6.1 Restatement of the Problem

"A Study of Environmental Awareness of Secondary Teacher Trainees in Relation to their Demographic Variables, Personality Factors, Self-Concept and Study Habits".

6.2 Variables

The independent and dependent variables of the study are as follows:

**Demographic Variables**

i. Personality Factors

ii. Self-concept

iii. Study Habits

**Dependent Variable**

i. Environmental Awareness of Secondary Teacher Trainees

6.3 General Objectives

The following are the general objectives of the study:

1. To study the interaction effect of personality factor, self-concept and study habits of secondary teacher trainees on their environmental awareness on the entire sample;
2. To study the interaction effect of personality factor, self-concept and study habits of secondary teacher trainees on their environmental awareness among male teacher trainees;

3. To study the interaction effect of personality factor, self-concept and study habits of secondary teacher trainees on their environmental awareness among female teacher trainees;

4. To study the interaction effect of personality factor, self-concept and study habits of secondary teacher trainees on their environmental awareness among urban teacher trainees; and

5. To study the interaction effect of personality factor, self-concept and study habits of secondary teacher trainees on their environmental awareness among rural teacher trainees.

6.4 Specific Objectives

The specific objectives of the study are as follows:

Entire Sample

1. To study the effect of personality factors of teacher trainees on their environmental awareness on the entire sample.

2. To study the effect of self-concept of teacher trainees on their environmental awareness on the entire sample.
3. To study the effect of study habits of teacher trainees on their environmental awareness on the entire sample.

4. To study the interaction effect of personality factor and self-concept of teacher trainees on their environmental awareness in the entire sample.

5. To study the interaction effect of self-concept and study habits of teacher trainees on their environmental awareness in the entire sample.

6. To study the interaction effect of personality factor and study habits of teacher trainees on their environmental awareness in the entire sample.

7. To study the interaction effect of personality factor, self-concept and study habits of teacher trainees on their environmental awareness in the entire sample.

8. To study the effect of personality factors of male teacher trainees on their environmental awareness.

9. To study the effect of self-concept of male teacher trainees on their environmental awareness.

10. To study the effect of study habits of male teacher trainees on their environmental awareness.

11. To study the interaction effect of personality factor and self-concept of male teacher trainees on their environmental awareness.

Male Teacher Trainees

8. To study the effect of personality factors of male teacher trainees on their environmental awareness.

9. To study the effect of self-concept of male teacher trainees on their environmental awareness.

10. To study the effect of study habits of male teacher trainees on their environmental awareness.

11. To study the interaction effect of personality factor and self-concept of male teacher trainees on their environmental awareness.
12. To study the interaction effect of self-concept and study habits of male teacher trainees on their environmental awareness.

13. To study the interaction effect of personality factor and study habits of male teacher trainees on their environmental awareness.

14. To study the interaction effect of personality factor, self-concept and study habits of male teacher trainees on their environmental awareness.

Female Teacher Trainees

15. To study the effect of personality factors of female teacher trainees on their environmental awareness.

16. To study the effect of self-concept of female teacher trainees on their environmental awareness.

17. To study the effect of study habits of female teacher trainees on their environmental awareness.

18. To study the interaction effect of personality factor and self-concept of female teacher trainees on their environmental awareness.

19. To study the interaction effect of self-concept and study habits of female teacher trainees on their environmental awareness.

20. To study the interaction effect of personality factor and study habits of female teacher trainees on their environmental awareness.
21. To study the interaction effect of personality factor, self-concept and study habits of female teacher trainees on their environmental awareness.

*Urban Teacher Trainees*

22. To study the effect of personality factors of urban teacher trainees on their environmental awareness.

23. To study the effect of self-concept of urban teacher trainees on their environmental awareness.

24. To study the effect of study habits of urban teacher trainees on their environmental awareness.

25. To study the interaction effect of personality factor and self-concept of urban teacher trainees on their environmental awareness.

26. To study the interaction effect of self-concept and study habits of urban teacher trainees on their environmental awareness.

27. To study the interaction effect of personality factor and study habits of urban teacher trainees on their environmental awareness.

28. To study the interaction effect of personality factor, self-concept and study habits of urban teacher trainees on their environmental awareness.

*Rural Teacher Trainees*

29. To study the effect of personality factors of rural teacher trainees on their environmental awareness.

30. To study the effect of self-concept of rural teacher trainees on their environmental awareness.
31. To study the effect of study habits of rural teacher trainees on their environmental awareness.

32. To study the interaction effect of personality factor and self-concept of rural teacher trainees on their environmental awareness.

