

IMPACT STUDY OF THEME PARK PROGRAMME FOR STRENGTHENING ENVIRONMENTAL EDUCATION AND AWARENESS

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In the present scenario, there are a lot of burning environmental issues such as climate change, excess use of fossil fuel, global warming, greenhouse effect, ozone depletion, different types of pollution, plastic pollution, deforestation, biodiversity loss, etc. As we know, learners can learn things through personal experiences and action in their surrounding environment and nature. Through their experiences, they develop their ideas and thoughts about the world around them; they interpret things according to their own experiences and thoughts. The teacher orientation programme helps them construct their knowledge about their action and activities, which affect the environment adversely. Such a programme also provides a platform where students, youth and teachers may share their experiences and ideas about current burning issues of the environment to know more about them. The Regional Institute of Education, Ajmer maintains a theme park, namely, an environmental educational theme park, to promote environmental awareness through interactive ways and brings school children and teachers to a forum to discuss their perspectives on environmental issues. The present study reveals that such environmental education theme park programmes help the students, youth and teachers update their knowledge and sensitise them to current burning environmental issues and alternative ways to convey the message of saving nature and its resources for future generations and sustainable development. The programme was evaluated by conducting achievement (pre-and post-test) tests containing test items based on different environmental issues and pedagogical aspects of environmental education.

Key Words: Global Warming, Greenhouse Effect, Fossil Fuel, Ozone Depletion, Plastic Pollution, Deforestation, Biodiversity Loss, Sustainable Development, Achievement Test, etc.

Introduction

In the present economic and technological era, environmental degradation may include burning issues such as climate change, excess use of fossil fuels, global warming, greenhouse effect, ozone depletion, different types of pollution, deforestation, biodiversity loss, etc. These issues are enhancing continuously day by day. Now it is much essential to realise that these issues are emerging due to human activities and excess exploitation of natural resources by human beings. Thus, each of us is involved in creating or enhancing these issues as part of the problems. The time has come to take the necessary measures to

save our future. We should understand the reasons and factors that are responsible for these issues. A teacher training programme, focusing on environmental education, may play a prominent role in understanding these issues and conveying the environmental values among the new generation concerned with the protection of the environment (Gupta, 2004). The concept of sustainable development originated with the report of the World Commission on Environment and Development (WCED), Our Common Future (The Brundtland Report) of 1987, which defined sustainable development as “development which meets the needs of the present generation without compromising the ability of

future generations to meet their own needs.” The concept of sustainable development was first given prominence at the United Nations Conference on Environment and Development (UNCED) (the “Earth Summit”) in Rio in 1992, following which the notion of sustainable development rapidly gained wide importance and encouraged greater awareness towards major environmental problems and disparities in the world (NKC, 2007). To address these challenges, the Regional Institute of Education (RIE), Ajmer, has developed an Environmental Education Theme Park. This innovative approach aligns with the National Curriculum Framework (NCF) 2005 guidelines to enhance environmental awareness and education.

The Regional Institute of Education (RIE), Ajmer is nurturing and ensuring excellence, quality, and inclusive growth in school education and teacher education for the states and union territories of the northern region, that is, Delhi, Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, Chandigarh, Jammu, Kashmir and Ladakh. To attain learning about the environment, learning through the environment and learning for the environment, RIE, Ajmer has a unique educational adventure, that is, environmental educational theme park, through which we have designated a wide array of eco-smart programmes to expand the learning experience beyond the boundaries of the classroom and into the natural environment of the Aravali range of the Ajmer, Rajasthan.

Keeping in view the recommendation and guidelines of NCF-2005, NCTE 2010, NCERT the orientation programmes for teachers were planned to train in-service and pre-service teachers during internships working in government schools belonging to the states under the jurisdiction of RIE. In this

environmental educational theme park programme, we had critically analysed the factors causing environmental issues like climate change, global warming, ozone depletion, different types of pollution, biodiversity loss, plastic pollution, etc.

Environmental Education Theme Park

The RIE, Ajmer has maintained a theme park, namely, an environmental educational theme park, to promote environmental awareness through interactive ways and bring school children and teachers to a forum to discuss their perspectives on environmental issues (Barthakur, 2014–15 and Meena *et al.* 2019–20). The park included aquatic, desert and terrestrial ecosystem, a medicinal plant conservatory, a centre for demonstration of rainwater harvesting, conservation of water, organic farming, many undisturbed areas for birds and wild animals, greenhouse, hydroponic system, laboratory and an activity room for the demonstration of experiments, etc. In addition, the RIE, Ajmer, has organised *Prakriti Mela* to create awareness among teachers and students towards current burring environmental issues. All the sessions and exhibitions were conducted in the Environmental Educational Theme Park during the programmes.

