



# Creating Awareness of Environmental Sustainability among Elementary School Children for Developing Sense of Responsibility towards Natural World

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## Abstract

The word Environment refers to our surroundings where people, plants and animals live. It includes both living things and non-living things. Our environment has been negatively impacted because of various reasons like overuse of resources, deforestation, and excess usage of plastics. This has caused climate change, increased temperatures and different types of pollution. Environmental Sustainability means taking care of natural resources to fulfil present needs as well as to conserve the resources for the future generations. This is very important because natural resources are limited. We need to adopt sustainable practices in our daily life. Therefore, a need was felt to explore the effectiveness of an education intervention program designed to raise awareness and promote environmental sustainability among elementary school children. It is our responsibility to equip the next generation with knowledge and skills for sustainable living and ethical management of the environment. The research methodology included putting interactive teaching techniques into practice and embracing multiple teaching methodologies such as storytelling, group discussions, hands-on activities. The work concentrated on spreading age-appropriate knowledge about environmental issues, pollution, deforestation, and waste management. Assessments conducted before and after the intervention as well as observations were used to collect data. By educating children to make eco-friendly decisions in their daily lives, this work successfully promoted a feeling of personal responsibility in them. The research brought to light the usefulness of interactive activities for pupils and encouraged a deeper understanding of environmental issues. This research also highlights the significance of individual actions in addressing these issues and offers workable solutions to minimize harm to environment.

The present research on creating awareness on environmental sustainability shows that elementary school students' early education plays a significant role in fostering environmental awareness and developing sustainable behaviors. Environmental sustainability can be nurtured by raising a generation of environmentally conscious people.

**Keywords** :- Sustainability, environment, pollution, waste, educate, resource

## Full Paper

### Introduction

The word Environment originates from the French word 'environ' which means 'to surround'. It mainly involves two elements - living elements (like animals, plants, humans) and non-living elements (like air, sunlight, water). Some of the factors which have badly affected our environment are uncontrolled pollution in different forms like discharge from factories and vehicles, harmful industrial waste, uncontrolled usage of plastics and deforestation. Sustainability implies using resources in such a manner that our present needs are fulfilled as well as resources are available for the future generations. There is a need to foster sustainable practices such as afforestation, reducing waste, reducing pollution, reducing plastic use for nurturing a healthy environment. It is necessary to use renewable energy through solar panels or wind turbines to generate clean energy without contributing to air pollution. Chemical fertilizers should not be used. Environmental Sustainability means the maintenance of a clean environment, responsible interaction with it and bringing balance in such a manner that human activities do not cause irreparable damage to the environment and natural resources remain available for future generation. Resources need to be used wisely. It has become very important to foster awareness and instill a sense of responsibility towards the environment from an early age. Environmental Sustainability is crucial for the well-being of present as well as future generations. It will help in protecting the ecosystem. Individually, we can make small but significant efforts to live a more sustainable lifestyle.

The purpose of this research paper is to identify the importance of creating awareness about environmental sustainability among elementary school children. They should be taught about proper attitude and behaviors that promote environmental awareness and conservation. Furthermore, engaging children in hands-on activities and Experiential education can deepen their comprehension and motivate them to take an active role in building a sustainable future.

### Background of the Study

The world is facing many environmental challenges in the 21st century. It is important for us to take care of our environment. We also need to create awareness among children about how to take care of the environment. Therefore, the researcher conducted the present study on Creating Awareness of Environmental Sustainability among Elementary School Children of Sant Saraswati Educational and Social Welfare Society in Maharajganj Road Raebareli. Elementary school children quickly learn new things and can build habits to protect the environment.