33. To study the interaction effect of self-concept and study habits of rural teacher trainees on their environmental awareness.

34. To study the interaction effect of personality factor and study habits of rural teacher trainees on their environmental awareness.

35. To study the interaction effect of personality factor, self-concept and study habits of rural teacher trainees on their environmental awareness.

6.5 Research Hypotheses

Keeping in view the above specific objectives, the following research hypotheses are framed:

Entire Sample

1. Effects of extroversion and introversion personality of teacher trainees differ significantly in terms of their influence on environmental awareness.

2. Effects of high and low self-concept of teacher trainees differ significantly in terms of their influence on environmental awareness.

3. Effects of high and low study habits of teacher trainees differ significantly in terms of their influence on environmental awareness.
4. Interaction effect of personality factors X self-concept of teacher trainees differ significantly in terms of their influence on environmental awareness.

5. Interaction effect of self-concept X study habits of teacher trainees differ significantly in terms of their influence on environmental awareness.

6. Interaction effect of personality factors X study habits of teacher trainees differ significantly in terms of their influence on environmental awareness.

7. Interaction effect of personality factors X self-concept X study habits of teacher trainees differ significantly in terms of their influence on environmental awareness.

Male Teacher Trainees

8. Effects of extroversion and introversion personality of male teacher trainees differ significantly in terms of their influence on environmental awareness.

9. Effects of high and low self-concept of male teacher trainees differ significantly in terms of their influence on environmental awareness.

10. Effects of high and low study habits of male teacher trainees differ significantly in terms of their influence on environmental awareness.

11. Interaction effect of personality factors X self-concept of male teacher trainees differ significantly in terms of their influence on environmental awareness.
12. Interaction effect of self-concept X study habits of male teacher trainees differ significantly in terms of their influence on environmental awareness.

13. Interaction effect of personality factors X study habits of male teacher trainees differ significantly in terms of their influence on environmental awareness.

14. Interaction effect of personality factors X self-concept X study habits of male teacher trainees differ significantly in terms of their influence on environmental awareness.

Female Teacher Trainees

15. Effects of extroversion and introversion personality of female teacher trainees differ significantly in terms of their influence on environmental awareness.

16. Effects of high and low self-concept of female teacher trainees differ significantly in terms of their influence on environmental awareness.

17. Effects of high and low study habits of female teacher trainees differ significantly in terms of their influence on environmental awareness.

18. Interaction effect of personality factors X self-concept of female teacher trainees differ significantly in terms of their influence on environmental awareness.

19. Interaction effect of self-concept X study habits of female teacher trainees differ significantly in terms of their influence on environmental awareness.
20. Interaction effect of personality factors X study habits of female teacher trainees differ significantly in terms of their influence on environmental awareness.

21. Interaction effect of personality factors X self-concept X study habits of female teacher trainees differ significantly in terms of their influence on environmental awareness.

22. Effects of extroversion and introversion personality of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

23. Effects of high and low self-concept of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

24. Effects of high and low study habits of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

25. Interaction effect of personality factors X self-concept of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

26. Interaction effect of self-concept X study habits of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

27. Interaction effect of personality factors X study habits of urban teacher trainees differ significantly in terms of their influence on environmental awareness.

28. Interaction effect of personality factors X self-concept X study habits of urban teacher trainees differ
significantly in terms of their influence on environmental awareness.

*Rural Teacher Trainees*

29. Effects of extroversion and introversion personality of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

30. Effects of high and low self-concept of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

31. Effects of high and low study habits of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

32. Interaction effect of personality factors X self-concept of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

33. Interaction effect of self-concept X study habits of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

34. Interaction effect of personality factors X study habits of rural teacher trainees differ significantly in terms of their influence on environmental awareness.

35. Interaction effect of personality factors X self-concept X study habits of rural teacher trainees differ significantly in terms of their influence on environmental awareness.
6.6 Design of the Study

6.6.1 Method of Research

Ex Post Facto research design is used in the proposed study (Kerlinger, 1964). Ex Post Facto research is systematic empirical inquiry in which the investigator does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables.

6.6.2 Tools Used

For present study investigator used the following tools. They are:

1. Environmental Awareness Test - Constructed and Standardized by investigator.
2. Personality Factory - Cattell's 16 Personality Factor.
3. Self-concept Scale - Constructed and standardized by investigator
4. Study Habits - Constructed by Mukhopadhaya and Sansanwal

6.6.3 The Sample

Using random sampling technique about 400 secondary teacher trainees in the jurisdiction of Karnataka University was selected. While selecting the sample due representation is given to
male and female teacher trainees; urban and rural teacher trainees.

