
**RESPONSIBLE ENVIRONMENTAL BEHAVIOUR: A COMPARATIVE
STUDY OF TECHNICAL AND NON TECHNICAL COLLEGE STUDENTS**

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ABSTRACT

Environmental education is to mind is not just awareness, it is development of the behavior to make world a better place to live in, to be aware of what is happening around and above all to act without fear. A primary goal of environmental education is the development of responsible environmental behavior in citizens, both as in individuals and as societal groups .Therefore, the present study has been done to explore and compare the responsible environmental behavior of technical and non technical college students. Descriptive survey method has been used and stratified random sampling technique has been applied to select a sample of 75 technical and 75 non technical students from Punjabi University ,Patiala and Lovely Professional University, Jalandhar each to make a total sample of 150 technical and 150 non technical students. Responsible environmental behavior scale has been used to collect the data. The study reveals that technical students and non technical students does not differ in their behavior towards environment. Therefore, it can be concluded that students enrolled in technical and non technical courses should be exposed to programes and courses based on fostering responsible environmental behavior.

Key Words: Environmental Behavior, Technical College Student and Non Technical College Student.

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INTRODUCTION

Mother earth is the home of all mankind, animal kingdom and plant life. It is incumbent on man to take from earth what he can give back to it quickly by planting, growing, rearing & supplying, what he had taken from it. Again it is man's duty to keep the earth, which is his eternal home, clean and purify what he had already polluted. Man must not injure the vitals he cannot replenish as God has not gifted man with the power to create stock even to the slightest extent. So, protection of flora and fauna for posterity is the bounden duty of the present and future generation of mankind. The whole world attention is now focused on the state of environment. Despite considerable global efforts made by representatives from all the sections of the society, the conservation of natural resources has failed to keep pace with the environmental degradation. The latest information splashed in the Earth II Summit report reveals a planet still in the need of intensive care. Every nation has right to develop, enrich its economy but that should not be at the cost of environment. There should be compatibility between economy and ecology. The basic question underlying all the global environmental issues is a question of awareness and behavior. It is fundamentally concerned with the kind of people we are, our awareness about environment and the behavior we hold towards environment to make world a better place to live in.

In the name of development we have started distancing ourselves from nature. Due to rapid industrialization and urbanization we have lost our relationship with environment. At this juncture when the nature is fighting a lost battle against its degradation and experiencing a broken relationship with mankind, what on earth are we doing by being a part of it? We can revive this relationship through environmental education. Environmental education to mind is not just awareness; it is far more. It is development of behavior to make world a better place to live in, to be aware of what is happening around and above all to act without fear.

Environmental problems are global problems and needs combined human effort. We can cope up with the problems by creating environmental awareness among people at all levels i.e..Farmers, educationists, industrialists, politicians and bureaucrats so that they should take environment into account in their decision making process. Without proper educational effort, the awareness - action - analysis chain will not move effectively and smoothly. Educationist realized their responsibility towards environment and took up the matter in early sixties.

The term environmental education was for the first time used in the environmental conference held at Keele University, Britain in 1965. Since then educational front at national and international level is being utilized to deal with environmental problems. At International level, Stockholm Conference (1971), Belgrade Workshop (1975), Tibilisi Conference (1977) focused on the environmental education at all levels. These conferences considered the training of personnel, including pre service, in service teachers and all others connected with education & environmentally linked matter as a priority activity so as not to create economic, social & ecological debts for future generation.

National level witnessed Kothari commission (1964), NCERT (1975), NPE (1986); NCERT (NCFSE, 2005) focused on the understanding of environment in totality and tried to infuse the environmental concerns in various subjects at different levels of education. The Supreme Court of India (2004) directed all the states and educational agencies in the country to introduce environment as a compulsory subject in all classes in schools up to higher secondary level from the Academic Session (2004-2005) with the help of Central Pollution Control Board.

NCTE discussion document (2004) emphasized on the importance of environmental education for pre-service teachers and in-service teachers and its inclusion in the teacher training program.

Although the importance of introducing environmental education has been accepted as a policy, its real impact in the educations remains to be seen. There is a genuine feeling that in spite of international and national efforts; the environmental education has been far from satisfactory. There may be constellation of factors operating behind it but the most important factor is the inadequacy of personnel trained in environmental education.

