

Developing Environment Friendly Behaviour among Adolescents

Role of Intervention

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ABSTRACT

The influence of environmental destruction on modern life has been a globally critical problem. Industrialised countries degrade the environment by insatiable consumption of resources and intense production of waste. Population Growth in many developing countries puts damaging pressure on the planet. Therefore, if we want to manage our earth we must make people environmentally educated to develop environment friendly behaviour. Environment friendly behaviour is any action of individual or group directed toward the remediation of environment problems. Present study attempts to assess the impact of intervention on environment friendly behavior among adolescents. The data were collected from a sample of 150 IX and X grade adolescents by using environmental responsibility assessment inventory and consciousness about pollution scale, developed by Dr. Sandhya Gihar, Kukreti & Shah. Thirty students were selected as sub sample for intervention. The study has revealed that there is significant impact of intervention on adolescents' consciousness about environment pollution and environment friendly behaviour. The study has not found gender difference on environment friendly behaviour and consciousness about pollution among boys and girls.

Environment is not merely the atmosphere and other physical factors surrounding us, but is the complex of all factors which not only affect one organism at a time, but all organisms all the time. The destruction

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of environment in modern time has been a globally critical problem since the beginning of the late 1960s due to increasing high industrialization and extra resource utilisation. The current environmental crisis is really a crisis of maladaptive behaviour and not a technological problem. Human societies have faced crisis of existence and by and large have emerged with acquired wisdom and knowledge. The present situation of the environment crisis all over the world has brought us to the same point and we are hopeful that with the wisdom and knowledge acquired, we will definitely overcome the impending disaster. Resolution of current ecological dilemma will necessitate not only technological changes and improved scientific knowledge, but also changes in people's behaviour. These changes could be brought about only through a continuous lifelong interdisciplinary environmental education.

Environmental education has assumed great importance in recent years since the life on this planet depends, to a large measure, on our response to emerging problems related to the environment. Environmental education tends to make citizens aware and conscious about the hazardous impact of environmental degradation, pollution and to generate knowledge, awareness and consciousness among them about different environmental components. It is also realised that the existing environmental education programme have to be revised and new ones developed that are more holistic and learner centred.

Environmental problems cannot be solved within a day or two. It requires rigorous efforts at school level. The present investigation examined the effect of intervention on environment friendly behaviour and consciousness about pollution among adolescents. In order to make them realise their own responsibility toward environment, it was assumed that intervention would prove to be a powerful tool by making them aware and conscious about the hazardous impact of environmental degradation. This is a crucial time to realise that environmental sensitivity and environment friendly behaviour should be cultivated among masses particularly among adolescents. Environment Friendly Behaviour is any action of an individual or a group directed towards the remediation of environmental issues/problems. Several studies have been conducted in India and abroad to show the significance of environmental education/intervention in various form. Video interventions for environmental behaviour of the students make them feel their own responsibility towards environment. The use of video intervention has proved a powerful

tool that can make citizen aware and conscious about the hazardous impact of environmental degradation. (Kukreti and Gihar, 2006). Dissemination of environmental education for sustainable development of the community should be a lifelong process and should not only be restricted to a learner's years in higher education. Informal environmental sustainability education, including personal involvement in NGO environmental action can be an effective way of increasing the understanding of environment and sustainability issues. (Martin, 2006).

Existing environmental education programmes only generate awareness and sensitivity but do not focus on the skills and attitude levels. School children do not get opportunities to develop skills to analyse and evaluate local, regional, or national environmental problem or issues (Faisal, 2006). Environment education movement has gained momentum all over the world. To make this movement an observable reality in India, universities, colleges, schools should come forward and give environmental, education its proper place in teaching, research as well as extension activities in various courses of study. It is only self motivation and sense of duty in teachers themselves which can bring a grassroots skill and behaviour of masses (Srivastava, 2006). Unfortunately, the much-needed bonding between people and nature can not be taught or learned through a textbook within the four walls of a classroom. Human being must be taught the art of living environmentally sustainable lives right from early childhood. (Pardiwal, 2005). Outdoor education programme that provide opportunities for student to become environment conscious citizens prepared Student to recognise their environmental responsibilities and act upon them. (Yerkes 2000).

