















ORIGINAL

Role of Eco-Club in Fostering Environmental Sustainability Awareness Among School Students

El papel del ecoclub en la concienciación de los escolares sobre la sostenibilidad medioambiental

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ABSTRACT

Introduction: the concept of environment is highly intertwined with life and its interactions with the natural world. Environmental education deals with man's association with nature and man-made environs (Abdela). The concept of an environmental club (Eco-Club) emerged under this circumstance, and its main motto is to learn and conserve the environment by focusing on sustainable developmental features. These clubs in school aid as a platform for students to actively participate in meaningful environmental activities from the elementary level onwards. By participating in Eco-Clubs, students can extend their level of environmental awareness from their behaviour to their family, peer group and society.

Method: this paper focuses on identifying the level of awareness of Eco-Club students of the environment in the schools of Thiruvananthapuram, Kerala. Samples were identified using a simple random sampling method, and the essential data for the study were collected through a well-prepared questionnaire. Concerning the study's objectives, necessary hypotheses were expressed, and each was analysed using relevant statistical tools.

Results: the study reveals that eco club is successful in creating awareness about the environment among students. It is also clear that the activities of eco club could motivate students to generate environment initiatives. Also, eco club could mould responsible citizens who care for environment.

Conclusions: eco club play a crucial role in imbibing environment awareness among students. It also play a pivotal role in shaping a generation of dutiful citizens who are dedicated to conserve the mother nature.

Keywords: Eco Clubs; Eco Club Activities; Environmental Awareness; Environmental Preservation; Sustainability.

RESUMEN

Introducción: el concepto de medio ambiente está muy interrelacionado con la vida y sus interacciones con el mundo natural. La educación medioambiental se ocupa de la asociación del hombre con la naturaleza y el

entorno creado por el hombre (Abdela). En estas circunstancias surgió el concepto de club medioambiental (Eco-Club), cuyo lema principal es aprender y conservar el medio ambiente centrándose en las características del desarrollo sostenible. Estos clubes escolares sirven de plataforma para que los alumnos participen activamente en actividades medioambientales significativas desde el nivel elemental. Al participar en los ecoclubes, los alumnos pueden extender su nivel de concienciación medioambiental desde su comportamiento hasta su familia, su grupo de iguales y la sociedad.

Método: este trabajo se centra en identificar el nivel de concienciación de los alumnos de los ecoclubes sobre el medio ambiente en las escuelas de Thiruvananthapuram, Kerala. Las muestras se identificaron utilizando un método de muestreo aleatorio simple, y los datos esenciales para el estudio se recogieron mediante un cuestionario bien preparado. En relación con los objetivos del estudio, se formularon las hipótesis necesarias, y cada una de ellas se analizó utilizando las herramientas estadísticas pertinentes.

Resultados: el estudio revela que el club ecológico consigue concienciar a los alumnos sobre el medio ambiente. También está claro que las actividades del ecoclub podrían motivar a los estudiantes a generar iniciativas medioambientales. Además, el ecoclub podría formar ciudadanos responsables que se preocupen por el medio ambiente.

Conclusiones: el ecoclub desempeña un papel crucial en la concienciación medioambiental de los estudiantes. También desempeña un papel fundamental en la formación de una generación de ciudadanos responsables dedicados a conservar la madre naturaleza.

Palabras clave: Clubes Ecológicos; Actividades de los Clubes Ecológicos; Sensibilización Medioambiental; Preservación del Medio Ambiente; Sostenibilidad.

INTRODUCTION

Environmental Education is a process that prepares people to be aware, skilful, and dedicated to protecting their environment. The students must know the problems related to the grave concerns and why these problems have emerged. Concern for the environment has become a trend recently, but the crisis has augmented. The rationale behind this is that Environmental Education has stayed at a superficial level.

Our country has given importance to Environmental education since the pre-independence period. The “Basic Education Movement” initiated by “Mahatma Gandhi” in 1937 has made significant steps to link education with the environment around us. India has always shown commitment to environmental protection, conservation, and enhancement. With the new education policy in 1986 and the direction of the Supreme Court in 1991, environmental education has been included in the school curriculum. In 2000, the National Council of Educational Research and Training (NCERT) suggested separating environmental education from the elementary level.