NCERT as an apex body in school education, reviews, updates and develops the curriculum of school education periodically. As part of this exercise, NCERT brought out National Curriculum Framework for School Education (NCFSE) in 2000. Following the new framework, NCERT developed Guidelines and Syllabi for Primary, Upper Primary, Secondary and Higher Secondary Stage of schools education. Accordingly, the textbooks for classes I-XII in different subjects were prepared in a phased manner during (2001-2004). NCERT has been greatly benefited by the involvement of a large number of teachers and experts drawn from schools, universities and research organizations in the preparation of these textbooks.

Curriculum development in environmental education taking in to consideration the importance of environment and the threat faced by the human settlement due to the fast degradation of

environment. It may be conceived that environmental education is of paramount importance. It should not only be included in the school curriculum but should be taught as a compulsory paper up to higher secondary level. In other words, it should be treated as a core component or core curriculum of the school education system.

The curriculum of environmental education should cover all the three domains of educational objectives i.e. cognitive component, affective component and psychomotor component. It is observed that generally we are giving equal weight age to the cognitive component but there is a need to give higher weight age to affective and psychomotor component in the environmental education.

The content of environmental education should include the subject matter that may be transacted effectively to fulfill the goals of environmental education. While selecting and organizing the contents for environmental education, we have to follow the principles of curriculum construction like- Principle of simple to complex, principle of concrete to abstract, principle of near to remote, principle of continuity, principle of sequence, principle of flexibility, principle of integration, principle of interest, and principle of community centeredness etc.

Under the environmental education programme, clear and concise understanding should be developed regarding, biophysical aspect of the environment. It should focus on natural environment and interdependency of various components. Socio- culture aspect of the environment should highlight manmade environment, man and his relationship with his environment.

Teaching-Learning strategies must involve learning experience, which encourage discovery through direct experience. Teacher may use case studies, problems solving, project work, group discussion, awareness programme ,field trips, value study, inquiry approach, assignments, demonstration, environmental campaign and other appropriate methods which they think effective for the attainment of the goals of the environmental education.

These approaches will probably develop a behavior for striking a balance between an earnest desire for preservation of the environment through promotion of efficient eco-friendly techniques and actions required for resolving national and international issues. This will also develop leadership qualities in the learners for promoting community participation in resolving environmental issues at local, national and international levels.

Barathi & Swatantra Devi (2004). Students the environmental awareness among the higher secondary students. The findings were (a) The first year higher secondary students had high environmental awareness.(b) The girls school and the co-ed schools differed in their environment awareness, in favor of girls (c) Private and Govt. school differed in their environment awareness, in favor of private schools (d) The urban and rural school students differed in their environmental awareness, in favor of urban school students (e) There was no difference in the environmental awareness of school students on the basis of sex (f) The environmental awareness of students whose parents were graduate were more than the students whose parents were not graduate.

Ramakrishna. A (2003) conducted a study on environmental awareness among secondary school students. He found that children exposed to the co-curricular activities instill appropriate behaviors. The activities are not exhaustive. It is only suggestive. Many significance activities are proposed in class Sixth because of the environmental biased content and also of the highly receptive nature of the cognitive stage of development i.e., formal operations where the child is capable of experimenting with the concepts learned in the previous stage. These children as they grow develop sustainable lifestyle and participate in solving real life problems with a practical bias of ensuring a healthy environment all around.

Das (2002) studied the development of environmental awareness through the study of life science in the secondary schools of West Bengal. The finding revealed a hetero entity among three groups in terms of perception about environmental awareness.

Sunnetha (2002) took up a study to examine the status of basic understanding in environmental education and behavior towards environmental issues among the upper primary school students of Mysore. The findings were (a) multidisciplinary approval were more effective as composed to infusion approach in teaching of environmental education (b) supplementary curricular program is more favorable in generating parities behavior towards environment among school children.

Sahoo and Gupta (1997) studied the effect of scholastic achievement and scientific behavior on environmental awareness of +2 students of Rajasthan. The major findings were (a) scholastic achievement had significant effect on scientific behavior on three dimensions viz., health and nutrition, forest, agriculture and nutrition, forest and agriculture and population growth. In case of rest of the three dimensions of EA viz on pollution, water pollution and ecosystem, there was no significant effect of scholastic achievement on scientific behavior. It shows that achievement does not have equal level of effect on different dimension of EA. (b)

scientific behaviors hold significant and positive effect on most of the components of environmental awareness via health and nutrition, forest and agriculture and population growth. (c) In the case of air pollution, water pollution and ecosystem; components of SA had no significant effect on EA. (d) Trainees also has its effect on the knowledge and understanding of facts and concepts relating to different aspects of environmental problems, (e) The subject background of the trainees also has an effect on the knowledge and understanding of facts and concepts relating to different aspects of environmental problems.