6.6.4 Collection of Data

Data relating to environmental awareness among secondary teacher trainees were obtained by administering environmental awareness test. The demographic data pertaining to personality factor, self-concept and study habits of teacher trainees were collected through administering different tools. The investigator personally visited the selected secondary teacher training colleges in the jurisdiction of Karnatak University to collect the essential data. The collected data are tabulated and analyzed in accordance with the objectives of the study.

6.6.5 Statistical Techniques Used

In pursuance of the objectives of the study as well as the research hypotheses, the interaction effect of selected variables, namely, personality factor, self-concept and study habits on environmental awareness among secondary teacher trainees is studied through 3-way Analysis of Variance (ANOVA). In order to identify the exact treatment group, the multiple comparison of means is carried out using Scheffe's Test.

6.7 Major Findings

Findings-Teacher trainees

1. The secondary school teacher trainees with extroversion and introversion personality factor do not differ significantly in respect of
their proneness to environmental awareness. However, the means of teacher trainees with extroversion and introversion personality factor are 45.5048 and 45.5365 respectively. Two mean clearly reveals that secondary school teacher trainees with extroversion and introversion personality factor have a similar mean. Therefore, it can be interpreted that teacher trainees with extroversion and introversion personality factor are similar prone to the environmental awareness.

2. The secondary school teacher trainees with higher and lower self concept differ significantly in respect of their proneness to environmental awareness. However, the means of teacher trainees with higher and lower self concept are 46.3536 and 44.8311 respectively. Two mean clearly reveals that teacher trainees with higher self concept have a greater mean that of the teacher trainees with lower self concept. Therefore, it can be interpreted that teacher trainees with higher self concept are more prone to the environmental awareness than those teacher trainees with lower self concept.

3. The secondary school teacher trainees with lower and higher study habits do not differ significantly in respect of their proneness to environmental awareness. However, the means of teacher trainees with higher and lower study habits are 45.7386 and 45.3482 respectively. Two mean clearly reveals that teacher trainees with lower and higher study habits have a smaller study habits. Therefore,
it can be interpreted that teacher trainees with lower and higher study habits are similar prone to the environmental awareness.

4. Teacher trainees with extroversion/introversion personality factor and lower/higher self concept differ significantly in respect to their proneness to environmental awareness.

5. Teacher trainees with extroversion/introversion personality factor and lower/higher study habits differ significantly in respect to their proneness to environmental awareness.

6. Teacher trainees with lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

7. Teacher trainees with extroversion/introversion personality factor, lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

Findings-Male Teacher trainees

1. The secondary school male teacher trainees with extroversion and introversion personality factor differ significantly in respect of their proneness to environmental awareness. However, the means of male teacher trainees with extroversion and introversion personality factor are 41.4444 and 38.3725 respectively. Two mean clearly reveal that male teacher trainees with extroversion personality factor have a greater mean that of the teacher trainees with introversion personality
factor. Therefore, it can be interpreted that male teacher trainees with extroversion personality factor are more prone to the environmental awareness than those male teacher trainees with introversion personality factor.

2. The secondary school male teacher trainees with higher and lower self concept differ significantly in respect of their proneness to environmental awareness. However, the means of male teacher trainees with higher and lower self concept are 41.7031 and 37.9800 respectively. Two mean clearly reveal that male teacher trainees with lower self concept have a greater mean than of the teacher trainees with higher self concept. Therefore, it can be interpreted that male teacher trainees with lower self concept are more prone to the environmental awareness than those male teacher trainees with higher self concept.

3. The secondary school male teacher trainees with lower and higher study habits differ significantly in respect of their proneness to environmental awareness. However, the means of male teacher trainees with higher and lower study habits are 40.8750 and 39.0400 respectively. Two mean clearly reveal that male teacher trainees with higher study habits have a greater mean than of the teacher trainees with lower study habits. Therefore, it can be interpreted that male teacher trainees with higher study habits are more prone to the...
environmental awareness than those male teacher trainees with lower study habits.

4. Male teacher trainees with extroversion/introversion personality factor and lower/higher self concept do not differ significantly in respect to their proneness to environmental awareness.

5. Male teacher trainees with extroversion/introversion personality factor and lower/higher study habits differ significantly in respect to their proneness to environmental awareness.

