Chapter - 5

FINDINGS, IMPLICATIONS
& SUGGESTIONS
The aim of any research work is to find out an answer to the problem undertaken and the answer is generally stated in the form of conclusions. Without reaching at certain conclusions the entire research appears to be a futile labour. A researcher undertakes his research work in order to test the formed hypotheses and to achieve certain objectives. On the basis of the findings of his study, he accepts or rejects his hypotheses and draws certain conclusions.

In the present chapter an attempt has been made to present systematically the findings and conclusions resulting from this investigation. Results have been interpreted accordingly in the light of the previous research work done in the field. The chapter also includes the educational implications of the present study as well as offers suggestions for further research in this field of study.

5.1 FINDINGS OF THE STUDY

The chapter starts with the findings of the present investigation which are based upon the factual information found from the statistical analysis of the data. These findings are summarized here as under:

5.1.1 Comparisons among Groups in Respect of Different Dimensions of Attitude

Comparisons with regard to Health & Hygiene

College-wise comparisons with regard to attitude towards 'Health & Hygiene' show that the attitude of government college sub-groups and total group is significantly higher than the private college sub groups and total group at 0.01 level (Table 4.1 to 4.5).
Gender-wise comparisons reveal that male students (govt. colleges) are having more favourable attitude towards Health & Hygiene than the female students (Govt. colleges) at 0.01 level (Table 4.6). No significant mean differences emerged out in other sub-groups and total group (Tables 4.7 to 4.10).

Subject-wise comparisons show that science group (govt. colleges) students have favourable attitude towards Health & Hygiene than their arts counterparts at 0.01 level (Table 4.11). However, arts and science group (private colleges) students do not differ significantly in their attitude (Table 4.12). Arts and science group (male) students were also found to be almost similar in their attitude (Table 4.13). However, science group (female) students show significantly higher attitude than the arts group (female) students at 0.05 level (Table 4.14). Similarly, all science group students were found to possess significantly higher attitude than all arts group students at 0.05 level (Table 4.15).

Comparisons with regard to Wild Life

College-wise comparisons with respect to attitude towards 'Wild Life' show that government college (male) students have favourable attitude than the private college (male) students at 0.01 level (Table 4.1). However, there is no significant difference found between attitude of government and private college (female) students (Table 4.2). The attitude of government college (arts group) students was found to be higher than the private college (arts group) students at 0.01 level (Table 4.3). However, there is no significant difference between government and private college (science group) students (Table 4.4). Attitude of all government college students is significantly higher towards wild life than all private college students at 0.01 level (Table 4.5).

Gender-wise comparisons reveal that male and female students belonging to government colleges possess almost similar attitude towards wild life (Table
4.6). However, female students belonging to private colleges show more favourable attitude than male students of private colleges at 0.01 level (Table 4.7). Male and female students belonging to arts group do not significantly differ in their attitude (Table 4.8). However, the attitude of female students is significantly higher than the male students belonging to science group at 0.01 level (Table 4.9). Similarly, all female students have significantly higher attitude towards wild life than all male students at 0.01 level (Table 4.10).

Subject-wise comparisons show that arts and science group students belonging to government colleges do not vary in respect of their attitude to wild life (Table 4.11). However, attitude of science group (private colleges) students is significantly higher than the arts group (private colleges) students at 0.05 level (Table 4.12). Statistically, there is no significant difference found between the mean scores of the arts and science group (male) students (Table 4.13) whereas science group (female) students were found to possess significantly higher attitude than arts group (female) students at 0.01 level (Table 4.14). All arts and all science group students were found to possess almost similar attitude towards wild life (Table 4.15).

Comparisons with regard to Forests

College-wise comparisons with regard to attitude towards Forests show that government college sub-groups and total group possess favourable attitude as compared to private college sub-groups and total group (Table 4.1 to 4.5).

Gender-wise comparisons reveal that male students (govt. colleges) are significantly better in their attitude than female students (govt. colleges) whereas female students (private colleges) are better than male students (private colleges) at 0.05 level (Table 4.6 & 4.7). Male students (arts group) show slightly better though not significant attitude than female students (arts group) (Table 4.8). However, female students (science group) possess
favourable attitude than male students (science group) at 0.05 level (Table 4.9). No significant difference was found between all male and all female students (Table 4.10).

*Subject-wise comparisons* reveal that arts and science group (government colleges) students are almost alike in their attitude towards Forests (Table 4.11). Science group students (private college) show higher attitude than arts group students (private colleges) at 0.01 level (Table 4.12). Arts and science group (male students) do not vary in respect of their attitude (Table 4.13). However, science group (female) students have significantly positive attitude than the arts group (female) students at 0.01 level (Table 4.14). All science group students possess higher attitude on Forests as compared to all arts group students (Table 4.15).