Bhattacharya (1996) studied environmental awareness among primary grade boys and girl students and their parents in Varanasi. The findings were (a) among the primary girl students studying in grade III, only 44% were in the above average, 48.89% was in the below average, 6.67% was in the low category and none was there in the high category. (b) Among the girl students studying in grade V, only 57.30% was in the above average, 37% was in the below average and 5.62% was in the low category and none was found in the high category, (c) Among the parents of grade III girl student, only 11.11% was in high, 67.78% was in the above average, 8.89% was in the above average, 8.89% below average and 2.22% was in low category, (d) Among parents of grade V girl students, 7.87% was in high, 42.69% above average, 47.19% below average, 2-25% in low category (e) No sex differences was found in case of grade II and V students in terms of their environment awareness, (f) No sex difference was found in case of grade VI & V students in terms of orientation, behavior and responsibility factors of environmental awareness, (g) Coefficient of Correlation was significant in case of environmental awareness of the grades III and V girl students and their parents.

Sidana and Paree (1996) studied the environmental awareness among secondary school students. The Findings were (a) The secondary school students possessed high level of environmental awareness, (b) There was significant difference in the environment awareness of urban and rural students, and (c) There was no significant difference in the environmental awareness of students on the basis of sex.

Padhan (1995) studied environmental awareness among teacher trainees. The findings were: (a) there is no difference among the pupil teachers in environmental awareness on the basis of sex (b) The pupil teachers who were science post graduate were more environmentally aware followed by social science postgraduate and humanities postgraduate pupil teachers (c) The graduate science pupil teachers were more environmentally aware followed by social science and humanities graduate teachers (d) The pupil teacher with master degree and urban area were more

environmentally aware than pupil teachers with masters and bachelor degree of rural area. (e) variation in environmental awareness between the urban and the rural teacher trainees, where the former group was significantly higher than the later, (f) The master degree holder exhibited higher environmental awareness compared to the bachelor degree holders indicating that higher the educational qualification better the awareness of environment problems.

(g) The subject background of the trainees also has an effect on the knowledge and understanding of facts and concepts relating to different aspects of environmental problems. The science teacher trainees surpassed social science followed by humanities teacher trainees in their environments awareness.

Sabhlok (1995) studied the awareness and behavior of teacher and students of high school towards environmental education. The findings were : (a) The boys and girl students differ significantly in the awareness about environment, in favor of boys, (b) The rural and urban students different significantly in their awareness of environment, in favor of urban students, (c) The boys and girl students differ significantly in their behavior towards environment, in favor of girls, (d) The rural and urban teachers differed significantly in their awareness and behavior towards environment, in favor of urban teachers, (e) The male and female teachers differ significantly in awareness and behavior towards environment, in favor of female teachers, (f) The rural and urban students differ in their behavior towards environment, in favor of urban students.

Ayishabi (1995) studied environmental behavior and literacy among science and non science students at degree level. The findings were: (a) Science students surpassed non science students in environmental literacy and behavior towards environment. (b) Students of biology and chemistry were alike in their behavior and literacy of environment, (c) English students surpassed history students and commerce students in their behavior and literacy of environment.

Kumari and Singh (1995) studied the behavior of teachers towards environmental education. He found that (a) teachers selected as representative sample had favorable behavior towards environmental education; (b) there was no significant difference in the behavior of primary and secondary school teachers towards environmental education.

Parham (1991) studied environmental knowledge, behavior and perception regarding environmental education among pre service and in service secondary school teacher. He found that (a) low environmental knowledge among preserve teachers, although conceptual knowledge was moderate, (b) Among the in-service teachers, environmental knowledge was moderate and factual knowledge about the environment was low. (c) There was a moderate correlation between environmental knowledge and environment behavior. (d) Teachers perceived that environmental education could be a core part of social science and science, (e) there was a

significant difference in the behavior of pre service and in-service teachers towards environmental education, in favor of in-service teachers. (f) There was no significant difference in the behavior of primary and secondary school teachers towards environmental education.