### Objectives of the Study

The present study aims to investigate the impact of educational interventions and awareness campaigns in promoting sustainable behaviors and attitudes among young children. Specifically, the research paper seeks to achieve the following objectives:

1. To teach children about environmental sustainability.
2. To make children aware of the various environmental problems like pollution, climate change, and the importance of biodiversity.
3. To educate elementary school children about the importance of keeping the environment healthy.
4. To help children develop critical thinking skills by engaging them in discussion and activities that explore environmental challenges and possible solutions.
5. To encourage children to adopt habits and practices that protect and conserve nature.

### Significance of the Study

Children are in the formative stage of life. They are curious and open to new ideas. They should be guided about environmental sustainability and eco-friendly practices. By creating awareness in children, the researcher has made efforts to provide the children with the knowledge and skills to address environmental challenges. The researcher explained the concept of environmental sustainability to the children and guided them about what they should do in their daily life to conserve the environment. The teaching of

environmental education to elementary school students improves their behavior and makes them responsible citizens who care for and support sustainable development.

The concept of environmental sustainability must be included in the curriculum so that students understand the need to conserve their environment for a sustainable future. By making use of creative and different teaching strategies like nature-based learning, outdoor activities and interactive technology, educators can foster children's involvement and help them develop an interest in the natural world. Environment conservation is an issue that needs attention at the elementary level since these children will grow to become adults in future society. An eco-friendly lifestyle should be promoted among these children.

## Review of Related Literature

The review of related literature involves analysis of studies done by previous researchers at various levels on similar topics. For this present study the following research studies have been reviewed:

**Howes *et.al.* in 2017** conducted a meta-analysis of 94 studies that provide a critical analysis of why several sustainable development policies have not achieved the desired results. The research used a systemic quantitative literature review using the Scopus database to identify relevant studies related to the topic. The results show that economic and political conflicts, insufficient incentives of stakeholders and ineffective communication are the main obstacles to successful policy implementation. The review classifies the causes of policy failure into various “implementation gaps” including resource constraints, institutional weaknesses and governance deficiencies. The study highlights that overall deterioration of environmental quality continues worldwide. This review calls for a balance between environmental, social and economic objectives and improvement in the communication and involvement of the stakeholders in order to bring better results in sustainable development policies.

**Olah *et.al.* in 2020** studied the impact of industry 4.0 on environmental sustainability. Industry 4.0 uses advanced technology such as the Internet of things and cyber physical system. These technologies improve production efficiency. However, these technologies can harm the environment. This study reviewed literature from 2000 to 2020 on industry 4.0 and its environmental impacts. It concluded that the existing production methods are not very sustainable and have to be improved. The research looks at four key areas: deployment, operation, integration with sustainable development goals and long-term sustainability. The findings show that all stages of the production process, from raw materials to waste disposal, negatively affect the environment. However, by integrating industry 4.0 with SDGs, environmental sustainability can be improved. This approach can support better environmental practices and enhance overall performance. The study suggests that stakeholders and companies can address environmental challenges by adopting new technologies.

**Ghosn-Chelala & Akar (2021)** conducted a study across 21 public school in Lebanon. They focused on understanding teachers' practices and approaches to environmental sustainability education in a conflict affected area. In this study, the researchers examined environmental sustainability teaching practices in conflict-affected Lebanon. The data collected through semi-structured interviews and self-reports showed that while teachers care about the environment, the methods and policies they use are not effective. The study showed that the current teaching methods focus too much on rote learning from the curriculum. Teachers felt that government reforms were needed to tackle corruption and improve education. Major challenges included lack of qualified teachers, a highly centralized system, and outdated curriculums. Governments all across the world have shown varying degrees of commitment to advancing environmental sustainability strategies through their domestic educational objectives. Teachers in nations afflicted by armed conflict find it difficult to support critical and dialogic pedagogies because they push students to precisely memorize facts from textbooks. The research revealed that, despite their dedication to protecting the environment, pedagogies and policies are, for the most part, insufficient to promote environmental sustainability. Despite instructors' assertions that students take part in recycling and planting projects at school, self-reports by students imply that mainstream learners must follow teacher-directed activities and mindlessly reproduce knowledge that is mandated by the national curriculum as part of pedagogy.