Structure of Environmental Educational Theme Park

The theme park includes the following components:

1. Ecosystem displays: Showcasing desert, aquatic, and terrestrial ecosystems.
2. Rose flower gallery: Showcase for the demonstration of the various kinds of rose flower.

3. Hydroponic System: Demonstrating sustainable plant growth techniques.
4. Greenhouse: Showcasing greenhouse phenomena.
5. Medicinal Plant Gallery: Medicinal plants conservatory.
6. Water Harvesting System: Highlighting methods for rainwater conservation.
7. Birds and Animals Gallery: Showcase for the free visit of various kinds of birds and animals as well as reptiles.
8. Xerophytes Plant Gallery: Showcase of xerophyte plants.
9. Water Ponds: Showcase of hydrophyte plants and aquatic animals.
10. Fruit Garden: Showcase of various fruit plants.
11. Panchavati Vatika: Plants gallery containing Hindu religious plants
12. Navagraha Vatika: Plants gallery related to the direction of planets.
13. Tirthankaras Vatika: Plants gallery concerned with 24 Jain Tirthankaras.
14. Laboratory and Activity Room: For demonstration of various activities concerned with the environment.
15. Biodiversity Zones: Featuring galleries for medicinal plants, xerophytes, and hydrophytes.

- To demonstrate the structure and functions of various ecosystems such as desert aquatic and manmade.
- To understand the scientific basis of the functioning of the greenhouse and its utilisation for the growth and development of exotic plants.
- To inculcate environmental values among students to conserve water, the natural composition of the atmosphere and other natural resources.
- To familiarise with local fauna and flora.

Workshop

In order to prepare for the programme, an annual workshop was organised for three days at RIE, Ajmer. As a result, around 25 activities and working models were developed by the RIE pupils and teachers under the guidance of faculties and subject experts concerned with current environmental issues, which were demonstrated in the environment educational theme park programme. The finalised central themes were as follows: Nature through poetry, migratory birds, best out of waste, miniature garden, waste management, solid and green waste, water conservation, water as the source of life, wastewater treatment, water pollution, effect of oil spillage, air pollution, component of air ozone layer depletion, sustainable city, Ajmer, wheel of life, biodiversity, layer of forest, exotic and invasive species, soil profile and conservation, to connect with nature and observe the things present in nature for the children with special needs, environmental games and activities, nature's photographs, my clean and green school, etc.

Methodology

Objectives of Study

This programme was conducted with the following objectives:

- To conserve the integrity and diversity of nature.



Fig. 1: A schematic representation of the Environmental Education Theme park at RIE, Ajmer, illustrating its components such as ecosystems, hydroponics and biodiversity zones

Organisation of *Prakriti Mela*

An annual *Prakriti Mela* is organised on Environmental Education, the theme park at RIE, Ajmer. The previous theme of *Prakriti Mela* was *PanchTatva* (Prithvi, Jal, Agni, Vayu, and Akash). We have demonstrated 25 working models concerned with current environmental issues, which were developed in three-day workshop; the models were displayed in more than 20 stalls. Students and teachers of the institute explained the concepts and functioning of models to the visitors during *Prakriti Mela*. Some activities and models were displayed and explained by NGOs during the fair. In this programme, we had invited students, pre-service teachers and in-service teachers from different schools and institutes for visiting the fair around 1,000 students and teachers participated in the fair, and out of that, around 150 students actively participated in various competitions like slogan writing, poster making and expedition competition.

Development of Tools

The questionnaire, which was used for conducting pre and post-test, was developed in workshop mode under the guidance of subject experts. The questionnaire included three

types of questions: outlook about environment and its issues; knowledge about the concept of environmental education theme park; use of knowledge about environmental education to sensitise youth for awareness and protection of nature. We have used the purposive sampling technique for data collection during the study.

Sampling

The present study was carried out during the different environmental educational programmes organised at RIE, Ajmer, for students and teachers. In different academic sessions, tools were administered on 300 participants (students, youth and teachers) from different states, including Rajasthan, Uttarakhand, Uttar Pradesh, Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Chandigarh and Delhi.