Mosathiwane et al (1991) studied knowledge and behavior of preserve teachers towards environmental education in Botswana. The findings were: (a) The knowledge of preserve teachers about environmental education was moderate; (b) Forty two percent preserve teachers had positive behavior towards environmental education.

Shahnawaj (1990) studied environmental awareness and behavior of secondary and higher secondary school teachers and students. It was found that (a) 95% teachers and 94% students possessed positive environmental behaviors. (b) The teachers and the students did not differ in their behavior towards environment, (c) Teachers surpassed students in awareness about environment. (d) Trained and untrained teachers did not differ in environmental awareness. (e) Girls surpassed boys in the awareness about environment. (f) Teachers were above average and students were average in their awareness about environment.

Chang (1990) conducted a study on the knowledge of and behavior towards environment among preserves' elementary teachers in Taiwan. The findings were: (a) Preserves elementary teachers had moderate level of knowledge about environment; (b) Fifty percent of preserves' elementary teachers had positive behavior towards environment.

Prajapat (1996) conducted a research to assess the effect of program in developing awareness towards environment among the pupils of standard IV. The findings were (a) a significant difference in the environmental awareness of experimental and control group was found. (b) The program was successful in developing awareness of environment among the pupils of standard IV. (c) There was no significant difference in the environmental awareness of students on the basis of sex.

Gopalakrishnan (1992) studied the impact of environmental education on primary school children. The study addresses the problems of environmental education and its impact on primary school children of standard V selected at random from the schools of Nilgiris, Madras and Coimbatore. The Findings were: (a) The distribution the total Responsible environment behavior Test Scores of the entire sample approached the normal form which implied that environmental education had a very good impact on the children, (b) Analysis of the Environmental Education Test Score area wise reveals that the children of Madras scored better when compared to that of the Coimbatore and the Nilgiris, and that could be due to better exposure of Madras Children. (c) The study showed that the participatory learning approach could bring about a better impact, (d) Teachers in general felt that there was not sufficient time to give importance to learner centered activities.

Gilbertson et al (1990) studied the effect of environmental awareness training program on the knowledge and behavior of 2ND standard students in Minnesota. The findings were: (a) There was a significant difference in the environmental knowledge of experimental and control group, (b) There was no significant difference in the environmental behavior of experimental and control group.

Educators conducted studies to assess the effect of outdoor education programmes on environmental awareness, knowledge, sensitivity, consciousness, attitudinal change and environmental behavior of people. Dunlop and Hepperman (1975), Bryant and Hungerford (1977), Geisler et al., (1977), Crompton and Seller (1981), Jaus (1984), Speward and Spelman (1986), Howe and Disinger (1998), Van Matre (1990), Dresner and Gill (1994) made attempts to study the effect of outdoor educational programmes on behavior and awareness about environment of the students. Researchers found a significant effect of these programmes on the environmental behavior and awareness of the students.

Chelliah (1982) also indicated positive impact of outdoor activities such as nature work, camping and hiking trips on children's knowledge of environmental issues. Driver and Johnson (1984) studied the long-term benefits of the youth conservation programme, which combines outdoor work opportunities and environmental education for youths. In the study, the youths indicated that they had become more environmentally aware as a result of the Youth Conservation Corps Programme.

Van Liere and Noe (1981) and Howe and Disinger (1998) concluded that outdoor experiences made a significant impact on students' behaviors. Khoshoo (1991) and Mathews and Riley (1995) suggested that the instruction in the general area of environment couldn't be confined to the class-room, but more importantly, field or out-of-school activities. Dutt (1998) also suggested that to impart environmental education to students, the outdoor activities such as visit to nearby cities and township, industrial sides and visit of canals and river sides etc., should be arranged by the teachers in schools. Bongler (1998) studied the influence of short-term outdoor ecology education programme on long-term variables of environmental perspective. The results indicated that five day outdoor programme explicitly provoked favorable shifts in individual behavior.

Palm berg and Kuru (2000) concluded that nature experience develops pupils' self-confidence and feeling of safety, in particular, which in turn increases their willingness to participate in environmental outdoor activities. Patankar (2000) suggested that field trips and outdoor studies are very much educative and they develop curiosity in students. The selected places for field trips should include the areas related to various environmental problems. In field trips and outdoor studies, the students can visit and study village river or lake, seashore, sanctuary and

industries. In their visit they may observe, different types of nests, eco-systems, food webs and the biodiversity etc.

