

## **Promotion of Environmental Education through Facilitated Field Study Approach- A teaching model for development of Conservation attitude**

**Buddhadev Mukhopadhyay\*, J K Datta\*\* and Arnab Banerjee\*\*\***

\*, \*\* Department of Environmental Science, the University of Burdwan,  
Burdwan-713104, West Bengal (India)

\*\*\* P.G. Department of Conservation Biology, Durgapur Govt. College,  
Durgapur - 713214 (India)

### **ABSTRACT**

Interactions of different organisms with plants were shown and explained to the students of higher secondary level in Burdwan town, W.B. to make understand the importance of plants in an ecosystem. Student's responses about an ecosystem were assessed by questionnaire before and after implementation of Facilitated Field Study Approach (FFSA) model. Responses through questionnaires were converted into percentages for quantitative assessment of student's awareness about conservation of an ecosystem through anticipated response approach by Facilitated Field Study Approach model. The results revealed a positive inclination towards improvement of awareness with respect to conservation of an ecosystem.

**Key words:** Facilitated Field Study Approach model, Interaction, ecosystem, conservation.

**K**nowledge about the interactions in the nature must be understood well for better understanding the ecosystem and necessary care towards the nature. Environmental education must become a vehicle for engaging young minds in the excitement of first hand observation of the nature and understanding the patterns and processes in the natural and social worlds in order to take care of the habitat and its surroundings which becomes a major part of Environmental Education in school education. In the different stages of school education some of the major issues such as environmental protection, management and conservation are to be dealt in more detail. We need the children to share and develop

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*\*Corresponding Author:* Buddhadev Mukhopadhyay, Research Scholar, Department of Environmental Science, the University of Burdwan, Burdwan-713104, West Bengal  
Mail: [buddhadevmukhopadhyay@gmail.com](mailto:buddhadevmukhopadhyay@gmail.com) Ph.No: 09434313033

the motivation from school about various environmental issues, which are the challenges of today and prepare them for the future. The objective of environmental education is to increase public awareness about ecosystem, explore possible solutions, and to lay the foundations for a fully informed and active participation of individual in the protection of environment and ecosystem. Ecological field studies are investigations that take place in the actual area under scrutiny, focusing on the site's habitats and biota (resident organisms) and comparing them with unimpacted conditions. By field study students become actively engaged in learning process. Engaging students in learning is one of the many goals that educators face<sup>1</sup>. Field study is one kind of activity based education where students become more active in learning process and realize the topic more effectively. In activity-based education students are more actively involved in the learning process through acts of doing, being and critically reflecting than in traditional, didactic education that is more centered around the passive act of knowing<sup>2</sup>. Learner seeks new information, and is actively engaged in the process in the way learner gains, assimilates, and utilizes knowledge. By Facilitated Field Study Approach model students are exposed to the real fact by which they can understand what is happening in the surrounding. The facilitator engages learners in outlining real-world facts.

The objective of present investigation was to determine the effectiveness of FFSA model towards implementing environmental education at higher secondary level at some selected schools of Burdwan town, W.B, India.

*Study site:* Burdwan town has been selected as study site which is one of the most

important educational centre of the State of West Bengal having many schools, colleges, University etc. It is located between the latitude 23°53' N and 22°56' N and between the longitude 88°25' and 86°48'.

#### *Methodology adopted:*

Data collection was done using questionnaires and interviews to make it transparent to the students. The instrument used for data collection consisted of three sections:

**Section A:** Evaluation of perception about an ecosystem and its importance at higher secondary level before implementation of FFSA model.

**Section B:** Implementation of Facilitated field study approach model through field visits- Selective students were taken to the adjacent forest area of Ramnarbagan protected area of Burdwan town, W.B. Different interactions were shown and explained like commensalism between Orchid and big trees, insects residing in the plants, birds depending on the plants, Butterflies interacting with flowers, Lichen present on the trunk of the trees, food chain and many others. The significance of the interactions were also explained.

**Section C:** Post evaluation of perception about ecosystem and necessity of conservation at higher secondary level after implementation of FFSA model.

Responses through questionnaires were statistically analyzed and the frequencies were converted into percentages So that the student's awareness about ecosystem and conservation could be assessed quantitatively through anticipated response approach by Facilitated field study approach model.

