



Original Article

# Study of Degree College Teacher Education Curriculum in the Context of Education for Sustainable Development

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Manuscript ID:  
RIGJAAR-2026-030108

ISSN: 2998-4459  
Volume 3  
Issue 1  
Pp. 49-54  
January 2026

Submitted: 07 Dec. 2025  
Revised: 15 Dec. 2025  
Accepted: 10 Jan. 2026  
Published: 31 Jan. 2026

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Quick Response Code:



Web: <https://rlgjaar.com>



DOI: 10.5281/zenodo.19212901

DOI Link:  
<https://doi.org/10.5281/zenodo.19212901>



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## Abstract

*In an increasingly interconnected world, the role of education in the sustainable development of nations has become essential. Quality education and effective teacher preparation are vital in shaping future generations capable of addressing contemporary challenges. This study investigates the current degree college teacher education curriculum through the lens of Education for Sustainable Development (ESD), which is pivotal for fostering the knowledge, values, and behaviors necessary to create a sustainable future. As traditional development models have led to numerous global issues, including environmental degradation and social inequality, there is a growing need for a curriculum that emphasizes sustainable practices. The research emphasizes that well-prepared teachers, aware of sustainability concepts, can significantly influence students' attitudes and understanding of global citizenship, environmental stewardship, and social responsibility. This study explores the integration of ESD principles into degree college teacher education, assessing its potential to equip teachers with the skills needed to impart sustainability-focused education effectively.*

*Quality higher education should aim to develop excellent, thoughtful, well-rounded, and creative individuals. A deep level of interest in special areas and develop character, moral and constitutional values, intellectual curiosity, scientific temper, creativity, service spirit including science, social sciences, humanities, languages, personal, technical and professional subjects, the new education policy brings. There are some fundamental changes in the current system and highlights. Multidisciplinary universities and colleges, with at least one in or near each district, updating student curriculum, pedagogy, assessment, and student experience, establishing national research and supporting excellent peer-reviewed work are effectively studied in foundation universities.*

**Keywords:** Degree College Teacher Education, Education for Sustainable Development (ESD), Curriculum, Sustainability, Teacher Preparation, Global Citizenship, Environmental Stewardship, Social Responsibility, Sustainable Development Goals (SDGs)

## Introduction

In the 21st century, education has emerged as a central force in the development and prosperity of nations worldwide. The influence of education extends beyond individual progress to societal growth, positioning it as a critical factor for economic stability, social cohesion, and environmental consciousness. It is often said that "Good Education Demands Good Teachers", highlighting the pivotal role of educators in achieving the broader goals of education. Quality teacher preparation is essential for ensuring that teachers possess the skills and understanding needed to perform their roles effectively.

As global challenges such as climate change, resource depletion, and social inequity continue to escalate, the concept of Sustainable Development has gained prominence as a framework for addressing these complex issues. Sustainable Development emphasizes a balanced approach to economic, social, and environmental concerns, advocating for methods that preserve resources and promote equitable development. Within this framework, Education for Sustainable Development (ESD) has emerged as a vital component, enabling future generations to develop the knowledge and skills needed to contribute meaningfully to sustainable societies.

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## How to cite this article:

*Deshmukh, S. S. (2026). Study of Degree College Teacher Education Curriculum in the Context of Education for Sustainable Development. Royal International Global Journal of Advance and Applied Research, 3(1), 49–54. <https://doi.org/10.5281/zenodo.19212901>*



This study examines how ESD principles are integrated into degree college teacher education curricula, emphasizing the need for teachers to understand and champion sustainable practices in their professional roles. Degree college teachers hold unique influence as they work with young adults at a critical stage of intellectual and moral development. By equipping these teachers with a robust understanding of ESD, the education system can cultivate future leaders and citizens who are both informed about and committed to sustainable living. This research assesses current curricular approaches, identifies gaps, and proposes strategies for enhancing ESD in teacher preparation programs to address the urgent need for sustainable education in our rapidly evolving world.

