrating sustainability concepts into both the way students are taught (pedagogy) and the content they learn (curricula).

Review of Literature

According to UNESCO, education is the main priority to promote sustainable development and is key to reach the sustainable development goals (SDGs). The competencies for sustainability or Sustainable Development competencies (ESD) were formulated by UNECE and are inspired by Delors' four pillars, adapted to align with sustainability principles. Although Delors did not explicitly outline competencies, his report emphasized that education should revolve around four essential types of learning, serving as foundational pillars throughout an individual's life.

Learning to know developing the tools for comprehension, learning to do acquiring the capacity to shape and impact one's surroundings, learning to live together engaging in collaboration and participation across all human endeavors Learning to be a vital process encompassing elements of the other three pillars.

The Burns Model of Sustainability Pedagogy has five dimensions, each of which is rooted in learning theory (see Figure 1). First, this model emphasizes Content that is thematic, multidisciplinary, and cocreated. The content dimension is rooted in systems theory (and social constructivism).

Second, the design includes Perspectives that are diverse and critically question dominant paradigms and practices. The dimension is grounded in critical theory and critical pedagogy (Freire, 1970; hooks,1994) Third, the model incorporates a Process that is participatory, experiential, and relational. This dimension relies primarily on experiential learning theory. Fourth, the model includes a Context that is place-based, with its foundation in place-based learning theory and situated experiential learning theory (Fenwick, 2001; Sobel, 2004). Fifth, the Burns Model of Sustainability Pedagogy emphasizes an ecological Design for the purpose of transformational learning (Baumgartner, 2001).

Objectives

1. To examine changes in students self-perceived knowledge through a pre- and post-survey administered in a college writing course.
2. To identify the how Much was Learned from the Teaching and Learning Techniques Post Course.

Methodology

The method adopts descriptive and an in depth look at the implementation of the Burns Model. This study used in mix method approach.

Population

The population for the present study consisted of all post-secondary from different universities of Delhi.

Research Participants

Student participants in the course eight class 70 students of whom were women. These participants ranged in age from 20 - to 30 years-old, and all were full time students (20) and different majors were represented in the class. All students lived off campus,

commuting to school and in most cases working 20 hours or more per week while in school. Most students had work and travel experience before they came to college. In the college writing course, there were also 70 students, nine of whom were women. total of nine students was in their first semester of college as at the Delhi. The students ranged in age from 17 to19 years of age.

Data Collection and Analysis

This technique used of the Burns Model of Sustainability Pedagogy and for each course and included student reflective writing, pre and post concept maps, assignments, pre and post surveys, focus group interviews, interview, researcher notes, researcher journal. The data collected for this study are mix method both qualitative and quantitative.

Results

Content Dimension

How Do Learners Come to Understand Sustainability Issues? Through this study it became clear that students created a new understanding of sustainability that reflected multiple yet interrelated dimensions. Specifically, learners came to understand sustainability holistically and more concretely (border course) and multi-dimensionally (college writing). Understanding sustainability holistically and concretely. In the border course students reported that their understanding of sustainability changed as a result of this course and they began to understand sustainability differently than they had before, with new dimensions. Students came to understand sustainability more holistically and concretely, primarily through their experience in the border region and the examples they encountered of people and organizations that are working for sustainability. In the end of course reflection assignment Alexis wrote, "My understanding of sustainability changed to include more diverse, human centered systems like business, living situations, and food. I also gained many more concrete examples of what sustainability can actually look like on the same assignment Jessica wrote, Sustainability is such a bumper sticker slogan; it was difficult at first to think of it in a concrete and perceivable way. Now, I understand sustainability as more solid and understandable".

"The visit was so good, a sense of hope was instilled, a sense that it can be different harvesting from the community garden, cooking and eating together, hearing how community members seek to live in a way that is right for them, all this inspires others in the process of learning"

Discussion

Pedagogical Implications In many ways, the results of this study highlight the transformational aspects of the Burns Model of Sustainability Pedagogy. But additionally, learners were impacted by their roles as co-participants in this research project. Their ongoing participation in the research and its explicit focus on teaching and learning gave learners the opportunity to really reflect, not just on what they were learning, but on how they were learning and why. Their insights, reactions, suggestions and willingness to engage and reflect, was imperative as I sought to make sense of the Burns Model of Sustainability Pedagogy in practice. The following pedagogical implications and suggestions emerged from the data results, but it is also important to note that these were the research participants lived and shared experiences. In many ways, sustainability pedagogy requires a fundamental shift in how educators approach teaching and how curricula are designed. Traditional teaching methods, which often emphasize rote memorization and linear thinking, may not adequately address the complexity and interconnectedness of sustainability issues. As such, the pedagogical implications of integrating sustainability into education are profound and multifaceted. Below are several key implications.