Desh Bandhu et al., (1982), Seneviratne (1982), Rahardjo (1982), Khoshoo (1991), Kukreti (1993), Swamy (1998) and Kukreti et al (2004) etc have recognized the effective role of Non-Governmental Organizations (NGOs) in creating environmental awareness among masses. Desh Bandhu et al (1982) revealed that NGOs have a vital role to play in creating environmental awareness at all levels. Chelliah (1982) indicated that in Malaysia, there are several NGOs in the country whose interest in environmental issues and action oriented programmes are effective well established and recognized. Some educationalist and eminent persons have suggested that mass media could be used as an effective tool to spread environmental awareness among people (Kwik. 1982; Rathore, 1982; Chelliah. 1982; Sekar. 1982; Kukreti, 1993; Neelima, and Nair, 2001). Rathore (1982) suggested that mass media could play a useful and effective role in global propagation of environmental metaphysics. Chunkao (1982) suggested that in Thailand, radio and T.V. programs, newspapers, poster exhibition and demonstration, movies and slide shoots and publications are widely being used as the tools of informal environmental education. Kwik (1982) stated that cartoon and documentary films on the environment, specially designed for children could be used to create environmental awareness and consciousness in the children not enrolled in formal education. Desh Bandhu and Ramanathan (1982) reported that in the International Conference on Environmental Education organized by Indian Environmental society (1981), the mass-communication media was recognized as a powerful and active tool for spreading information about environment.

Brothers et al (1991) assessed the impact of TV news programmes on the public environmental knowledge and found positive results of the programme. Kukreti (1993) indicated that mass media such as radio, TV, newspapers periodicals, feature films, and documentaries etc could be used effectively in the extension of environmental education among masses. Further the researcher also revealed that in the remote and backward areas where the formal and non-formal education is not widely spread, the environmental education could be imparted through environmental programmes telecasted and broadcasted on TV and radio.

Singh (2004) in her study suggested that the programmes of UGC countrywide classroom, related to environment might play a significant role in enriching environmental awareness of students. The teachers should motivate the students to watch such E TV programmes.

Chelliah (1982), Rahardjo (1982), Swamy (1998), Thakur (1999) and Vyas (2003) etc., emphasized the vital role of science clubs/forums and science exhibition in creating environmental awareness. Rashid (1982) suggested that

“school nurseries” program particularly in rural areas may be very effective in creating the feeling of love for trees among the school children.

Some special programmes like-nature education programme (Rashid, 1982), earth education programme (Van Mitre, 1990), lectures, talks and discussions on environmental issues (Chelliah, 1982; Patankar, 2000; and Vyas, 2003), projects (Mohd, 1982; Patel, 1986; Patankar, 2000; saxena, 2003 and Pardiwala, 2005), special refresher programmes (Desh Bandhu et al., 1982), learning-by-doing rather than being taught (Pardiwala, 2005), environmental short-term or long-term training programmes (Musa, 1982; Mohd, 1982; Vyas, 2003), readings and debates (Patankar,2000), seminar, conferences, and symposium on environmental issues (Chunkao,1982), nature walk (Chelliah, 1982), slide and film shows (Kwik, 1982; Chellaih,1982; and Patankar, 2000), nature and community awareness programmes (Pardiwala, 2005), environmental games (Kwik, 1982; Mohd,1982; Patankar, 2000), rural child-to-child programme (Pardiwala, 2005) and mass environmental literacy programme, environmental conservation campaigns, nature oriented co-curricular programmes in schools (Bhattacharya, 1982; Vyas, 2003; Pandey,2003) etc., were also suggested by the eminent persons, environmentalists and educationist for generating environmental awareness and consciousness.

Osborne (1982), Desh Bandhu (1982), Swami (1998) have emphasized the mass movements on environmental issues as effective tool for enhancing environmental awareness among people.

Armstrong and Impara (1992) found positive impact of environmental education programmes on knowledge and behaviour of the students. Patel et al., (1995) indicated that the administration of the special Environmental Awareness Programme (EAP) on secondary school teachers was found significantly effective in enriching their environmental awareness. Dutt (1998) revealed that for inculcating awareness of environmental issues, among students, an album on nature could be prepared with the help of students, which emphasises the beauty and wonders of nature.