## Methodology

The present study provides an overview of the importance of environmental sustainability education for elementary school children. The survey method was used to find out how much children are aware about environmental sustainability concepts. The researcher conducted interactive sessions using visual aids to explain the concept of environmental sustainability. Charts related to the concept and examples of renewable and non-renewable resources were shown to the students. Group Discussions were conducted on judicious use of water. Different activities like storytelling, role play, craft activity, and planting of saplings were done on the theme of environmental sustainability. Hands-on experiences and interactive activities for understanding environmental sustainability concepts were provided to the students. Discussions and debates on environmental issues such as pollution, deforestation and climate change were organized. Story telling session on theme of pollution was organized.

The researcher engaged children in hands-on activities such as recycling projects to teach them about reducing waste and the importance of recycling them. Art and Craft activities were conducted for making useful things out of waste products like plastic bottles. Outdoor activities such as nature walks, bird watching and planting of saplings were conducted to help children develop love and affection for the natural world. To assess the learning of the children, a question paper prepared by the researcher herself was used. The benefits of integrating environmental sustainability education across various subjects, such as science, social studies, language arts, and mathematics were emphasized. The progress of the children was closely monitored to ensure that awareness and understanding about environmental sustainability is effectively developed in them. Analysis of data collected was done for evaluating the effectiveness of the methodology such pre- and post-assessments, observations, and student reflections.

## Sample and participants

The researcher interacted with the children in Sant Saraswati Educational and Social Welfare Society in Maharajganj Road Raebareli. These children were between the ages of 3 to 15 years. The study included children of classes 1 to 8. Both girls and boys were included in the study. The researcher interacted with 32 students.

## Data Collection Tools

Charts, posters, and TLMs were prepared by the researcher for creating awareness about environmental sustainability among elementary school children. E-content was developed. Craft activities, role play, and some other activities were conducted. Videos were also used to spread awareness on the topic. Questionnaires were used to assess the progress of children.

## Results And Analysis

Environmental sustainability has become a critical issue in today's world. Immediate efforts need to be made to educate and engage the younger generations. The researcher focused on elementary children as a target group for intervention. The study aims to create awareness and promote environmentally sustainable practices among children of elementary level.

In the beginning of this study, researcher used Oral questions to assess the level of awareness on environmental sustainability in the children. This test had some questions about the level of awareness in children regarding the environment, and environmental sustainability. After this the researcher interacted with the children and used different tools like posters, videos, group discussion, role play, and extempore to spread awareness about environmental sustainability. At the end of the research study, the researcher used a Test to assess how much the children have become aware about how to take care of environment and environmental sustainability.

## Objective 1: To teach children about environmental sustainability.

The researcher prepared Lesson plans for teaching the children. Rapport was established with the children. Introductory questions were asked. The topic of environmental sustainability and its importance was explained in simple terms. The children participated in a discussion on environmental sustainability. They were introduced to the concepts of conservation of resources, reducing waste, and protection of

biodiversity. Teaching Learning Materials like visual aids, pictures, and posters were used for explanation of the concepts. Some interactive activities were also done to explain the three Rs (reduce, reuse, and recycle) of environmental sustainability. The concept was explained with examples and the children were encouraged to come up with their own ideas. A video was also shown to highlight the impact of human activities on the environment. Hands on activity was done to create awareness about environmental sustainability. The children prepared posters related to the environment.

**Objective 2: To make children aware of the various environmental problems like pollution, climate change, and the importance of biodiversity.**

It is very important and necessary to spread awareness among children about pollution. For this it is important to explain the different types of pollution as well as their harmful effects. The children were educated about Natural Resources and the importance of reducing, reusing, and recycling waste materials to minimize pollution. The researcher used different TLM to explain the concept of renewable and non-renewable resources. The children were encouraged to practice responsible consumption habits through reducing waste and supporting products that come from sustainable resources. The children were encouraged to love, appreciate and protect nature. The researcher adopted age-appropriate language and interactive teaching techniques such as storytelling, using chart paper, and hands-on activities to make the children aware about pollution and climate changes. Children were encouraged to ask questions, go out to explore nature, and take small steps for environmental sustainability.