National Green Corps (NGC) is a national programme conceptualized and initiated by the Ministry of Environment and Forests, Government of India. It is an initiative to explain ecology, its challenges, and preservation to students. Since 2001, the different operations of this programme have been conducted in schools nationwide. The Eco-Clubs under NGC have been initiated for the above purpose. More than one lakh schools are participating in this programme. It is an experimental rather than a theoretical method for improving students’ environmental awareness and conservation abilities.

Eco-Clubs will enrich students’ acquaintance with environmental concepts and activities, delimiting their syllabus or curriculum. It is an opportunity through which students can motivate and engross their parents and societies for sound environmental behaviour. Eco-clubs inside the school and registered through the District Implementation and Monitoring Committee are open to all State-registered schools under the auspices of the State Government, Central Board of Secondary Education (CBSE), and Indian Certificate of Secondary Education (ICSC). The principal or an assigned person will be the head of the school’s and college’s Eco-Club. Each class should have an Eco-Club Coordinator and Eco-Club Monitor as part of the organisation. Any one of the 50-100 students can join an Eco-Club.

Students will be given the confidence to engage in and take up worthwhile environmental projects and activities through school Eco-Clubs. Moreover, Eco-Clubs provide a space for students to delve into more conservation aspects beyond the boundaries of traditional learning. Despite the prevalent thought of ‘*Learning To Live Sustainably*’, the environment frequently remains a marginal topic within certified education systems. Eco-Club activities enhance their environmental knowledge competencies, likely attributed to the exposure they add through interactions with nature. Positive shifts in attitudes are pragmatic among students who actively participate in Eco-Clubs due to their consistent and voluntary engagement with the environment.

Students can use this platform to interact and influence their parents and surrounding communities in order to encourage environmentally conscious behaviour. It will allow students to investigate environmental

ideas and practices outside the boundaries of the classroom. The environment is still a secondary concern in the official educational system, even though everybody emphasises the value of “*Learning To Live Sustainably*”.

Literature Review

Authors⁽¹⁾ investigated secondary school student’s interests in the environment and their attitudes. A strong positive association between environmental interest and attitude was discovered in all the sample groups under investigation.

Authors study,⁽²⁾ “Relationship between Primary School Students’ Environmentally Responsible Behaviours and Conscious Consumer Behaviours”, examined the impact of socio-demographic factors like gender and class on the relationship between environmentally conscious conduct and consumer actions in primary academy pupils. The study’s conclusions show a strong positive and moderate association between the degree of environmentally conscious consumer actions and the conduct of primary school pupils.

Authors⁽³⁾ studied “The Effectiveness of Environmental Education for Sustainable Development Based on Active Teaching and Learning at High School Level case study from Puducherry and Cuddalore regions, India”. Around 240 7th-to 9th-grade children with levels of attitude, behaviour, and environmental awareness alike were chosen randomly from Upper Primary and high schools that were representative of the urban areas of Puducherry and Cuddalore regions. The before and after tests demonstrated a substantial statistical difference in the students’ Knowledge of the environment, conduct, attitude, and ability level.

In the study “Environment Education through Eco-Club Activities in Schools: Relevance in Planning Modern India”, by⁽⁴⁾ considered how human activity damages the environment, it is thought that Eco-Clubs, eco-education, and sensible laws can promote sustainable resource management and ensure that young people behave responsibly. The main goal of Eco-Clubs is to raise students’ awareness of environmental problems in school and college environments. The current study emphasises the Eco-Clubs’ initiatives and their value in forming moral habits in India’s youth.

In the work, “Impacts of the National Green Corps Program (Eco-Clubs) on students in India and their participation in environmental education activities”,⁽⁵⁾ claims that the “National Green Corps” (NGC) “Eco-Clubs in India” proposal a unique chance to teach young people about the environment and its pertinent trials. The research aimed to catalogue, appraise, and analyse Eco-Clubs’ efficacy and organisational structure. Focus group interviews were held in two locations, and a thorough document evaluation of secondary data was used. Results indicate that schools’ capacity to suggest continuous, high-quality programmes for students has been significantly impacted by the partnership programmes they formed with non-governmental agencies to advance the Eco-Club views.

