

## Chapter 5

### SUMMARY AND CONCLUSION

#### 5.1 Introduction

Over the last 50 years, environmental education (EE) has been one of the main interests of school organizations, local communities, the private sector, and local governments. These organizations demand that schools include EE in the curriculum of K-12 education, but lack a plan to establish an environmental education curriculum that unifies an effective approach to teaching environmental education. Most programs, according to the North American Association of Environmental Educators (NAAEE) (Ballard & Pandya, 1990), rely on a series of environmental activities that can be incorporated into any course within an existing curriculum. Such approaches are called “an interdisciplinary infusion of environmental topics” and as add-ins or add-ons crowd an already full curriculum (Disinger, 1997). The *Intergovernmental Conference on Environmental Education* (UNESCO, 1978) recommended the primary categories of environmental education curriculum goals and objectives of: (a) awareness, (b) knowledge, (c) attitudes, (d) skills, and (e) participation. While these components have been cited in many documents, articles, and books in the last decade (Athman & Monroe, 2000; Callicott & Rocha, 1996; Day & Monroe, 2000; Gough, 1997; Palmer, 1998), not all authors agree upon the degree of importance of one objective over the other. However, there are reoccurring concepts that are mentioned frequently in the literature, specifically *awareness*, *knowledge*, and *attitudes* (Palmer, 1998). The difference in objectives and goals stated by different authors, groups, and organizations do not present a unified approach to environmental curriculum development. As discussed by Gough (1997), EE curricula have been too abstract and fragmentary, and have been unsuccessful in preparing individuals to face changing and complex realities of environmental problems. According to Orr (1992), EE is often regarded as an extra in the curriculum, not as a core requirement. In his opinion, “all education is

environmental education” (p.90). This statement may sound radical and biased; however it allows the opportunity to see education as relevant to the challenge of building a sustainable and environmentally conscience society. Such an approach to curriculum has been documented in the works of curricularists from the reconstructivist school of thought. As early as 1932, George Counts urged educators to utilize education as an agent of change in order to address social issues of his day. Ornstein and Hunkins (1998) drew a parallel of Counts’ position on the role of education in social reform to those of modern day proponents of social reconstructionism as society faces the challenges of “racial, ethnic and sexual inequality; poverty, unemployment and welfare; computers and technology; political oppression and war; environmental pollution; disease; hunger; AIDS; and depletion of the earth’s resources”. The role of the teacher, according to social reconstructivist curriculum planners is to serve as an agent of change and reform by making students aware of problems confronting humanity and by creating opportunities for students to solve such problems. In order to accomplish this, how should the importance of awareness, knowledge, or attitude be emphasized? Madsen (1996) explained that environmental awareness, knowledge, and commitment, are necessary to achieve environmental protection and restoration. Madsen emphasized that the public must have a basic grasp of environmental problems. Leaders in the field of environmental education must not only have extensive knowledge and understanding of environmental problems, but must have environmental awareness to solve these problems. They must be committed “to initiate action, based upon knowledge and understanding” (Madsen, 1996).

A review of related literature shows that there are some researches done in the area of environmental curriculum [Devi Susila, 1990] Environmental knowledge, environmental attitude and perception [Parharaj. B, 1991] analysis of environmental awareness and responsibilities among university students (Selvam.V ,and Abdul Nazar. N., 2011) cultural differences in the environmental world view of children (Jelle Boeve - De Pauw, Peter Vanpetegem) Planting the seeds of environment awareness (Leslie Pashby and Joanna Weis, 2009). The school curriculum and environmental education (Maria Del Carmen Conde and J. Samuel Sanchez 2010).The relationship between environmental moral reasoning and

