



## **Educating Sustainable Development Approaches among the Students of Kerala: A Study**

**Sijo Varghese**

**Research Scholar**

**Department of Sociology and Social Work**

**CHRIST (Deemed to be University) Bangalore – 560 029**

**Karnataka, INDIA**

**Email: [sijo.varghese@res.christuniversity.in](mailto:sijo.varghese@res.christuniversity.in)**

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### **Abstract**

Sustainable development has become ubiquitous in science, culture, and social diaspora. It is a complex concept, based on environmental, economic, and social pillars. Since mono-disciplinary approaches typically fail to teach the sustainability education of the present generation, multiple educational approaches are required to overcome sustainability challenges. The purpose of this paper is to investigate the approaches to educating sustainable development among the students of Kerala to develop their sustainability consciousness. This study is qualitative and descriptive. Teachers of science, social sciences, and mathematics are the focus of this study. The information was gathered using interview sheets and a questionnaire. According to the findings, the result demonstrates that although 83% of the teachers are familiar with sustainable development, they do not have a precise understanding of the concept. However, educating sustainable development can be done in three ways. Those approaches are curricular, co-curricular, and digital. The curricular method is better for 42% of teachers, the cocurricular approach for 33%, and the digital approach for 17%. Educating about sustainable development is difficult for 8% of teachers. The findings of this study can serve as a recommendation for the curriculum development process of the school's sustainable development-focused syllabus.

**Keywords:** Sustainable Development, education, approaches, Kerala, teachers, students.

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### **Introduction**

Every human being is provided with the knowledge, skills, values, and attitudes that enable them to contribute to sustainable development to build a more sustainable world. Over the past several decades, sustainable development has been a contested notion, with academics noting that the term might have different connotations for different people (Robinson, 2004; Selby, 2006). Concerns about what exactly should be sustained and the nebulousness of the concept are merely some of the issues surrounding the word (Robinson, 2004; Selby, 2006). Sachs (Sachs, 2012) contends that despite these differences, all communities should embrace the importance of economic progress, environmental sustainability, and social inclusion in achieving societal well-being. Sachs (Sachs, 2012) adds that the focus on economic, environmental, and social goals is indicative of a broad and global consensus upon which the world may build its expectations for a good society. Educating Sustainable Development is a form of education that enables every individual to acquire the knowledge, skills, attitudes,

and values essential to contribute to forming a sustainable future. Without education, individuals cannot gain the knowledge, skills, and values necessary to build a civilization that can endure into the future. As a result, educating about sustainable development has been acknowledged as an essential tool for achieving sustainable development. It has been stressed as a vital instrument for raising public awareness and understanding of sustainable development (Ferguson et al., 2021).

Educating on sustainable development prepares individuals, communities, and governments to live and act sustainably and understand sustainable development's environmental, social, and economic components. It emphasizes enhancing the quality of life and the environment and promoting equal economic growth to ensure the sustainability of these endeavors. A sustainable society requires residents who are healthy, well-educated, skilled, and active. These individuals must also be informed and motivated to live more sustainably to ensure the quality of life for future generations. ESD should, consequently, consider both the emotive and cognitive facets of the learning process. In this particular research, the terms "Sustainability Education" (SE) and "Educating Sustainable Development" (ESD) are used interchangeably. However, ESD can be viewed as having an aim that is similar to that of "Sustainability ESD's primary objective is to provide students with the knowledge and skills necessary to make environmentally responsible decisions in the future through social learning, a subset of the more general category of transformative education. It is the role of teachers to assist students in acquiring the knowledge and skills necessary to comprehend the intricacies of complex issues related to sustainable development as well as the challenges related to sustainability that is now being faced by society (Perkasa et al., 2020). The approaches used for teaching and learning in ESD are intimately connected to the level of success that may be achieved in this field.

On the other hand, many teachers have the impression that they are prepared but not precise due to their lack of proper understanding of ESD. This study's objective is to investigate the various approaches to teaching students sustainable development in Kerala to cultivate a sense of the importance of maintaining sustainable development. Because of increasing environmental pollution, an unstable economy, and social misbehavior, educating about sustainable development (ESD) is becoming increasingly relevant in Kerala.