### Review of Literature

**Sarma (2000)** conducted an analytical study on the curriculum of teacher education at the primary level, focusing on the drawbacks of the curriculum at the District Institutes of Education and Training (DIET) and Basic Training Certificate (BTC) programs. Sarma's study aimed to uncover issues in the curriculum, particularly the heavy academic load perceived by more than 60% of teachers. Furthermore, Sarma identified practical teaching as both a challenge and an enjoyable aspect for trainees, noting that limited infrastructure in schools added to the difficulties. These findings underscore the importance of aligning teacher education curriculum with practical, real-world challenges. For degree college education, a similar approach would entail evaluating curriculum load, adequacy of practice teaching, and infrastructure in colleges, especially in the context of preparing teachers to handle sustainable development topics.

**Natarajan and Balan (2003)** conducted a study on the morale of elementary school teachers in Tamil Nadu. Using a large sample and the Teacher Morale Opinionnaire by Anjali Mehta (1977), their study found no significant differences in morale based on background factors such as gender or marital status. This suggests that morale is a complex issue not easily influenced by demographic factors. Applying this finding to degree college teacher education implies that building morale and motivation among teacher trainees may require strategies beyond curriculum content, such as incorporating training on ESD-related competencies that enhance teachers' sense of purpose and societal contribution.

**Sarma, Chaudhary, and Sarmah (2003)** examined the efficacy of teacher educators in providing quality training to elementary teachers in Assam, with a particular focus on the infrastructure of Teacher Training Institutes, such as DIETs and Colleges of Teacher Education (CTEs). The study revealed a shortage of qualified faculty, as well as limited resources like libraries, laboratories, and teaching materials. In the degree college context, providing sufficient resources for ESD training would be crucial, as educators need access to up-to-date resources on sustainable practices, environmental studies, and community engagement.

**Khandelwal (2007)** focused on evaluation practices in elementary teacher education programs. The study recommended a comprehensive assessment approach covering theory, teaching practice, and practicum, with a

moderation board to ensure consistency across institutions. Translating this to the degree college level, the evaluation process for teacher training programs could similarly include diverse assessment methods that measure ESD competencies, ensuring that future teachers are evaluated on their understanding of sustainable development principles and their ability to teach these effectively.

**Yadav (2012)** conducted a status study of elementary teacher education curriculum across various states in India, analyzing the curricular and co-curricular components in pre-service teacher education programs. Yadav's study found considerable variation in these areas across states, highlighting the need for a consistent approach to curriculum design. This finding is relevant to degree college teacher education as well; consistency in ESD integration across states would ensure that all future teachers receive standardized, high-quality education on sustainability, which is essential for fostering a nationwide commitment to sustainable practices.

Together, these studies provide foundational insights into the issues surrounding teacher education curriculum and evaluation. Applying these findings to the degree college level, particularly with a focus on ESD, indicates a need for a curriculum that balances theoretical knowledge with practical skills, promotes high morale among educators, ensures resource availability, and includes comprehensive assessment practices. These elements are crucial for preparing degree college teachers to address the challenges of sustainable development and contribute meaningfully to a sustainable future.

### Importance of Education for Society

Education is widely recognized as the backbone of society, serving as a powerful tool for personal, social, and national development. As Nelson Mandela aptly stated, "Education is the most powerful weapon which you can use to change the world." In an era marked by rapid technological advancement and globalization, education remains a fundamental asset for developing both individuals and nations. Unlike material assets or machinery, education fosters intellectual growth, empowers individuals, and promotes societal transformation.

The significance of education, particularly in degree college teacher training, cannot be overstated. Teachers play a critical role in nurturing informed, responsible, and capable citizens, underscoring the need for well-designed teacher education programs. Several commissions and policies emphasize the importance of teacher preparation. For instance, the Kothari Commission (1964-66) stated that "A sound program of professional development of teachers is essential for the qualitative improvement of education." Investment in teacher education, as the Commission highlighted, leads to substantial returns by enhancing educational quality on a broad scale. The National Policy of Education (1986) further underlined that teacher education should be a continuous process, with District Institutes of Education and Training (DIETs) playing a key role in both pre-service and in-service training.