**Objective 3: To educate elementary school children about the importance of keeping the environment healthy.**

The researcher explained the concept of environment and its sustainability in simple terms so that the children understand it easily and properly. They were explained about living things and how we depend on a healthy environment. The fundamental principles of reducing, reusing, and recycling were discussed. The children were taught how to use resources judiciously. They were encouraged to recycle materials like paper, plastic, and glass and reuse old things. The children were advised to use appliances that consumed less energy, to switch off the electronics when not in use, and turn off lights when not required. They were also made aware of the damage that can be caused because of littering, wrong disposal of wastes, and pollution due to plastics. The children of elementary level were motivated to spread awareness about the importance of environmental sustainability among their friends and family.

**Objective 4: To help children develop critical thinking skills by engaging them in discussion and activities that explore environmental challenges and possible solutions.**

To develop critical thinking skills, different Environmental Awareness activities such as debates and group discussions were conducted. The researcher guided the children about identifying environmental challenges and taking steps to overcome them. The children participated in problem-solving activities that required them to think critically and creatively. The children participated in role-playing activities such as simulating environmental challenges and decision-making processes.

**Objective 5: To encourage children to adopt habits and practices that protect and conserve nature.**

The children were encouraged to develop sustainable behaviour towards the environment. The children were told to turn off lights when leaving a room, close taps tightly to avoid any wastage. They were told about recyclable and non-recyclable items. The children were motivated to participate in gardening activities. Children learnt about the working of organic gardens. They were also taught about composting and its usefulness.

After analysis of the data collected at the beginning, the researcher observed that 70% of students had no idea about environmental sustainability. After the interventions were administered, the results showed that 90% of students understood the concept and importance of environmental sustainability. The researcher took remedial classes for the children who had still not understood the concept.

## Findings of the Study

Based on the data analysis and interpretation of results the researcher has drawn the following major findings: -

- The students at elementary school do not have a proper understanding about environmental sustainability
- There is a need to develop awareness and educate children regarding environmental issues from an early age.
- The study found a significant improvement in the children's knowledge about environmental sustainability topics after the interventions given by the researcher.
- The study showed that the children were willing to engage in environmentally friendly behaviors.
- A positive change in behaviour towards environmental sustainability was observed in children due to the activities carried out by the researcher.
- The concepts of climate change, waste management, renewable energy and biodiversity were understood by the children.
- The outcome showed positive changes in attitudes and practices towards conservation of the environment. Care and empathy for nature was increased. The children felt a sense of responsibility for protecting and conserving the environment.
- The children adopted sustainable practices like recycling, conserving water and energy, and reducing waste in their daily lives.
- The children showed a willingness to guide their families and peers to adopt sustainable behaviors.

## Conclusion

The present study has explored the importance of creating awareness on environmental sustainability among elementary school children in Sant Saraswati Educational and Social Welfare Society. According to the results, early education is essential for developing children into responsible citizens who protect and take care of the environment. It is necessary to nurture sustainable habits and values in the children. Children can understand environmental issues and their impact on nature with the help of various learning activities and projects. The benefits of incorporating environmental education into children have been underlined by the present study. Educators can successfully involve children in learning about environmental sustainability by including age-appropriate information, interactive teaching methods, and hands-on experiences in the teaching learning process.

The research highlights the important role of school, parents, and society in engaging young children in the conservation of the environment. If children learn about and adopt practices that enhance environmental sustainability, then this would be beneficial in creating a clean, healthy and sustainable world. The children feel responsible for nurturing the environment.

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