Fatma (2004) suggested that nearby the cities and township special environmental education centers should be established in which environmental education might be given to people in natural conditions.

Pardiwala (2005) revealed that, “unfortunately, the much-needed bonding between people and nature cannot be taught or learned through a text book within the four walls of a class-room. Human beings must be taught the art of living environmentally sustainable lives right from early childhood”.

Environmental Education is a way of implementing the goals of environmental protection. Environmental Education is not a separate brand of science or subject of study. Ultimate aim of environmental education is to develop responsible environmental behavior. It is believed that

environmental education is linked to environmental behavior (Palmer 1998; and Wilson 1996). It is believed that education leads to greater awareness and behavior change that ultimately improves environmental behavior. Thus, these researchers believe that the primary goal of EE should be to encourage people to engage in environmental issues. According to the researchers (Disinger 1982; Marcinkowski 1987; Zelezny 1999), programmes that target adolescents and are longer in duration tend to be more effective in changing environmental behavior of the participants.

Responsible environmental behaviour is willingness of a person to take an active part in environmental issues. To a large extent it is a reflection of a person understands of environmental issues and his or her views towards them. Basically, environmentally responsible behaviour involves both individual actions and group actions Individual actions include use of biodegradable, recycle glass bottles or jars or aluminium cans. Group actions include joining in community cleanup efforts and car pooling etc.

SIGNIFICANCE

The whole world attention is now focused on the state of environment degradation brought about by developments in science and technology and the need to satisfy the demands of the growing population.

Despite considerable global efforts made by representatives from all the sections of society, the conservation of natural resources has failed to keep pace with environmental degradation. The latest information furnished by Earth II summit, September 2002 reveals a planet still in the need of intensive care. Every nation has right to develop enrich its economy but that should not be at the cost of environment. There should be compatibility between economy and ecology.

The development should be sustainable where utilization and conservation of resources should be simultaneous. Poverty, Population and Pollution are the three P's pressurizing planets life support system by creating environmental crisis globally threatening our ability to achieve sustainable development. The action of an individual or society that has an impact on other societies contributes to global environmental issues. The basic question underlying all the global environmental issues is a question of awareness and behavior.

It is fundamentally concerned with the kind of people we are, our awareness about environment and the behavior we hold towards environment to make world a better place to live in. (Willard et al 1976).

A tenet of environmental education is that humans use ecosystem, exists in complex interactions with ecosystems, are affected by ecosystem, and are ultimately accountable for their effect on ecosystem (Willard

1976). In the name of development we have started distancing ourselves from nature. Due to rapid industrialization and urbanization, we have lost our relationship with environment. At this juncture, when the nature is fighting a lost battle against its degradation and experiencing broken relationship with mankind, what on earth are we doing by being a part of it? We can revive this relationship by environmental education.

Environmental education is to mind is not just awareness, it is far more. It is development of the behavior to make world a better place to live in, to be aware of what is happening around and above all to act without fear. A primary goal of environmental education is the development of responsible environmental behavior in citizens, both as in individuals and as societal groups (Ramsey and Hungerford, 1989).

In the backdrop of the above the investigator propose to make an attempt to find out the responsible environmental behavior among technical and non technical college students.

OBJECTIVES

- 1) To explore the responsible environmental behavior of college students pursuing technical courses.
- 2) To explore the responsible environmental behavior of college students pursuing non technical courses.
- 3) To compare the responsible environmental behavior of college students pursuing technical and non technical courses.

HYPOTHESES

- 1) There is no significant difference in the responsible environmental behavior of college students pursuing technical and non technical courses

DELIMITATIONS

- The study has been confined to the college students enrolled in Technical Courses such as Engineering, Computer Sciences and Paramedical Courses and Non Technical course such as Humanities, Education and Management Courses.
- The study has been confined to Lovely Professional University, Jalandhar and Panjabi University, Patiala of Punjab.

DESIGN OF THE STUDY

The present study is descriptive in nature thus descriptive research method has been used by the investigator to collect the relevant information for the study.

Sample

The study has been conducted on three hundred students (300) which constitute the sample further bifurcated into seventy five (75) technical and seventy five (75) non technical college students. Seventy five (75) college students perusing technical courses and non technical courses each from Lovely Professional University, Phagwara and Seventy five (75) college students perusing technical courses and non technical courses each from Panjabi University, Patiala has been selected by stratified random sampling technique to make a total sample of 150 technical and 150 non technical students.