**Comparisons with regard to Population Explosion**

*College-wise comparisons* show that attitude of government college sub-groups and total group is significantly higher towards Population Explosion than the private college sub-groups and total group at 0.01 level (Table 4.1 to 4.5).

*Gender-wise comparisons* show that there is no significant difference between the mean attitude scores of the sub-groups and total group towards Population Explosion (Table 4.6 to 4.10).

*Subject-wise comparisons* reveal that arts and science sub-groups and total group do not differ significantly in their attitude. The difference between mean scores is statistically insignificant (Tables 4.11 to 4.15).

**Comparisons with regard to Pollutant**

*College-wise comparisons* with respect to attitude towards pollutant show that government college sub-groups and total group have significantly better
attitude than the private college sub-groups and total group at 0.01 level (Table 4.1 to 4.5).

Gender-wise comparisons show that no remarkable difference is visible between the male and female students (govt. colleges) (Table 4.6). However, female students (private colleges) show more favourable attitude than male students (private colleges) at 0.01 level (Table 4.7). Male and female students belonging to arts group do not significantly differ in their attitude (Table 4.8). However, attitude of female students is significantly higher than the male students belonging to science group at 0.05 level (Table 4.9). All female students have significantly higher attitude than all male students at 0.05 level (Table 4.10).

Subject-wise comparisons reveal that arts and science sub-groups and total group do not differ significantly in their attitude. Thus, they possess almost similar attitude towards Pollutant dimension (Tables 4.11 to 4.15).

Comparisons with regard to Environmental Concern

College-wise comparisons reveal that government college sub-groups and total group show significantly better attitude towards environmental concern than private college students at 0.01 level (Table 4.1 to 4.5).

Gender-wise comparisons reveal that male students belonging to government colleges are significantly better than their female counterparts whereas female students belonging to private colleges are better than their male counterparts at 0.01 level (Table 4.6 & 4.7). Female students (arts group) possess significantly better environmental concerns than male students (arts group) at 0.05 level (Table 4.8). Male students (science group) possess slightly better environmental concern though not significant than female students (science group) (Table 4.9). Similarly, no significant difference was found between all male and all female students (Table 4.10).
Subject-wise comparisons show that arts and science group (government colleges) students are almost alike in their attitude towards environmental concern (Table 4.11). Science group (private college) students show higher attitude than arts group (private colleges) students at 0.05 level (Table 4.12). Science group (male) students are better in their attitude than their arts group counterparts at 0.01 level (Table 4.13). However, arts and science group (female) students do not differ in their attitude (Table 4.14). All science group students show significantly better attitude than all arts group students at 0.05 level (Table 4.15).

5.1.2 Rank order in Respect of Different Dimensions of Attitude

Three top ranking aspects of attitude for pedagogical students are 'Population Explosion', 'Environmental Concern' and 'Forests' (Table 4.16 and Fig. 4.16). The table also indicates that there is not much difference in attitude towards 'Health & Hygiene', 'Wild Life' and 'Pollutant' as almost same means have been obtained. However, based on the small differences in the means; the ranks have been obtained for these dimensions.

This shows that students understand the effects of population growth on environment and consequences of ongoing environmental deterioration. There is an increased environmental concern amongst students and they also understand the importance of forest protection and undesirable effects of forest depletion.

The students do not have same attitude towards good health practices, wild life protection and things that contaminate environment. There may be many reasons for this disinterest but it is possible that most academic institutes, in general, focus on the knowledge component of education. Since the teaching and learning mostly occur inside the classroom, as a result, students are not exposed to real life situations.
5.1.3 Attitudes of all Pedagogical Students in Respect of Different Dimensions

When we analyzed the mean scores of all pedagogical students (N=840) obtained on different dimensions, it was found that the mean scores were greater than the mid-scores (Table 4.17 and Fig. 4.17). Thus it can be stated that the students have favourable attitude towards all the six dimensions such as Health & Hygiene, Wild Life, Forests, Population Explosion, Pollutant and Environmental Concern independently as well as their overall attitude is also positive as the mean scores were found to be greater than the mid-scores.

5.1.4 Comparisons among Groups in Respect of Different Dimensions of Awareness

Comparisons with regard to Forest including trees

*College-wise comparisons* indicated that statistically there was no significant difference between government and private college sub-groups and total group in respect of their awareness on forest including trees (Tables 4.18 to 4.22).