In “The study Environmental Awareness and Environment Related Behaviour of Twelfth Grade Students in Kolkata: Effects of Stream and Gender” by,⁽⁶⁾ students’ environmental awareness was analysed based on the stream selected by students. The study reveals that Art stream students show more environmental awareness and commitment than Science stream students. Also, female students’ environmental awareness levels were higher than their male counterparts. The study recommends that the authorities take environmental education with high preference and ensure its objectives are achieved.⁽⁷⁾

After reviewing the literature, the researcher identified many studies on the subject, most of which were conducted outside of India, and only a small number were undertaken here. The literature review assisted in identifying the importance of the study^(8,9) and recommended viable methods of collecting data, a suitable research design, and data sources.

Scope of the Study

The paper intends to study the various activities of Eco-Clubs in creating environmental awareness among students and the extent of environmental awareness earned through Eco-Clubs.⁽¹⁰⁾ In this paper, the Trivandrum district is considered for acquiring relevant data, which were collected based on the opinion of Eco-Club students in the high schools of Trivandrum, Kerala.⁽¹¹⁾

Research Gap

In the brightness of the extensive literature review, it is evident that many studies have been conducted on Eco-Club activities generating awareness of the environment among students.⁽¹²⁾ Even though studies show the evident influence of Eco-Clubs in creating environmental awareness among students, no in-depth study has been conducted to assess students’ environmental awareness level with special reference to Trivandrum, Kerala. A research gap has been found in this context, hence this study.

Statement of the Problem

Based on the gap identified, it is difficult to explain the environmental awareness earned through Eco-Clubs and their extended areas of impact.⁽¹³⁾ This paper assesses the extent of environmental awareness the students

earned through the Eco-Club and its activities and the level of awareness that has extended from individual to individual, individual to group, and individual to society.⁽¹⁴⁾ Hence, the “Level of Awareness of Eco-Club Students on Environment” paper covers all the above-mentioned features.⁽¹⁵⁾

Objectives

1. To Study the various activities of Eco- clubs in creating awareness on the environment among School students.
2. To analyse students’ awareness on the environment earned through Eco-Club activities.

Hypotheses

- H0: There is no significant relation between Eco-Club activities and school students’ environmental awareness.
- H0: Active participation in Eco-Club activities has not resulted in the generation of initiatives for environmental safety.
- H0: There is no significant relation between Eco-Clubs and students’ involvement in sustainable developmental activities.

METHOD

The methodology of study is descriptive and analytical.⁽¹⁶⁾ High schools from the Thiruvananthapuram district constitute the universe for this study. There are 273 high schools. A Random Sampling Method (RSM) was used to identify schools; 15 schools were selected, and from selected schools, 25-27 Eco-Club members were selected as respondents. The sample size of 379 was arrived at by using the equation “ $SS/[1+\{(SS-1)/Pop\}]$ ”, where SS=Sample size Z=Given Z value p=Percentage of population C=Confidence level Pop=Population.

Based on the literature review and expert opinion, 24 variables were identified. The set of variables identified for assessing environmental awareness is an Understanding of key environmental concepts,⁽¹⁷⁾ Existing environmental problems and challenges, Environmental laws, regulations and policies, Knowledge about solutions for environmental issues, Attitude towards recycling conservations, Adoption of sustainable behaviours in daily life, Human activities and the environment problems, Familiarity with natural science and principles. Under Participation in Eco-Club activities and initiatives towards environmental safety, the variables identified as Biological Diversity(Bd)and its importance for ecological health,⁽¹⁸⁾ attention on threatened or endangered species and habitats, practising of conservation approaches, reducing energy consumption and minimizing waste, reduction of human-induced threats to BD, Collective contributions to conservation efforts, personal actions in mitigating environmental degradation and participation in Eco-Friendly activities.⁽¹⁹⁾ Different variables are identified and assessed to study the students’ involvement in sustainable developmental activities.⁽²⁰⁾ They Participate in cleanupdrives, plantation of trees, water conservation, reducing waste generation, Talks on environmental issues, cleaning water bodies, addressing current issues and generation of responsible citizenship. Based on these variables, a questionnaire was prepared, and a pilot study with 75 student respondents was conducted.⁽²¹⁾ The questionnaire’s reliability, validity, and normality were scrutinized based on the pilot study’s response.⁽²²⁾ The values of the above are more significant than 0,7. Hence, the variables were finalised with the prepared questionnaire, and extensive data collection was performed.⁽²³⁾ Tools such as percentage one sample t-test were used to analyse the data.⁽²⁴⁾