Tool Used

To the best of the investigators knowledge, there was no tool available to study the Responsible Environmental Behavior So, the investigator decided to construct the scale. It was designed by keeping in mind the objectives of the present study. Likert type, five (05) point scale has been developed by the investigator to study the responsible environmental behavior of technical and non technical students. For constructing the particular scale, the investigator consulted various books magazines, took expert's advices and took help from web sites on environmental education also. All these efforts helped the investigator to frame the first draft of the scale. After preparing the preliminary draft of 80 items, the scale was shown to various experts in the area of environmental education as well as measurement and evaluation. Experts were told to grammatical discrepancies and face validity. Out of eighty items, some items could not qualify for the criteria and were replaced by new items with the consent of the experts whereas some items were deleted. Finally 50 items out of eighty were finalized and the scale consist of fifty items with five option that is strongly agree, agree, don't know, disagree, strongly disagree with assigned numerical value of 5, 4, 3, 2, 1 respectively. In these response categories, the subject was required to select the most appropriate response category reflecting his/her behavior. To determine the validity of the questionnaire scale, the views of various research experts were taken in to considerations that belong to the field of education and language and research. All these efforts helped the investigator to frame the first draft of the scale. After preparing the preliminary draft, of 80 items the scale was shown to various experts in the area of education psychology measurement and evaluation. Finally 50 items were included in final draft of the scale. It is convenient to score items of scale manually hence; no scoring key has been developed. There were total fifty items with five alternatives each. A score of 5, 4, 3, 2, and 1 was awarded for responses strongly agree, agree, don't know, disagree and strongly disagree respectively. The

total score of an individual on the scale has been calculated on the basis of his responses on all the items included in the scale. The highest possible score in this scale has been 250 and the lowest possible score has been 50. Range of scores has been developed by calculating quartile value. The highest and the lowest score indicate the extremely favorable and extremely unfavorable responsible environmental behavior respectively. The scores in between the highest and the lowest indicate various degrees of favorable and unfavorable responsible environment behavior.

RESULTS AND INTERPRETATIONS

The following paragraph deals with the presentation of analysis and interpretation of data with reference to formulated research question based on the research objectives.

Result Pertaining to Responsible Environmental Behavior of College Students Pursuing Technical Courses

To achieve the above objective, mean was computed on the basis of the scores of college student's perusing technical courses which has been interpreted and represented in the table.

Table 1 Mean Score of College Students Perusing Technical Course

College Students	N	Mean
Technical	150	188.6

From table 1, it can be interpreted that the value for mean scores of the students perusing technical courses is (M =188.6). The mean score of the students pursuing technical courses (M =188.6) fell in the score range (150-199) of responsible environmental behavior scale which represented moderately responsible environmental behavior of technical students. Therefore it can be concluded that the students perusing technical courses possess moderate responsible environmental behavior.

Result Pertaining to Responsible Environmental Behavior of College Students Pursuing Non Technical Courses

To achieve the above objective, mean was computed on the basis of the scores of college students pursuing non technical courses which has been interpreted and represented in the table below.

Table 2 Mean Score of Students Pursuing Non-technical Courses

College students	N	Mean
Non-technical	150	204

From table 2, it can be interpreted that the value for mean scores of the students perusing non technical courses is (M =204). The mean score of the students pursuing non technical courses (M =204) fell in the score range (200-250) of responsible environmental behavior scale which represented extremely responsible environmental behavior of technical students. Therefore it can be concluded that the students perusing non technical courses possess extremely responsible environmental behavior.

Result Pertaining to Responsible Environmental Behavior of College Students Pursuing Technical and Non Technical Courses

To achieve the above objective, the hypothesis “There is no significant difference in the responsible environmental behavior of college students perusing technical and non technical courses” was framed . To test the hypothesis, mean value and t test was computed on the basis of the scores of college students perusing technical and non technical courses which has been interpreted and represented of the table.

Table 3 Mean Scores and SD of the Students Perusing Technical and Non Technical courses

College students	N	Mean	SD	S.Ed	t-Value	Result
Technical	150	188.6	28.75	2.949	5.24	Significant
Non Technical	150	204.06	21.87			

*** Significant at 0.01 level=2.59**

From the table 3, it can be interpreted that there exists significant difference in the environmental behavior of the technical and non technical students as the t-value (5.24) was more than the t table value (2.07) at 0.05 level of significance. The mean value of technical students of (M=188.6) was less than non technical students of (M=204.06) and was statistically significant. Therefore, it can be concluded that technical students and non technical students differ in their responsible

environmental behavior and non technical students surpassed technical students in their responsible environmental behavior.