6. Male teacher trainees with lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

7. Male teacher trainees with extroversion/introversion personality factor, lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

**Findings-Female Teacher trainees**

1. The secondary school female teacher trainees with extroversion and introversion personality factor differ significantly in respect of their proneness to environmental awareness. However, the means of female teacher trainees with extroversion and introversion personality factor are 47.2690 and 48.1277 respectively. Two mean clearly reveal that female teacher trainees with extroversion personality factor have a greater mean that of the teacher trainees with introversion.
personality factor. Therefore, it can be interpreted that female teacher trainees with extroversion personality factor are more prone to the environmental awareness than those female teacher trainees with introversion personality factor.

2. The secondary school female teacher trainees with higher and lower self concept differ significantly in respect of their proneness to environmental awareness. However, the means of female teacher trainees with higher and lower self concept are 48.8974 and 46.8580 respectively. Two mean clearly reveal that female teacher trainees with lower self concept have a greater mean that of the teacher trainees with higher self concept. Therefore, it can be interpreted that female teacher trainees with lower self concept are more prone to the environmental awareness than those female teacher trainees with higher self concept.

3. The secondary school female teacher trainees with higher and lower study habits differ significantly in respect of their proneness to environmental awareness. However, the means of female teacher trainees with higher and lower study habits are 48.5179 and 47.1609 respectively. Two mean clearly reveal that female teacher trainees with higher study habits have a greater mean that of the teacher trainees with lower study habits. Therefore, it can be interpreted that female teacher trainees with higher study habits are more prone to
the environmental awareness than those female teacher trainees with lower study habits.

4. Female teacher trainees with extroversion/introversion personality factor and lower/higher self concept differ significantly in respect to their proneness to environmental awareness.

5. Female teacher trainees with extroversion/introversion personality factor and lower/higher study habits differ significantly in respect to their proneness to environmental awareness.

6. Female teacher trainees with lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

7. Female teacher trainees with extroversion/introversion personality factor, lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

**Findings-Urban school teacher trainees**

1. The urban secondary school teacher trainees with extroversion and introversion personality factor differ significantly in respect of their proneness to environmental awareness. However, the means of urban school teacher trainees with extroversion and introversion personality factor are 48.9327 and 50.1354 respectively. Two mean clearly reveal that urban school teacher trainees with introversion personality factor have a greater mean that of the teacher trainees with extroversion.
personality factor. Therefore, it can be interpreted that urban school teacher trainees with introversion personality factor are more prone to the environmental awareness than those urban school teacher trainees with extroversion personality factor.

2. The urban secondary school teacher trainees with higher and lower self concept differ significantly in respect of their proneness to environmental awareness. However, the means of urban school teacher trainees with higher and lower self concept are 49.9222 and 49.1727 respectively. Two mean clearly reveal that urban school teacher trainees with higher self concept have a greater mean that of the teacher trainees with lower self concept. Therefore, it can be interpreted that urban school teacher trainees with higher self concept are more prone to the environmental awareness than those urban school teacher trainees with lower self concept.

3. The urban secondary school trainees with higher and lower study habits differ significantly in respect of their proneness to environmental awareness. However, the means of urban school teacher trainees with higher and lower study habits are 49.5172 and 49.5044 respectively. Two mean clearly reveal that urban school teacher trainees with higher study habits have a greater mean that of the teacher trainees with lower study habits. Therefore, it can be interpreted that urban school teacher trainees with higher study
habits are more prone to the environmental awareness than those urban school teacher trainees with lower study habits.

4. Urban school teacher trainees with extroversion/introversion personality factor and lower/higher self concept differ significantly in respect to their proneness to environmental awareness.

5. Urban school teacher trainees with extroversion/introversion personality factor and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

6. Urban school teacher trainees with lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

7. Urban school teacher trainees with extroversion/introversion personality factor, lower/higher self concept and lower/higher study habits differ significantly in respect to their proneness to environmental awareness.

**Findings-Rural school teacher trainees**

1. The rural secondary school trainees with extroversion and introversion personality factor differ significantly in respect of their proneness to environmental awareness. However, the means of rural school teacher trainees with extroversion and introversion personality factor are 42.0769 and 40.9375 respectively. Two mean clearly reveal that rural school teacher trainees with extroversion personality factor
have a greater mean that of the teacher trainees with introversion personality factor. Therefore, it can be interpreted that rural school teacher trainees with extroversion personality factor are more prone to the environmental awareness than those rural school teacher trainees with introversion personality factor.

2. The rural secondary school teacher trainees with higher and lower self concept differ significantly in respect of their proneness to environmental awareness. However, the means of rural school teacher trainees with higher and lower self concept are 42.8242 and 40.4495 respectively. Two mean clearly reveal that rural school teacher trainees with higher self concept have a greater mean that of the teacher trainees with lower self concept. Therefore, it can be interpreted that rural school teacher trainees with higher self concept are more prone to the environmental awareness than those rural school teacher trainees with lower self concept.