Results and Discussion

The percentages were calculated based on responses given by students and in-service teachers and these percentages are used to compare pre-test and post-test results. The findings of pre-test and post-test are summarised below:

Table 1: The Percentage of Pre-test and Post-test of Students and Teachers Regarding their Outlook about the Environment and its Issues

	Strongly Agree (SA)	Agree (A)	Neutral (N)	Disagree (D)	Strongly Disagree (SD)
Pre-test (%)	43.05	30.40	09.50	15.70	4.35
Post-test (%)	59.04	35.02	2.05	3.40	0.49

It is clear from the table that the percentage of strongly agreed and agreed are increased by 15.99 per cent and 4.62 per cent respectively. The percentage of neutral, disagree and strongly disagree are decreased as 7.45 per cent, 12.3 per cent and 3.86 per cent, respectively. The findings indicated that there is an improvement in the outlook of students and teachers towards the environment and its different issues.

Which indicates that after attending the programme there is an improvement in the knowledge about the concept of environmental education theme park.

This Table 3 shows that before attending the educational theme park programme, 20.05 per cent of students and teachers always used environmental education knowledge, 35.03 per cent mostly, 25.03 per cent sometimes,

Table 2: The Percentage of Pre-test and Post-test of Students and Teachers about their Knowledge Regarding the Concept of Environmental Education Theme Park

	Adequate knowledge	Average knowledge	Little knowledge	Unknown
Pre-test (%)	25.03	35.01	33.03	6.93
Post-test (%)	38.02	54.04	7.39	0.55

It is clear from the above Table 2 that the percentage of adequate and average knowledge is increasing in post-test as 12.99 and 18.94 respectively and the percentages of little knowledge and unknown are lowered in post-test as 25.64 and 6.38, respectively,

4.87 per cent had never used environmental education in their day-to-day life. However, after attending the educational theme park programme, there is an improvement in the post-test findings as 26.03 per cent have said always, 38.05 per cent mostly, 27.04

Table 3: The Percentage of Pre-test and Post-test of Students' and Teachers' Knowledge about Environmental Education to Sensitise Youth for Awareness and Protection of Nature

	Always(A)	Mostly(M)	Sometime(S)	Rarely(R)	Never(N)
Pre-test (%)	20.05	35.03	25.03	15.02	4.87
Post-test (%)	26.03	38.05	27.04	8.4	0.48

per cent sometimes, 8.4 per cent rarely and only 1.48 have said never. So it is evident from the results that the percentage of use of knowledge about environmental education to sensitise youth for awareness and protection of nature has increased after attending this programme.

The teacher who participated in the environmental education programme is expected to be well versed in the subject content, approach and the constructivist class was held with them. The new role of the teacher is to provide a variety of learning situations to learners, ensuring the active engagement of each child in learning, to engage learners to compare, debate, share and learn from each other, and to provide help only when learners ask for it.

The main objective of such programmes is to develop awareness and sensitise the students and teachers regarding various factors and reasons responsible for creating and enhancing environmental problems. In addition, we tried to provide students and teachers with opportunities to share their experiences about the environment and its protection for future generations through this programme. We have oriented about 1,000 students, in-service and pre-service teachers of the northern country. In this programme, we displayed working models and activities concerned with current environmental problems. We have also used ICT-based materials, DVD or CDs and documentary films as education resources and training materials procured from NCERT. Most of the sessions



Fig. 2: Photographs of interactive exhibits and activities conducted during the *Prakriti Mela*

were taken in the educational botanical theme park activity room. At the end of the programme, the entire training materials in soft copy form were given to participants for future use and reference.

Learning Outcomes

During this event, the students and in-service teachers developed knowledge about different current environmental issues and they may be sensitised towards various aspects related to the environment such as; biodiversity and its conservation, migration of birds and their habitat, waste management, water conservation, sustainable city, ozone layer depletion, greenhouse effect, the importance of medicinal plants, different types of pollution and its control, about exotic and invasive species, connecting children with special needs with nature, nature through poetry, plastic pollution, wildlife, food chain, different types of ecosystems, different types of adaptation in plants and animals, etc.

Conclusion

The study reveals that the environmental educational theme park programme is beneficial for effectively understanding the factors responsible for various types of environmental issues. Such a programme may help the students, youth and teachers update their knowledge

about the environment and it will sensitise them regarding environmental issues and alternative ways by which we may save nature and its resources for the future generation.

One of the major outcomes of this programme was *Prakriti Mela*, a two-day mega event being organised by the RIE, Ajmer. The objective of this two-day mega event was to strengthen environmental education and bring school children, youth and teachers together in an interactive forum to promote environmental awareness and inculcate skills for sustainable development. The programme aims at involving the network of eco-clubs. *Prakriti Mela* is a platform for teachers and learners from schools to participate and showcase the work done in the area of environmental education and sustainability, rainwater harvesting, conservation of water, soil, medicinal plants, flora, fauna, endangered species, organic farming, different components of the ecosystem, etc. The participants are engaged in project-based learning related to environment-friendly practices like green school, green city, waste management, etc.

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