environmental attitude of pre-service science teachers (Busra Tuncay, Oygul Yilmaz-Tuzun, Gaye Tuncor-Teksoz, 2011) etc. However no studies have been conducted yet to measure the level of environmental awareness what environmental ethics need to be maintained among the secondary and junior college students? Every child born on this earth has the right to descend to this earth which is healthy, pollution free, disease free and clean. As the researcher grew up she has observed various changes in the environment such as unusual rains to heavy rains leading to water logging, extreme winter to mild winters, extreme heat and so on. The researcher observes severe changes in the global environment, due to ozone depletion, increasing in carbon level, melting of ice caps, excess of snowing, severe storm, tsunami etc. occurring due to change in the global climate. It is shocking to know that, if this is the state of environment which will be maintained by mankind than in the very near future, the life of mankind will be shortened. Average life expectancy will be only around 30 years. A child may look like a teenager, no human hair will be there on their body, they will get wrinkles very fast as the ozone layer might have got depleted and alpha rays and beta rays of the sun will be directly reaching the earth's surface, there will be no trees and plants existing on the earth; no rainfall; the surface of the earth will look like a parched desert, no traces of water anywhere, people will have to depend on artificially produced food and water to satisfy their needs.

Even today we find due to changes in the environment food products and vegetables do not have the same taste as in the olden days. The basmati rice, considered to be best flavoured and scented by nature has lost its fragrance. So, now it is the time that every citizen in our country wakes up and thinks that our future cannot be linked to our past. The new inventions, discoveries, globalisation, industrialisation, urbanisation which is giving us comfort are going to shake the foundation of human life. The human society as a whole and the economy is on the verge of destruction and going to be eroded so we have to change our attitude and views as we are aware of the saying that "if wealth is lost something is lost; if health is lost everything is lost". The present generation is still not aware of the fact that if we do not have a healthy environment our survival is at danger. Crucial time has come to realize the changing pattern of the environment of the present day. A

number of recent scientific – techno factors along with exploitation of natural resources by human activities have endangered our survival on this earth. At least at this junction, we have to alert the students about the deterioration of environment or we will lose all boon of natural wealth bestowed on us. So we should conserve our environmental resources. Hence the main aim of inculcating environmental ethics among the population is to generate a society who has knowledge of environment and maintain sustainable development. Human society has two major challenges such as: 1) Protection of the quality of the environment from further deterioration and 2) Gradual restoration of the quality of living environment. Nowadays, majority of the world population is encountering different problems related with the nature and attempting to save nature. On the other hand, we even today do not try to understand our local problems related to nature. So, the awareness about environment is becoming a global talk, but local people concerned to the environmental crisis and remedial measures are either ignorant or irresponsible. There is an urgent and indispensable need to inculcate EVS for the present day students at all levels for the development of an eco-friendly environment.

Ultimately, this process rests in the hands of well-educated communities that can train their new generations toward becoming responsible environmental citizens. Curriculum theorists, including John Dewey, have long advocated the solution of social problems, along with the development of responsible members of a democracy, as the foundations of curriculum (Pinar, Reynolds, Slattery, & Taubman, 2000). Therefore, the role of education system is to assume this responsibility. The focus of the current study raises the following questions. How well-prepared are the instructors in the education system in assuming this responsibility? How sensitive are current environmental curricula to the needs of the community? How can the concepts of awareness, knowledge, and attitude be used to improve curriculum objectives in environmental education? Against this backdrop the researcher felt the need to conduct a research on environmental awareness and environmental ethics of school teachers of Allahabad.

## **5.2 Statement of the Problem**

In the light of above discussions the present problem can be stated as:

*“A study of environmental awareness and environmental ethics among the primary and secondary school teachers of Allahabad”.*

## **5.3 Objectives of the Study**

1. To study the environmental awareness of the primary and secondary school teachers of Allahabad.
2. To study the environmental ethics of the primary and secondary school teachers of Allahabad.
3. To find out the relationship between the environmental awareness and environmental ethics of the primary and secondary school teachers of Allahabad.

## **5.4 Hypotheses of the Study**

- H<sub>0</sub> 1. There is no significant difference in the environmental awareness of the primary and secondary school teachers of Allahabad.
- H<sub>0</sub> 2. There is no significant difference in the environmental ethics of the primary and secondary school teachers of Allahabad.
- H<sub>0</sub> 3. There is no significant the relationship between the environmental awareness and environmental ethics of the primary and secondary school teachers of Allahabad.