## **2. Methods**

This research is within the category of qualitative research that describes. This study's objective is to evaluate the various approaches for teaching students in Kerala to cultivate a sense of the importance of maintaining sustainable development. The nature of this study might be described as qualitative and descriptive. Participants in this study include those who teach mathematics, the social sciences, and the sciences. Interview sheets, as well as a questionnaire, were used in order to collect this information. The essential questions (Perkasa et al., 2020) regarding the approach were as follows: 1. Are you familiar with the concept of educating about sustainable development? 2. What are your current understandings of the concept of sustainable development? 3. How do you include sustainable development in the classroom? The teachers of mathematics, social science, and science were each given a list of questions that included many that were pertinent to the discussion. The purpose of this study is to summarize the knowledge and paradigms currently prevalent in the field of education about sustainable development in Kerala. The teacher had their teaching process on the

implementation of the education for sustainable development idea (Anyolo et al., 2018) through a designed learning model, which is referred to as the educating sustainable development character model, examined as part of the education process.

### 3. Results and Discussions

According to the data, the result reveals that although 83 percent of the teachers are aware of sustainable development, they do not have a precise comprehension of sustainable development. As a result of a lack of specific education about sustainable development among school teachers, the current education system in Kerala is not fully capable of effectively imparting a scientific understanding of sustainable development to the state's students, as indicated by the data. This is primarily because the teachers of Kerala state are not adequately trained and educated on sustainable development. Even if teachers are familiar with sustainable development, they do not clearly understand the components and factors that make up this notion. Some teachers believe that environmental education is the reproduction of sustainable development, while others view sustainable development as an innovative concept. Several people believe that the idea is developing and only coming into existence. Others do not know what this idea entails and have no prior exposure. As a result of including education on sustainable development as a required component of their lesson plans, educators in the social sciences have a greater understanding of sustainable development. Table 1 displays the responses that various teachers provided in response to those questions.

**Table 1.** Teachers' Responses on Sustainable Development

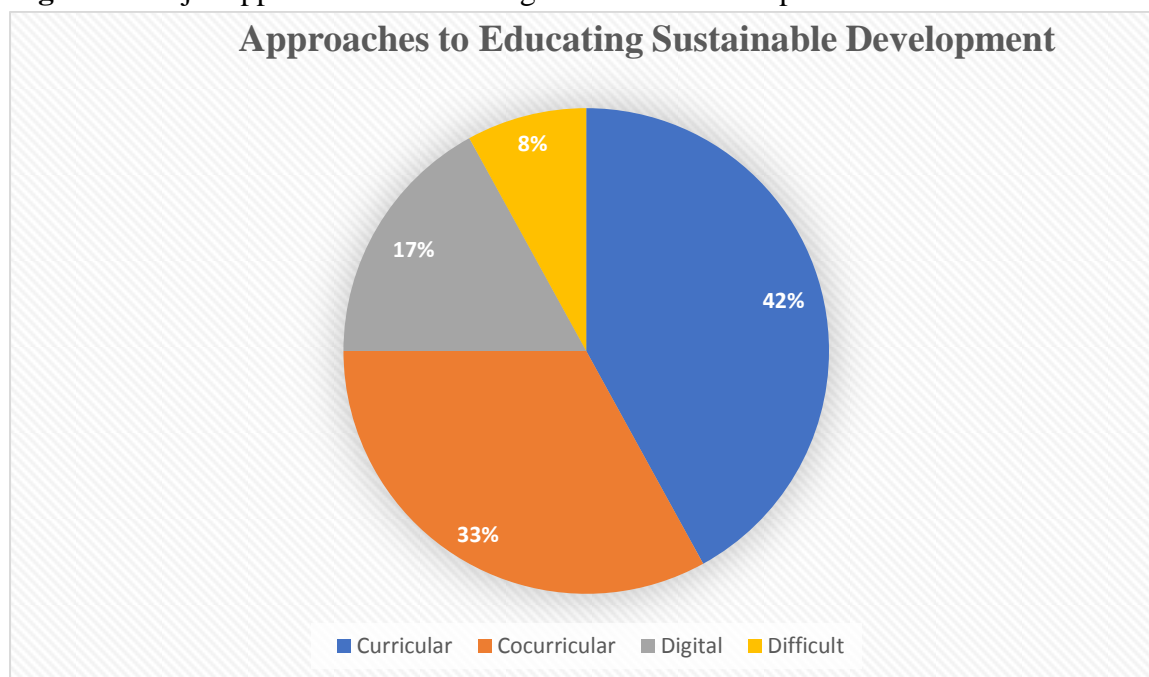
Questions	Teachers Response											
	1	2	3	4	5	6	7	8	9	10	11	12
Are you familiar with the concept of educating about sustainable development?	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
What are your current understandings of the concept of sustainable development?	Eco Edu cati on	Inn ovat ive	Em ergi ng	Eco Edu cati on	Eco Edu cati on	Em ergi ng	Dev elop men tal	Eco Edu cati on	Inn ovat ive	inn ovat ive	Eco Edu cati on	Inn ovat ive
How do you include sustainable development in the classroom?	Cur ricu lar	Coc urri cula r	Dig ital	Cur ricu lar	Cur ricu lar	Dig ital	Diff icul t	Cur ricu lar	Coc urri cula r	Coc urri cula r	Cur ricu lar	Coc urri cula r