Field trips and outdoor studies are very much educative as they develop curiosity in students. Films and video cassettes on tiger projects and different type of birds may be shown to the students to develop in them an interest for the environmental conservation (Patankar, 2000). Key to solving the environmental crisis lies with the individual who have to make environmental protection a part of their behavioural repertoire. Environmental protection can only be brought about through the conceptual realignment between our desire for wasteful exploitation of resources and their judicious utilisation for sustainable development (Mishra and Mishra, 1993). All these studies give an impetus to present investigation to get a preliminary idea of motivating the students through intervention so that they become more conscious about environment pollution and degradation and develop environment friendly behaviour.

Objectives of the Study

- To find out the impact of intervention on environment friendly behaviour among adolescents.
- To find out impact of intervention on level of awareness about pollution among adolescents.

Methodology

Selection of Locale and Sample

Present study was conducted on 150 students studying in Classes IX and X (14-16 years) in Tonk, Rajasthan. Thirty students (15 girls and 15 boys) who scored lowest on Environment Responsibility Assessment Inventory (ERAI) were further selected as sub samples for intervention.

Selection of Method

The study is based on pre- and post-test without control experimental design. In such a design, effect of treatment are judged by the difference between the pre-test and the post-test scores.

Selection of Tools

- (i) *Environment Responsibility Assessment Inventory (ERAI)*. The inventory was developed and standardised by Gihar, Kukreti and Shah (2002). ERAI has 71 items spread over seven dimensions related to environmental responsibility. It has multiple choice type items. Each item has three options. In this inventory one mark has been awarded to the correct response where as 0 to the incorrect response.

Dimensions of ERAI

- Using environment friendly products
- Participation in activities to save the environment
- Economic use of natural resource
- Prevention of pollution
- Awareness about environmental issues
- Protecting green trees and vegetation
- Ecological concern

- (ii) *Consciousness about pollution scale* developed by Gihar and modified by the investigator. Original tool contains two parts, A and B. B Part consists of difficult items which need lots of preparation regarding theoretical knowledge and practice in order to attempt them. Original tool is difficult to understand without theoretical knowledge and practice. It can be administered to XI-XII grade adolescents and other adults because they have presumably greater information regarding environment. The modified version consists of 34 items in A section which has multiple choices and 63 items in B section in which responses are obtained in the form of true and false. Each correct response is awarded a score of 1 (one) and incorrect response a score of 0(zero). Some of the items were taken as such from the original tool, whereas some were modified in terms of language and making compact and comprehensive. The tool has high academic value as the items are of high standard.

Procedure

Phase I Pre-testing and Screening

- Assessment of the level of environment friendly behaviour
- Assessment of the level of consciousness about pollution.
- On the basis of the assessment 30 sub samples who scored less were selected for intervention programme.

Phase II Intervention

- Intervention programme was organised and conducted for 30 sub samples (girls and boys)for ten days. Different activities were planned for intervention. Guest lectures, group discussions, role play, slide show, competitions (chart, poster, models and slogan), games and exhibition constituted important activities of the intervention programme.

Phase III Post-testing Assessment of the Impact of the Intervention

- Pre- and post-test scores of the sample were used to assess the impact of intervention programme. The same questionnaire was administered to the participants after the intervention programme for post-testing.

TABLE 1
**Pre-intervention and Post-intervention Mean, SD Scores and
 't' value of IX and X Class Students on different Dimension
 of Environmental Responsibility Assessment Inventory**

S. No.	Dimensions of ERAI	Pre-testing N=30		Post-testing N=30		't' value
		Mean	SD	Mean	SD	
1.	Using environment friendly products	5.465	.67	6.36	.69	5.05**
2.	Participation in activities to save the environment	5.23	.69	6.16	.76	5.11**
3.	Economic use of natural resources	5.465	.89	6.67	.88	5.21**
4.	Prevention of pollution	5.3	.77	6.1	.86	4.01**
5.	Becoming aware of environmental issues	5.15	.815	5.8	.77	3.25**
6.	Protecting green trees and vegetation	5.7	.77	6.65	.81	4.75**
7.	Ecological concern	5.26	.73	6	61	4.27**
8.	Overall environmental responsibility	37.9	3.16	43.24	5.39	4.68**

** P <.01

Table I indicates that sense of responsibility 'towards' environment among thirty students was significantly affected by the intervention. In comparison to pre-intervention test scores, students scored higher on responsibility towards using environment friendly products, participation in activities to save the environment, economic use of natural resources, prevention of pollution, becoming aware of environmental issues, protecting green trees and vegetation, ecological concern as well as on overall environmental responsibility on post intervention test. All the 't' values are significant at .01 level of significance. Hence, the results indicated that intervention programme had significant impact on environment friendly behaviour of students