## **5.5 Method**

The present study belongs to the category of descriptive field survey type of research and includes composite characteristics of causal comparative and correlational survey research.

## **5.6 Population**

The population of the study comprised of all the primary and secondary teachers teaching in primary and secondary schools of Allahabad with respect to types of school, area and gender constituted the population of the present study.

## **5.7 Sample and Sampling Procedure**

The sample of the study has been comprised of 473 teachers teaching in primary and secondary schools of Allahabad. For selecting the sample stratified random technique has been used.

## **5.8 Tools Used**

1. Environmental ethics scale constructed and standardised by Haseen Taj.
2. Environmental awareness test by Vipinder Nagra

## **5.9 Statistical Tools**

The statistical tools used for the analysis of data are as follows:

- i. Descriptive statistics
- ii. t-test statistics
- iii. Correlation
- iv. ANOVA

## **5.10 Findings of the Study**

1. There is difference in the level of environmental awareness of primary and secondary teachers. There is statistically significant difference in the 'Environmental Awareness' among primary teacher of school.
2. On the basis of above description it can be concluded that there is difference in the level of environmental ethics of primary and secondary teachers. There is statistically significant difference in the 'Environmental Ethics' among primary and secondary teacher of school. The direction of difference is in favour of primary teachers.

3. There is significant and positive relationship between Environmental Awareness and Environmental Ethics scores of teachers. It can be concluded that the teachers having environmental ethics have favourable awareness towards environment. It also indicates that there is significant and positive relationship between the environmental ethics and environmental awareness of primary as well secondary teachers of Allahabad.

### **5.11 Implications of the Study**

The results of this study have some implications in developing effective EE policy for Allahabad:

- Effective environmental courses should be developed for each level of education-from primary to higher education- which aims to develop students' environmental knowledge related with daily life rather than memorization of concepts and generalizations.
- Media also should focus on facilitating the transmission of environmental information and promoting public awareness about local environmental problems.
- Schools and media should encourage people to think about if everyone takes his responsibility toward environmental problems; these problems can be solved or prevented.
- Males should be more encouraged to develop projects related with local environmental problems in EE courses.
- Environmental education courses in Education Faculties of Universities should be organized which focus on human, environment, technology and development relation accurately and emphasize concrete reality about local environmental issues.

### **5.12 Recommendation of the Study**

On the basis of findings, the investigator has given the following recommendations to educational administrators

- The same study can be repeated with a larger sample from elementary education departments of different universities in different regions for the sake of generalizing results.
- The same study can be repeated with primary and secondary school students to compare differences between students and pre-service teachers.
- The influence of local and global issues on EE can be studied by conducting experimental research. This can be achieved by applying pre and post tests in the courses that include local and global issues in order to measure the concerns and attitudes of the participants.
- The same study can be broadening into the direction that whether local and global issues have impact upon the behavior of the participants. To protect and conserve the Environment,

Emphasis should be given to Environmental Education in both formal and non-formal system of education. In formal system of education, teachers play a very significant role in developing a greater awareness about environment among students. This calls for a radical change in the way we think, live and work. It therefore goes without saying that sustainable development calls for a paradigm shift in our educational system right from school level to university level. In fact, it cannot be thought of achieving a sustainable way of life without an appropriate educational system designed to internalize the principles of sustainability in the life and work of our youth. Because of the government initiative to make Environmental Education an integral part of formal education through its national curriculum framework, considerable work is being done in the direction of integrating environmental concepts into the existing curriculum, developing new strategies, preparing instructional material for effective implementation of Environmental Education in the formal system.

### **5.13 Suggestions for Further Study**

The researcher recommended the following suggestions for further study:

1. A study should be conducted on relationship of Academic Achievement and Adjustment Factor for other grade students with environmental ethics and awareness.
2. Other personal variable like family background and school related background can be taken in to consideration.
3. Study should be planning to measure the environmental awareness and ethic of general citizen.