RESULTS

This section will elaborate on the data collected from Eco-Club students.^(25,26,27,28,29,30) By analyzing the data, this paper tries to determine whether the different Eco-Club activities in the school have created environmental awareness among the students.^(31,32,33,34,35) This paper also tries to uncover the extent of the impact of these activities in creating environmental awareness.^(36,37)

Environmental Awareness and Eco-Club Activities

- Ho: There is no significant relationship between Eco-Club activities and environmental awareness among school students.
- H1: There is a significant relationship between Eco-Club activities and awareness ofthe environment among school students.

The various Eco-Club activities create environmental awareness among the students, such as understanding key environmental concepts, existing environmental issues and challenges, environmental laws, regulations, and policies, knowledge about solutions for environmental issues, attitudes towards recycling conservations, adoption of sustainable behaviours in daily life, Human activities and the environment problems and familiarity with natural science and principles were used as variables for testing the hypothesis.^(38,39,40) One sample t-test

has been used to test the hypothesis. Here, the analysis was based on the opinions of 379 Eco-Club members using a 5-point Likert scale. ^(41,42,43,44,45,46)

Variables	Mean	SD	t-Value	p-Value
Understanding of key environmental concepts	3,6332	1,119	11,009	<0,001**
Existing environmental problems and challenges.	3,6517	1,107	11,451	<0,001**
Environmental laws, regulations, and policies.	3,6939	1,540	08,772	<0,001**
Knowledge about solutions for environmental problems	3,7968	1,255	12,361	<0,001**
Attitudes towards recycling conservations.	3,4222	1,397	05,880	<0,001**
Adoption of sustainable behaviours in daily life	3,3166	1,425	04,324	<0,001**
Human activities and environmental problems	3,2955	1,289	04,460	<0,001**
Familiarity with natural science and principles.	3,4670	1,305	06,964	<0,001**

The analysis found that different Eco-Club activities help to create awareness on the environment among the students, and the ** denotes that the test is significant at a 1 % level. Hence, no significant relation exists between Eco-Club activities and environmental awareness among school students who failed to accept. (*i.e.*) There is a significant relationship between Eco-Cub activities and environmental awareness among school students.

Participation in Eco-Club activities and generation of environmental safety initiatives

- H0:Active participation in Eco-Club activities has no outcome in generating initiatives for environmental safety.
- H1:Active participation in Eco-Club activities results in the generation of initiatives for environmental safety.

Variables	Mean	SD	t-Value	p-Value
Biodiversity and its importance for ecological health	3,414	1,416	5,695	<0,001**
Attention to threatened or endangered species and habitats	3,556	1,324	8,180	<0,001**
Practicing conservation approaches	3,947	1,153	15,987	<0,001**
Reducing energy consumption, minimizing waste	3,300	1,387	4,220	<0,001**
Reduction of human-induced threats to BD	3,575	1,363	8,213	<0,001**
Collective contributions to conservation efforts.	3,459	1,403	6,370	<0,001**
Personal actions in mitigating environmental degradation	3,474	1,327	6,963	<0,001**
Participation in environment-friendly activities	3,366	1,472	4,848	<0,001**

The Eco-Club activities generate initiatives for environmental safety such as BD and its importance for ecological health, attention to threatened or endangered species and habitats, practisingof conservation approaches, reducing energy consumption, minimizing waste, reduction of human-induced threats to BD, collective contributions to conservation efforts, personal actions in mitigating environmental degradation, Participation in environmentally friendly activities were used as variables for testing the hypothesis. One sample T-test has been used to test the hypothesis. Here, the analysis was based on the opinion of 379 Eco-Club members using a 5-point Likert scale.