The National Curriculum Framework (2005) emphasized creating a joyful learning environment, advocating for child-centered education that minimizes stress and encourages retention and universal enrollment up to the age of fourteen. Later, The National Education Policy (2016) identified the poor quality of teacher education as a contributing factor to the decline in teaching standards, especially in primary education. This policy highlighted the need for rigorous teacher preparation, particularly for degree college educators, who play a crucial role in shaping young adults' perspectives and abilities.

India's current teacher education programs vary across educational levels, including elementary (D.El.Ed.), secondary (B.Ed.), and nursery teacher training (N.T.T.) programs. However, the preparation for degree college educators requires an approach that goes beyond foundational teaching skills to encompass specialization, critical thinking, and adaptability, as these educators work with students on the brink of entering professional and civic life. Education at this level is instrumental in fostering skills, socialization, and values crucial to a harmonious and progressive society.

In a broader context, education fulfills several roles in society, as sociologist Emile Durkheim pointed out in the early 1900s. He viewed education as essential for building social solidarity, preparing individuals to contribute meaningfully to the workforce, and promoting equal opportunities. Education in degree colleges further amplifies this by equipping future professionals with specialized skills, ethical values, and the critical thinking abilities necessary to adapt to a globalized world.

UNESCO articulates that education should empower individuals to participate actively in societal transformation, fostering values of diversity, pluralism, and global citizenship. In this light, degree college teacher education is not only about equipping educators with academic knowledge but also enabling them to instill values that encourage societal cohesion, innovation, and sustainable growth. Educators who are well-versed in the latest teaching methods, subject knowledge, and sustainable development principles contribute immensely to the advancement of society.

In the 21st century, where knowledge and information flow are ever-increasing, education is essential

for societal progress and stability. Teachers, especially those at the degree college level, are instrumental in guiding students as they become informed, empowered, and engaged citizens capable of making meaningful contributions in technology, economics, human rights, and other critical areas. As society and education are interlinked, a robust degree college teacher education program is essential for building a prosperous, knowledgeable, and socially responsible nation.

**Education and Development**

Education plays a critical role in the development of individuals and societies. It is the cornerstone upon which progress is built, shaping the future of a nation by fostering intellectual, economic, and social growth. As Nobel laureate Amartya Sen famously stated, "Development is a process of expanding the real freedoms that people enjoy." In this context, education not only imparts knowledge but also equips individuals with the skills and capabilities necessary to contribute meaningfully to society. A well-educated population is essential for sustainable development, as it enables people to make informed decisions, use resources judiciously, and promote social justice.

For degree college teachers, the importance of education in driving development is multifaceted. Education is a tool for empowering individuals, offering them the freedom to shape their lives and the world around them. However, the development process must be aligned with sustainability. The current model of development, which often prioritizes economic growth over environmental health, has led to several global crises such as pollution, resource depletion, and ecological imbalance. As educators, degree college teachers have the responsibility to instill values of sustainable development in students, helping them understand the necessity of balancing progress with the preservation of the environment. This shift towards sustainable development, which fulfills present needs without compromising the ability of future generations to meet their own, is essential for long-term societal wellbeing. Education, therefore, must evolve to foster a deeper understanding of how development can be both beneficial and responsible, ensuring that future generations inherit a world capable of sustaining their needs.

**Table: 1. Milestones of Sustainable development**

SL. No.	Year	Particulars
1	1962	Salient spring book written by Rachel Carson which was focused on toxicology, ecology and Epidemiology
2	1972	United Nation conference on Human environment (Stalkholm conference) lead to the many national environmental protection agencies and the UNEP (United Nations Education Plan).
3	1980	Independent commission on International Development issue published North South: A programme for survival (Brundtland report) called for a new economic relationship between north and south.
4	1987	World Commission on Environment & Development (Brundtland commission) published report named as 'Our Common Future' at Geneva, Switzerland in June 1987.
5	1992	The Business Council for Sustainable development published changing course, establishing the business interest in promoting Sustainable development.