3. The rural secondary school trainees with higher and lower study habits do not differ significantly in respect of their proneness to environmental awareness. However, the means of rural school teacher trainees with higher and lower study habits are 42.0449 and 41.1171 respectively. Two mean clearly reveal that rural school teacher trainees with higher study habits have a greater mean that of the teacher trainees with lower study habits. Therefore, it can be interpreted that rural school teacher trainees with higher study habits
are little more prone to the environmental awareness than those rural school teacher trainees with lower study habits.

4. Rural school teacher trainees with extroversion/introversion personality factor and lower/higher self concept differ significantly in respect to their proneness to environmental awareness.

5. Rural school teacher trainees with extroversion/introversion personality factor and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

6. Rural school teacher trainees with lower/higher self concept and lower/higher study habits do not differ significantly in respect to their proneness to environmental awareness.

7. Rural school teacher trainees with extroversion/introversion personality factor, lower/higher self concept and lower/higher study habits differ significantly in respect to their proneness to environmental awareness.

6.8 Educational Implications

In the present condition it is very essential to carry on research work to cover different aspects of environmental education and its awareness through different ways. Such attempt has been done by the investigator by creating environmental awareness, for the secondary teacher trainees.
Therefore, environmental awareness must find a place in school curriculum as the country is faced with a new challenge on account of the enormous environmental problems. The future generation must be educated to face the problems as well as to eradicate the problems and unless the younger generation is educated thus the country may have to face gloomy future.

Environmental education aims at creating awareness and developed rational attitude and practice the same in the future. In order to inculcate these ideas, the appropriate situation is the school. The school can help the child to gain correct knowledge by the teacher in the classroom. It is not only deals with a particular topic but is also related to the objectives of environmental education and at the same time it can achieve the objectives of teaching environmental education.

The future generation should be made aware of environmental problems during their formative years which will give a positive edge and direction to bring about change. This will require change in the present educational system and asset student / people perception and value so as to bring about changes in lifestyle and turn to use appropriate technology and compatible environment.

The result of the present study reveals that the higher secondary school children’s of different groups of Karnataka state have significant difference in an environmental awareness, attitude and practices test scores. Researcher has identified that knowledge (awareness), attitude
and practices about environmental issues, schooling, gender role, locality, intelligence, academic achievement, socio-economic status, personality factor, self-concept, study habit factor use related to the knowledge of environmental issues, and development of positive environmental awareness and formation of responsible environmental practices in preservation and conservation environment. A few researcher have tried to examine the relationship of certain variables with environmental awareness, attitude and practices and the present result findings quite resemble the previous research studies in the Indian context which bring out clearly the relationship between environmental awareness, attitude and practices with personality factors, self-concept, academic achievement. And it emphasized that the environmental awareness attitude and practices are needed at the school level.

The school going youngsters who would be future citizens are explained with various types of knowledge from various resources. It is the teacher in school, who has to make right choice of knowledge to meet the current need of the society even it is not there in the school curriculum. The thirst areas of knowledge are identified from time to time by various high school committees at local as well as at global level. One of the ways by the thirst areas of knowledge can reach the school children is through teacher who themselves are updated with the required knowledge. The teacher training institution can play an effective role by creation of environmental awareness, attitude and practices with
the current requirement. Hence, most of the country has realized the need for promoting environmental awareness in school children.

Thus, the related studies reviewed in fact show that there is variation in the Environmental awareness, attitude and practices among the individuals with different variables. The present study is an agreement with the previous studies done by different researchers.

6.9 Suggestions for Further Research

The following suggestions are given to be verified by future investigations:

1. The study needs to be examined on a larger sample of educational organizations for various strata, such as: nursery, primary, middle school, colleges and other educational institutions.

2. Studies may be conducted in different levels (primary, middle, high, trained, untrained, T. G. T. and P. G. T.) of teachers as well as the principals and other school personnel such as administrative staff.

3. A comparison may be made by further investigation in other Indian cities and States.

4. Students studying different subject such as science, literature, crafts, psychical education, etc., may differ in their level of environmental awareness. This needs further investigation.
5. A comparative study may be conducted on high and low environmental awareness groups of students.

6. Certain background variables such as education, income, religion, caste, and socio-economic status may be included in the study of Environmental awareness. Personality variables like self-ideal discrepancy, achievement motivation, self-concept, locus of control and dogmatism may also be taken into account while studying environmental awareness.