The analysis found that different activities of Eco-Clubs help develop some perception needed for the generation of environment conservation initiatives, And ** denotes that the test is significant at a 1 % level. Hence, active participation in Eco-Club activities has no outcome on the generation of initiatives for environmental safety, which has failed to be accepted; active participation in Eco-Club activities has an outcome on the generation of initiatives for environmental safety.

Participation in Eco-Clubs and student involvement in sustainable developmental activities

This section will discuss whether participation in school Eco-Clubs helps studentsbe involved in sustainable

developmental activities.

- H0: There is no significant relation between Eco-Clubs and students' involvement in sustainable developmental activities.
- H1: Eco-Clubs and students' involvement in sustainable developmental activities are significantly related.

Table 3. Participation in Eco-Clubs and Students involvement in sustainable developmental activities

Variables	Mean	SD	t-Value	p-Value
Take part in Cleanup drives	3,5145	1,314	7,623	<0,001**
Plantation of Trees	3,9921	1,142	16,912	<0,001**
Water Conservation	3,9340	1,149	15,821	<0,001**
Reducing Waste Generation	3,5778	1,378	8,160	<0,001**
Talks on Environmental Problems	4,2401	0,9303	25,951	<0,001**
Cleaning of the water body	3,5937	0,9476	12,197	<0,001**
Addressing current issues	4,0712	1,092	19,091	<0,001**
Generation of responsible citizenship	4,0237	1,011	19,703	<0,001**

Participation in Eco-Clubs and students' involvement in sustainable developmental activities such as part in cleanupdrives, plantation of trees, water conservation, reducing waste generation, Talks on environmental issues, cleaning of water bodies, Addressing current problems, and generation of responsible citizenship were used as variables for testing the hypothesis. One sample T-test has been used to test the hypothesis. Here, the analysis was based on the opinions of 379 Eco-Club members using a 5-point Likert scale.

The analysis found that participating in Eco-Club activities helps the students to be involved in sustainable developmental activities, and the ** denotes that the test is significant at a 1% level. Hence, there is no significant relation between Eco-Clubs and students' involvement towards sustainable developmental activities failed to accept. (*i.e.*,) there is a significant relationship between Eco-Clubs and students' involvement in sustainable developmental activities.

DISCUSSION

This paper tried to determine the level of awareness of Eco-Club students about the environment in Thiruvananthapuram, Kerala. In this study, it is clearly understood that different activities of the Eco-Club help create awareness on the environment among the students as the T-test is significant at 1 % level. From the analysis done on the basis of responses of student on Likert scale, it is found that the test is significant at 1 % level of significance and thus it is evident that different activities of Eco-Clubs help develop some perceptions needed for the generation of environmental conservation initiatives. The study also shows that participating in Eco-Club activities such as taking part in cleanup drives, plantation of trees, water conservation, reducing waste generation, talks on environmental issues, cleaning of water bodies, addressing current issues, and generation of responsible citizenship helps the students to involve in sustainable developmental activities. Integration of comprehensive environmental studies as part of the core curriculum will enriching students' theoretical knowledge. A more proactive method of participating in environment awareness programmes, leading to an in-depth understanding of and allegiance to environmental problems. Conducting training programmes and workshops for Eco-Club coordinators and institution heads to equip them with the most recent information and techniques in environmental education. Granting more resources to Eco-Club projects and activities will enables Eco-Clubs to put forth ambitious and futuristic programmes. Encourage family and community members to participate in Eco-Club activities. This will provide a supplementary resource, thus fostering collective accountability towards environmental conservation.

CONCLUSIONS

On account of this it apparent that the Eco-clubs take a major role in promoting awareness on environment among School students. The different activities of eco clubs partake in enriching student' awareness about environmental protection. The study also underlines that the participation in eco-clubs help the students in the generation of environmental safety initiatives.

The paper put light on the fact that the involvement of students in Eco-club and its activities inspire them to perform sustainable developmental programmes. Thus it is clear from the study that role of eco clubs is inevitable in moulding a responsible generation who is sensitive towards environment.

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