6	2002	World summit on sustainable development held in Johannesburg. The summit promoted 'partnerships' as a non-negotiated approach to sustainability.
7	2015	The 20th General Assembly of the States Parties to the World Heritage Convention adopted a Policy on the integration of a sustainable development perspective into the processes of the World Heritage Convention.
8	2019	United Nations Climate Action Summit (Proposed in September 2019)

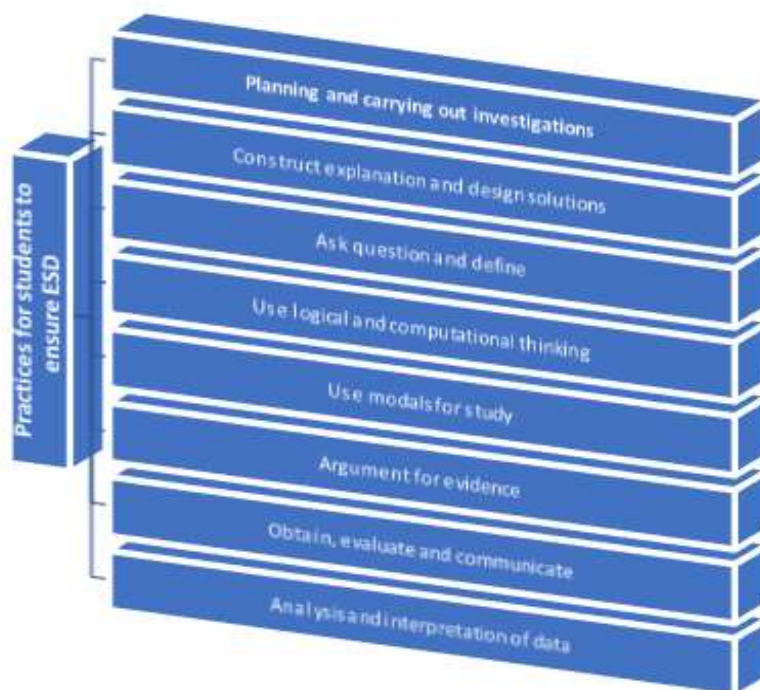
Main Issues under the Dimensions of Sustainable Development

It can be concluded that Education for Sustainable Development is basically an education which deals to provide proper skill, attitude, values and knowledge. It promotes lifelong learning and works for the preparation of responsible citizen who believes in democratic system of nation and serve for society. Education and training these two factors appear as determinants for increasing creativity and rationality, problem solving capabilities and competitiveness needed to 14 foster the increasingly complex cultural, social and technological decisions involved in sustainable development. Reshaping education to meet these ends means decision makers have to face at least two major challenges. 1. Devising institutional educational strategies and programmes, taking in to account all the educational actors and communication channels available. 2. Increasing the quality and usefulness of the various educational and training processes, aimed primarily at citizens, economic partners and young people. ESD is not only the education about our environment but also more about ethics and values. Main function of ESD is to develop human capital and encourage technical process, as well as

fostering cultural conditions favoring social and economic change. The importance of education in the development of values cannot be overlooked. It is crucial to promote cultural features. (Reddy, 2007).

Role of Science in Education for Sustainable Development

Science is foundational in shaping our understanding of the world, influencing every aspect of human life, and guiding societies towards sustainable solutions. Through science, people gain insight into their environment and their responsibilities within it. In the context of Education for Sustainable Development (ESD), science is essential not only for imparting technical knowledge but also for instilling values, principles, and lifestyles that support sustainable growth. This approach aligns with key dimensions of sustainability—spatial, temporal, demographic, and qualitative—by focusing on human welfare and societal development. Degree college teachers play a crucial role in integrating these scientific perspectives into their curriculum, helping students understand the science behind sustainability and empowering them to make responsible decisions.



Historically, both the Radhakrishnan Commission (1948-49) and Kothari Commission (1966) emphasized the importance of an education system that balances scientific understanding with cultural values. Dr. A.P.J. Abdul Kalam,

in his book India 2020: A Vision for the New Millennium, advocated for sustainable development, urging the creation and application of knowledge, the development of self-reliant technological capabilities, and the innovation of



competitive technologies for economic growth. For degree college teachers, this vision translates into fostering scientific literacy and critical thinking in students, equipping them to apply scientific knowledge towards sustainable and socially responsible solutions.