Impact of Intervention Programme on Girls

TABLE 2
Pre-intervention and Post-intervention Mean and SD Scores of IX and X Class Girls on different Dimension of ERAI

S. No.	Dimensions	Pre-test N=15		Post-test N=15		t' value df 13
1.	Using environment friendly products	5.03	.49	6.01	.61	4.9**
2.	Participation in activities to save the environment	5.4	.61	6.13	.61	3.3 **
3.	Economic use of natural resources	5.33	.86	6.33	.78	3.44 * *
4.	Prevention of pollution	5.2	.83	6.2	.73	2.85*
5.	Becoming aware of environmental issues	5.3	.86	5.9	.77	2.26 *
6.	Protection of green trees and vegetation	5.6	.71	6.6	.69	5.88**
7.	Ecological concern	5.33	.78	6	.51	2.79*
8.	Overall environmental responsibility	38	2.50	44.16	2.78	6.28**

** P<.01

* P<.05

Table 2 shows that the intervention influences significantly the responsibility towards environment among girl students. It is clear from the table that in comparison to pre-intervention test, the girl students scored higher after intervention. Further, the table indicates that mean values of post-intervention test on the dimensions, i.e. responsibility toward using environment friendly products, participation in activities to save the environment, economic use of natural resources, prevention of pollution. The dimensions such as being aware of environmental issues, protecting trees and vegetation, showing ecological concern and overall environmental responsibility showed significant impact of intervention.

Impact of Intervention Programme on Boys

TABLE 3
**Pre-intervention and Post-intervention Mean SD Scores and
 't' value of IX and X Class Boys on different Dimension of ERAI**

S. No.	Dimensions	Pre-test N=15		Post-test N=15		t' value df 13
1.	Using environment friendly products	5.9	.85	6.7	.77	2.75*
2.	Participation in activities to save the environment	5.06	.77	6.2	.90	3.8**
3.	Economic use of natural resources	5.6	.92	7	1.0	4.0**
4.	Prevention of pollution	5.4	.71	6.0	.99	1.93 NS
5.	Be aware of environmental issue	5.0	.77	5.7	.77	2.5*
6.	To save green trees and vegetation	5.8	.83	6.6	.94	2.5*
7.	Ecological concern	5.2	.67	5.5	.71	1.2
8.	Overall environmental responsibility	37.8	3.82	44.5	6.9	3.30**

** P<.01

* P<.01

Table 3 indicates that the sense of responsibility towards environment among boys student was also significantly affected by the intervention. In comparison to pre-intervention test scores boys had higher mean scores on responsibility towards using environment friendly products, participation in activities to save the enviroliment, economic use of natural resources, prevention of pollution, being aware of environmental issues, protecting trees and vegetation, ecological concern as well as on overall environmental responsibility. If we compare the pre-test and post-test scores of girls and boys there is no significant difference in environment friendly behaviour.

Assessment of the Impact of Intervention on the Level of Consciousness about Pollution among Adolescents

In comparison to pre-intervention test score ($\bar{x} = 36.26$) adolescents had significantly higher mean scores (42.61) in the post-intervention test ($t(29)=8.6$, $P < .01$). Also, the level of consciousness among girls (pre-test mean = 36.13); post-test mean = 43.11, $t(14) = 6.75$, $P < .01$) was significantly affected by the intervention. Similar results were obtained for boys (pre-test = 36.4, post-test = 42.1, $t(14) = 5.41$, $P < .01$). There was no significant differences in consciousness about environment between boys and girls.

ERAI can be applied on adults also as items of the tool are related to general habits, behaviour and knowledge. CAPS consists of some scientific items. In order to answering these questions person should have knowledge regarding environmental science. These tools can be applied on literate adults. Since these tools have high academic value, expected outcome of intervention would exhibit better environmental values, consciousness and environmental responsibility among adults since they are more matured as per age and behaviour.

Conclusion

To conclude, we suggest that through intervention, the main agencies of education, particularly schools and family can motivate the students to realise the nature of environmental problems and ensure their participation in preservation and protection of environment. For sustaining environment, it is the time to generate environment friendly behaviour and to motivate adolescents to establish a congenial and harmonious coexistence with nature. Intervention has proved very effective medium for this purpose.

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