CONCLUSIONS

- The students perusing technical courses possess moderate responsible environmental behavior.
- The student's perusing non technical courses possess extremely responsible environmental behavior.
- The technical students and non technical students differ in their responsible environmental behavior and non technical students surpassed technical students in their responsible environmental behavior.

RECOMMENDATIONS

The most outstanding characteristics of any research are that it may contribute something new to the development of the concerned. The present piece of the research has its recommendation for students and society. In the light of the findings of the study following recommendations are proposed:

- The students persuing non technical courses possess extremely responsible environmental behaviour which is commendable .The students persuing technical courses should be exposed to the opportunities for fostering high level of responsible environmental behaviour. The Environmentalisation of College Curriculum is the need of the hour. Environmental education should be made compulsory at college level and this can be done by environmentalisation of college curriculum. The curriculum of college should be amended and should be based on the following three components which are inter linked (i) Education about the environment as it is concerned with the knowledge of environment (ii) Education for the environment which is concerned with attitude and values for the environment (iii) Education through the environment using the environment as a resource for learning. Based on the above components either of these three approaches to the curriculum can be applied (a) infusion into the existing curricula (b) insertion of new course into study. (c) Framing
- There are certain opportunities for environmental education in all subjects. There are occasions when the subject educators can be explicitly environmental in their emphasis and in their contribution to learning.. When teacher work as a scientist, mathematician or historian, they if willing can also venture out in other

disciplines that have also got a contribution to make to the things related to the environment. Teachers recognize the boundaries of what they can do from their particular expertise, but they can also recognize and acknowledge in their teaching, the contributions that the history teachers, the math teacher, the social studies teacher etc could also make to those same environmental issues. When this recognition exists and there is a good will in colleagues and in the institutional administration, there is an opportunity to organize environmental junctions. An environmental junction is when there is a meeting of people from different disciplines that relate to an environmental issue. So when a science class invites a history teacher or a math teacher to give their comments on the issue it has been considering or when teachers from different discipline team teach or when a class sets out to present their learning on an issue to another group in the institution, environmental junction is occurring.

- Lecture and Lecture Demonstration Method, Group Discussion , Role Play , Field Studies, Problems Solving ,Workshops,Survey Projects,Biizz Sessions , Brainstorming etc can be used as transactional strategies.These methods can be used for free exchange of knowledge, ideas and opinions among trainer and trainees. It can be used to examine issues in depth, explore alternative opinions and develop communication skills, enhance improvement of knowledge, changing attitude and forming opinions.
- The field of environmental education out of teacher education institution is broad and eclectic. Environmental education out of college education is usually defined as education that occurs in parks museum, forest, sanctuaries, camps, communities and home when the experiences are not of a formal institution based program. It also includes mass media including television, radio, newspaper and magazines which can be used at these sites. Educators can provide students opportunity to participate in outdoor pursuits classes and program which can provide opportunity to all for challenge, adventure and excitement. Perhaps most of all, the outdoor experience offers all of us a chance to explore and shape attitude towards environment.
- Research studies suggest that attitudes of individuals are frequently modeled after the attitude of others. Since in most of the teacher training institution; the students are expected to stay back for 6 to 7 hours a day a coordinated institutional environmental program that focuses on preventing and solving environmental problems at the institution site can provide an excellent model of attitudes for students to emulate. Elements that should be include in the program include (a) set of policies (b)

procedure for identification of problems (c) action plants to alleviate problems (d) plans for monitoring actions (e) evaluation policies.

- Environmental Education aims at making learner aware of the interrelationship between man and environment and inculcating in them the rational attitude towards environmental pollution problems . CCA plays a very important role in conveying the elements of education and environmental education is not an exception. As we are aware that it takes a long time for any new educational concern to become an integral part of institutional syllabi and text books and also all the components of environmental education could not be integrated in the textbook of various subjects taught in the teacher education program because of the limitations of subjects concerned. For the transaction of those leftover components, CCA has been an effective medium and even those components which are there in the textbook, can be communicated much more effectively through CCA.

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