**Components of Education for Sustainable Development**

Education for Sustainable Development (ESD) is designed to empower learners with the skills for effective problem-solving, decision-making, and responsible actions that promote sustainability. For degree college teachers, ESD encompasses more than just academic content; it includes pedagogy, outcomes, and the learning environment, aiming to provide a holistic and transformative educational experience. ESD advocates interactive, learner-centered settings that encourage self-directed learning, cooperation, and active participation, positioning learners as change-makers who are equipped with the knowledge, values, skills,

and attitudes essential for contributing to sustainable human welfare.

To foster this, ESD emphasizes values-centered education, building respect as a core component. Degree college teachers play a vital role in instilling these values, which include:

1. Respect for others, including both present and future generations.
2. Respect for diversity, embracing differences among people and cultures.
3. Respect for the environment, acknowledging our interconnectedness with nature.
4. Respect for natural resources, recognizing our dependence on these limited resources and the need for their sustainable use.

These components guide students not only toward knowledge acquisition but also toward developing a mindset for sustainability, supported by values that shape attitudes and, ultimately, sustainable actions.

**Table: 2. Components of Education for Sustainable Development**

Knowledge	Related with content of ecological, economic, social and cultural aspects of sustainable development.
Values	Related with inculcation of moral values in students
Skills	Related with any skill development in students

**Sustainable Development in Curriculum and Role of Teacher**

As Michael Fullan (2007) highlights, any aspect of curriculum change, whether related to policy, pedagogy, skills, or knowledge, requires the active involvement of teachers as frontline implementers. Null (2011) adds that the success of curriculum implementation hinges on the meaning and attitudes that teachers attribute to the curriculum. For Education for Sustainable Development (ESD), this is especially relevant: ESD is not merely a subject to impart knowledge and skills but also a framework that involves learners in developing a mindset, skills, and attitudes supportive of sustainable living (Kimaryo, 2011). ESD integrates into every discipline within the curriculum, making an interdisciplinary and multidisciplinary approach essential to its success.

The interdisciplinary approach emphasizes collaboration among teachers from diverse fields, each contributing unique concepts, methods, and knowledge to address a shared educational challenge. In contrast, the multidisciplinary approach incorporates sustainable development topics across various disciplines, creating a comprehensive framework for ESD within the curriculum. Although ESD and Environmental Education (EE) are often used interchangeably, they serve distinct purposes. ESD promotes a holistic view of sustainability, including economic, social, and environmental considerations, while EE tends to focus specifically on environmental issues (Sellin, 2003). Degree college teachers play a pivotal role in delivering ESD by integrating these principles into their disciplines, fostering a collaborative learning environment, and nurturing students' commitment to sustainability.

**Conclusion**

The study of degree college teacher education curriculum in the context of Education for Sustainable Development (ESD) underscores the crucial role of educators in guiding society toward a sustainable future. As teachers prepare to influence future generations, their training must go beyond traditional content, equipping them with the values, knowledge, and skills necessary to foster sustainable practices. In an era where environmental degradation, social inequality, and resource scarcity are critical global issues, educators play a pivotal role in shaping informed, responsible, and socially conscious citizens.

The integration of ESD principles into teacher education programs is essential for addressing these challenges and promoting sustainable development goals. By adopting an interdisciplinary and holistic approach, teacher preparation can align with the objectives of sustainable development, fostering environmental stewardship, social responsibility, and global citizenship among students. As Amartya Sen aptly stated, development should expand the real freedoms people enjoy, a vision that quality education can bring to fruition. For education to contribute meaningfully to sustainable development, it must instill in both teachers and students an understanding of the interconnectedness of society, economy, and environment, ultimately creating a foundation for a more equitable and sustainable world.

**Acknowledgment**

The researcher expresses sincere gratitude to Dr. Siddalingappa S. Deshmukh, Associate Professor, St. Claret Autonomous College, Bangalore, for his academic guidance, constant encouragement, and valuable insights throughout the course of this study.



**Financial support and sponsorship**

Nil.

**Conflicts of interest**

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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