*Gender-wise comparisons* also show that male and female sub-groups and total group possess almost similar awareness (Table 4.23 to 4.27).

*Subject-wise comparisons* reveal that arts and science sub-groups and total group do not differ significantly in their awareness, that is, these groups possess almost similar awareness towards Forest including trees (Tables 4.28 to 4.32).

Comparisons with regard to Pollution (air, water, noise and soil)

*College-wise comparisons* with respect to Pollution dimension show that there is insignificant difference between means of government and private college (male) students (Table 4.18). In other sub-groups and total group, government college students have shown significantly higher awareness
towards pollution than private college sub-groups and total group (Table 4.19 to 4.22).

*Gender-wise comparisons* reveal that no significant mean differences emerged out in any sub-groups and total group with respect to pollution (Tables 4.23 to 4.27).

*Subject-wise comparisons* show that awareness of science sub groups and total group is found to be higher towards pollution than arts sub-groups and total group at 0.01 level (Tables 4.28 to 4.32).

**Comparisons with regard to Energy conservation**

*College-wise comparisons* show that government and private college sub-groups and total group fail to show any significant difference in their awareness towards energy conservation (Table 4.18 to 4.22).

*Gender-wise comparisons* reveal that male and female sub-groups and total group do not differ significantly in their awareness on energy conservation. The difference between mean scores is not so large and statistically negligible (Tables 4.23 to 4.27).

*Subject-wise comparisons* show that science sub groups and total group bear significantly better awareness towards energy conservation than arts sub-groups and total group at 0.01 level (Tables 4.28 to 4.32).

**Comparisons with regard to Wild life and animals**

*College-wise comparisons* show that government and private college sub-groups and total group do not vary in respect of their awareness towards wild life and animals (Tables 4.18 to 4.22).

*Gender-wise comparisons* reveal that male and female sub-groups and total group with slight mean differences tend to similar awareness towards wild life and animals (Tables 4.23 to 4.27).
Subject wise comparisons show that science group (govt. colleges) students possess better awareness than their arts group counterparts at 0.01 level (Table 4.28). However, arts and science group (private colleges) students do not vary in respect of their awareness towards wild life and animals (Table 4.29). Science group (male) students are better in their awareness than arts group (male) students at 0.05 level (Table 4.30). However, arts and science group (female) students do not differ in their awareness (Table 4.31). All science group students are better in their awareness than all arts group at 0.01 level (Table 4.32).

Comparisons with regard to Environmental and related problems

College-wise comparisons reveal that the private college (male) students possess significantly better awareness than that of government college (male) students at 0.01 level (Table 4.18). However, other government and private college sub groups and total group do not differ significantly in their awareness towards environmental and related problems (Tables 4.19 to 4.22).

Gender-wise comparisons show that female students (govt. college) are significantly better in their awareness than male students (govt. college) at 0.01 level (Table 4.23). However, other male and female sub-groups do not differ in their awareness (Table 4.24 to 4.26). All female students are better in their awareness than their male counterparts at 0.01 level (Table 4.27).

Subject-wise comparisons show that science group students (govt. & private colleges) possess better awareness than their arts group counterparts (Table 4.28 & 4.29). Arts and science group (male) students do not vary in respect of their awareness towards environmental and related problems (Table 4.30). However, science group (female) students differ significantly in their awareness from arts group (female) students at 0.01 level (Table 4.31). Similarly, all science group students are better in their awareness than all arts group counterparts at 0.01 level (Table 4.32).
Comparisons with regard to Population

College-wise comparisons show that, statistically, there is no significant difference between government and private college sub-groups and total group i.e., these groups possess almost same awareness towards Population (Tables 4.18 to 4.22).

With regard to Gender-wise comparisons, male and female sub-groups and total group do not vary in respect of their awareness (Tables 4.23 to 4.28).

Subject-wise comparisons show that arts and science sub-groups and total group do not differ significantly in their awareness on Population (Tables 4.28 to 4.32).

Comparisons with regard to teaching skills of EE

College-wise comparisons clearly indicates that statistically there is no significant difference between government and private sub-groups and total group in relation to teaching skills of EE even at 0.05 level (Tables 4.18 to 4.22).

Gender-wise comparisons reveal that female students (govt. college) are slightly better in their awareness though not significant than their male counterparts (Table 4.23). However, female students (private college) are significantly better than that of male students (private college) at 0.05 level (Table 4.24). Female (arts group) students are better in their awareness than their male counterparts at 0.01 level (Table 4.25). However, male and female (science group) students do no vary in their awareness (Table 4.26). Awareness of all female students is significantly higher towards teaching skills of EE than the male students at 0.05 level (Table 4.27).