According to the data presented in the table that can be found above, the vast majority of teachers have some level of familiarity with the idea of sustainable development. However, there are one or two teachers who are not familiar with the concept of sustainable development. It is alluding to the fact that although the phrase sustainable development is still deemed domestic by 83% of the teachers, there are still some teachers who view this notion to be a foreign one. Misconceptions held by teachers regarding the idea of sustainable development can also be found in the teachers' responses to the question. The response to the second question reveals a misunderstanding on the part of the teacher regarding the idea of sustainable development. Although they are aware of the idea of sustainable development, no

one is familiar with the major components of sustainable development, which are environmental, economic, and social. Knowledge of the environment, economy, and society are only a few topics in education geared toward sustainable development. According to the responses of five teachers, the idea of eco-education is the same as the concept of sustainable development. According to the responses of four of those teachers and according to two of those teachers, the idea of sustainable development is a developing concept.

On the other hand, one of the teachers remarked that it is an idea acquired over time. On the other hand, some teachers hold the opinion that the idea of how to implement this concept in the classroom or through the education system needs some improvement. It is estimated that approximately 42 percent of educators believe that the concept of sustainable development can be integrated into the curricular system, particularly in science and social science. Thirty-three percent of teachers polled believe that the concept of sustainable development may be put into practice through the extracurricular activities that students participate in, including the national service scheme, arts fest, athletics, and other activities. The concept of educating sustainable development can be practiced through general knowledge, such as digital media and communication, according to the opinions of 17% of the teachers. Only 8% of teachers surveyed believed that educating children on sustainable development, mainly through the mathematics curriculum, could be challenging. Based on the information presented above, the researcher has an optimistic outlook of 92% on sustainable development education and its implementation in Kerala schools using curricular, co-curricular, and digital approaches. The study findings are depicted in a pie chart in Figure 1.

**Figure 1.** Major approaches to educating sustainable development in schools.



The teachers were also asked how they would rate the education and implementation of sustainable development in and outside the classroom that they were teaching, and their responses were rated on a scale from one to five. The rated approaches included curricular, co-curricular, and digital approaches to education about sustainable development, with the

possibilities being best, better, very good, good, and low on a scale from best to lowest. The results of the ratings are presented in Table 2.

**Table 2.** Ratings of teachers about the educating approaches to sustainable development

Ratings of the ESD Model	Frequencies	Percentages
Best	2	17%
Better	4	33%
Very Good	3	25%
Good	2	17%
Low	1	8%

According to the data presented in Table 2, which can be found above, the teacher can educate students about the concept of sustainable development and put it into practice through curricular, co-curricular, and digital approaches, all of which can receive a different rating. Two teachers qualify as candidates for the best category. Four out of a total of twelve teachers fall into the better category. Three out of twelve teachers fall into the very good category. Two teachers out of a total of twelve fall into the good category. This result demonstrates that teachers can educate students and successfully execute learning and teaching strategies related to sustainable development, moving gradually from the lowest category to the best category. If they have received the proper training, they will be able to teach about and implement sustainable development using the approaches of curriculum, co-curriculum, and digital at all levels, beginning with the lowest level and working their way up to the highest level progressively. Other findings indicate that the idea of sustainable development lends itself to being implemented in all areas of science and social science that deal with topics that pertain to ideas concerning the environment and development concepts. This is demonstrated by the fact that the characteristics of the subject matter in these fields are similar to those associated with sustainable development.

#### 4. Conclusion

In light of the findings of the analysis and the result, it is possible to conclude that educating students about sustainable development is still seen as odd by a few teachers. However, the majority of teachers can educate students about this concept and put it into practice through the use of three distinct approaches, curriculum, extracurricular activities, and digital. Education about sustainable development can be carried out both within and outside the classroom through the subject matter of science and social sciences that specifically relate to both the environment and the background of development. Because of the intricacy of mathematics, education on sustainable development is a challenging subject to tackle through the study of mathematics.

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