Emphasis on Critical and Systems Thinking

One of the central tenets of sustainability pedagogy is its focus on critical thinking and systems thinking. Sustainability issues are inherently interdisciplinary and involve complex, interconnected systems ranging from ecosystems to social structures to economic models. Therefore, educators must encourage students to analyze problems from a variety of perspectives, question assumptions, and consider the long-term consequences of decisions. This approach challenges students to see beyond immediate results and evaluate the broader impact of their actions on the environment, society, and economy. For example, in courses related to environmental science, sustainability pedagogy could involve studying the impact of industrial development not just on the environment, but also on communities, cultures, and economies. By fostering a more holistic understanding, students can develop the skills necessary for addressing sustainability challenges from a comprehensive standpoint.

Collaborative and Experiential Learning

Sustainability education often requires a shift toward collaborative learning and experiential learning. Traditional classroom-based teaching methods may need to be supplemented with active learning opportunities where students can engage with real-world sustainability challenges. Project-based learning, internships, and community engagement allow students to apply what they've learned in authentic contexts, promoting a deeper understanding of the material. By collaborating with peers on sustainability projects or engaging with local communities on environmental or social initiatives, students gain valuable hands-on experience and learn to work in teams. These types of learning environments cultivate skills such as leadership, empathy, and problem-solving, all of which are essential for tackling sustainability issues.

Interdisciplinary and Integrated Learning

Sustainability challenges are rarely confined to one academic discipline. Whether it's climate change, biodiversity loss, or social inequality, addressing sustainability requires knowledge and insights from multiple fields, such as economics, sociology, biology, and political science. Thus, interdisciplinary teaching becomes a key pedagogical implication. Educators must be willing to break down the silos of traditional academic disciplines and promote an integrated approach to teaching. This could mean

working across departments to create joint courses or collaborating with external organizations to offer students interdisciplinary projects. The goal is to provide students with a broader toolkit, so they are equipped to address the complex, interconnected nature of sustainability challenge.

Conclusion

This study various precious role the crucial of sustainability pedagogy and curricula in fostering a deeper understanding of sustainability issues and preparing students to address the complex challenges of the future. By integrating systems thinking, critical analysis, and interdisciplinary approaches into teaching, sustainability education enables students to see the interconnectedness of environmental, social, and economic dimensions. The findings highlight the importance of shifting from traditional teaching methods to more active, experiential, and collaborative learning practices that engage students with real-world sustainability challenges. The research also reveals that while sustainability competencies were not always prominently featured in curricula, there is a growing recognition of the need to equip students with the knowledge, skills, and values necessary for contributing to a sustainable world. The Burns Model of Sustainability Pedagogy exemplifies this approach by promoting diverse perspectives, experiential learning, and transformative educational experiences. Ultimately, sustainability education not only prepares students to understand and address the challenges facing our planet but also empowers them to become agents of change in their communities and beyond. To fully realize the potential of sustainability pedagogy, educational systems must continue to evolve, ensuring that sustainability is embedded across disciplines, pedagogical methods, and curricula. This will help cultivate a generation equipped to navigate and lead the way toward a more sustainable and just future.

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References

1. Baumgartner, L. M. (2001). An update on transformational learning. *New Directions for Adult and Continuing Education, 89*(15), 15-24. doi:10.1002/ace.4
2. Fenwick, T. (2001). *Experiential learning: A theoretical critique from five perspectives (Information Series No. 38)*. Retrieved from ERIC database. https://eric.ed.gov/?id=ED454418
3. Freire, P. (1970). *Pedagogy of the oppressed*. New York, NY: Continuum. https://www.scirp.org/reference/referencespapers?referenceid=2059960
4. Huckle, J., & Sterling, S. (1996). *Education for sustainability: An agenda for action.* Environmental Education Unit, The University of Exeter. DOIhttps://doi.org/10.4324/9781315070650
5. Sobel, D. (2004). *Place-based education: Connecting classrooms and communities*. The Orion Society. https://www.scirp.org/reference/referencespapers?referenceid=3095773