Table-1. Survey sheet (Before implementation of FFSA model)

Sl. No.	Statements	Responses in percentage				
		A	SA	N	D	SD
1	Each organism is dependent on other organisms.	30	15	45	7	3
2	To maintain interdependent system coexistence of different organisms must be maintained.	33	13	41	6	7
3	Green plants play the key role to maintain the interdependent system.	37	25	31	5	2
4	Plants provide shelter to different kinds of animal.	49	23	23	3	2
5	Plants provide food directly or indirectly to all kinds of animals	41	17	31	7	4
6	Food chain initiates from the green plants	31	19	41	6	3
7	Food chain is formed by repeated eating & being eaten manner within the community.	30	17	44	5	4
8	To maintain the above mentioned system all creatures must be sustained.	19	17	57	5	2
9	As base of the interdependent system i.e. the ecosystem green plants must be conserved.	30	15	45	7	3
10	You should take care about your surroundings.	33	29	35	3	0
11	You must have a role to maintain the green belt.	25	23	36	9	7
12	You must take part in plantation programme.	26	25	33	7	9

N=100 A-Agree; SA-Strongly agree; N-Neutral; D-Disagree; SD- Strongly disagree

Table-2. Survey sheet (After implementation of FFSA model)

Sl. No.	Statements	Responses in percentage				
		A	SA	N	D	SD
1	Each organism is dependent on other organisms.	38	32	24	5	1
2	To maintain interdependent system coexistence of different organisms must be maintained.	40	36	19	3	2
3	Green plants play the key role to maintain the interdependent system.	45	34	18	2	1
4	Plants provide shelter to different kinds of animal.	51	33	13	2	1
5	Plants provide food directly or indirectly to all kinds of animals	45	24	24	5	2
6	Food chain initiate from the green plants	40	26	27	5	2
7	Food chain is formed by repeated eating & being eaten manner within the community.	39	24	33	2	2
8	To maintain the above mentioned system all creatures must be sustained.	29	29	37	3	2
9	As base of the interdependent system i.e. the ecosystem green plants must be conserved.	45	29	24	2	0
10	You should take care about your surroundings.	39	39	21	1	0
11	You must have a role to maintain the green belt.	34	31	32	3	0
12	You must take part in plantation programme.	32	37	24	4	3

N=100 A-Agree; SA-Strongly agree; N-Neutral; D-Disagree; SD- Strongly disagree

### *Quantitative Results:*

The results of the study indicated that the student's awareness and motivation towards the understanding and conservation attitude of ecosystem had been improved significantly ( $p > 0.05$ ) by the Facilitated Field Study approach. The perception level about different factors and interactions about ecosystem had been realized by the students significantly after application of Facilitated Field Study approach model. The attitude towards conservation mentality had also been improved. For second sample question the positive responses have been improved after application of Facilitated Field Study approach. 41% students were neutral to realize that the interdependent system is maintained by the coexistence of different organisms. But after application of Facilitated Field Study approach model the response has been reduced to 19%. Disagree and strongly disagree responses against the same question were also reduced from 6% to 3% and 7% to 2% respectively. This result was very significant in connection with the increasing awareness towards the environment. Actually critical observation helped to understand the natural facts and students could integrate their previous knowledge into new observations to take decisions about their future activities and planning. The integrated content was the process of environmental education that aimed at promoting the students' critical thinking, problem solving, and decision making that made the students understand the relation and the connection of the content studied<sup>3</sup>.

The fifth sample question's perception improved significantly after application Facilitated Field Study approach model.

Student's perception about the significance of green plants in terms of energy flow before field study was 58 % ( including agree & disagree) which was improved after field study to 69 % (including agree & disagree) (Table-2). The level of disagree response also reduced significantly which reflects the improvement towards development of perception related to significance of green plants in the ecosystem. This perception will help to make aware the students about the ecosystem and conservation which is an important dimension of Environmental Education Arranging learning activities through the process of environmental education could promote the students' thinking<sup>4</sup>.

Student's response was 44% in neutral position with respect to concept and knowledge about the food chain (Sample question- 7 of Table-1) but after the implementation of FFSA model the number reduced to 33 % (Table-2). The another responses regarding the said sample question is also satisfactory.

Question eleven of the questionnaire provided a good feedback about student's motivation towards maintaining green belt after implementation of FFSA model. In response to the student's role maintaining the green belt, 25% students response belonged to agree category, 23% with strongly agree, 36% were neutral, 9% were disagree and for strongly disagree category it was 7%. After implementation of FFSA model the feedback were 33%, 30%, 31%, 3% & 0% respectively. This therefore indicates that the students were motivated positively after interacting with the surroundings. The learning activity that encourages the learners to apply the knowledge in their daily life helps to create students' positive environmental values and appreciation to change their

consuming behaviors in order to use our natural resources the most efficiently and sustainably (Veeravatnanond, 2003). Therefore, overall a good response had been obtained after implementation FFSA teaching model. Facilitated field study approach teaching model may be applied to understand the natural phenomena like different ecosystems. The ecological assessment of a site always requires some type of field study. Some field study is necessary in order to identify organisms and habitats that may be at risk. By that way the said teaching model will help the students to understand the natural incidents and to conserve the natural habitat.

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