Subject-wise comparisons show that arts and science group (govt. colleges) students do not differ significantly in their awareness (Table 4.28). Arts group
(private colleges) students possess better awareness than their science group counterparts at 0.01 level (Table 4.29). Arts and science group (male) students do not differ significantly in their awareness (Table 4.30). Arts group (female) students are better in their awareness than science group (female) students at 0.01 level (Table 4.31). All arts group students are found to be better in their awareness than all science group students at 0.05 level (Table 4.32).

5.1.5 Rank Order in Respect of Different Dimensions of Awareness

Four top ranking aspects of awareness for pedagogical students are: 'Wild life and animals', 'Population', 'Teaching skills of EE' and 'Environmental and related problems' (Table 4.33 and Fig. 4.33). The table and figure also indicates that the students do not have much difference in awareness towards 'Forest including trees', 'Pollution (air, water, noise and soil)' and 'Energy conservation' aspects of the environment as almost same means have been obtained. However, based on comparatively small difference in the means and % weightage, the ranks have been obtained for these dimensions.

This shows that students understand the importance of wild life conservation. They are also aware of problems arising out of population explosion. They have realized the significance of EE and are aware of individual responsibilities in finding solutions for environmental problems.

The students do not possess same awareness about the multiple roles and benefits of forests, causes & effects of pollution, steps to reduce pollution and steps for energy conservation. The probable reasons for this may be that there is lack of active learning methods and participatory teaching so students do not get opportunity to focus on all environmental issues.
5.1.6 Awareness of All Pedagogical Students in Respect of Different Dimensions

When we analyzed the mean scores of all pedagogical students (N=840) obtained on different dimensions, it was found that the mean scores were greater than the mid-scores (Table 4.34 and Fig. 4.34). Thus it can be stated that the students have better/high awareness towards all the seven dimensions such as Forest including trees, Pollution (air, water, noise and soil), Energy conservation, Wild life and animals; Environmental and related problems, Population and Teaching skills of EE independently, as well as overall awareness is also high as the mean scores were found to be greater than the mid-scores.

5.1.7 Correlation of Attitudes and Awareness

Correlation coefficient between attitudes and awareness was found to be $r=0.05$ for the total sample, $r=0.03$ for all government college students, $r=0.05$ for all private college students, $r=0.07$ for all male students, $r=0.03$ for all female students, $r=0.001$ for all arts group students and $r=0.01$ for all science group students (Tables 4.35 to 4.41). The obtained ‘r’ values are not found to be significant at any level of significance. The value of ‘r’ for all groups indicated slight or almost negligible, positive relationship yet not significant between attitude and awareness.

Negligible relationship shows that these two factors do not have much dependence on each other. One person can have a good attitude but it is not necessary that s/he should have awareness in the same line. Positive correlation between attitude and awareness show that although the relationship is very small but still there is some possibility so that an increase in one could lead to an increase in the other.
5.2 HYPOTHESES VERIFICATION

**H₀₁** There is no significant difference in attitude between pedagogical students of government and private colleges towards Environmental Education.

With regard to the overall attitude, there is a statistically significant difference between the mean scores obtained by all government and all private college students at 0.01 level. All government college students are found to be better in their attitude than all private college students (Table 4.5). Therefore H₀₁ is rejected.

**H₀₂** There is no significant difference in attitude between male & female pedagogical students towards Environmental Education.

With regard to the overall attitude, there is a statistically significant difference between the mean scores obtained by all male and all female students at 0.05 level. The higher mean value of all female students indicates that they possess higher attitude compared to all male students (Table 4.10). Therefore H₀₂ is rejected.

**H₀₃** There is no significant difference in attitude between pedagogical students of arts & science group towards Environmental Education.

With regard to the overall attitude, there is a statistically significant difference between the mean scores obtained by all arts and all science group students at 0.05 level. The higher mean value of all science group students indicates that they possess higher attitude compared to all arts group students (Table 4.15). Therefore H₀₃ is rejected.

**H₀₄** There is no significant difference in awareness between pedagogical students of government and private colleges towards Environmental Education.

There is no significant difference between the mean scores of all government college and all private college students with regard to the overall awareness. Thus overall awareness of all government college and all private college students is found to be almost similar (Table 4.22). Therefore H₀₄ is accepted.


H05  There is no significant difference in awareness between male & female pedagogical students towards Environmental Education.

With regard to the overall awareness there is no significant difference between the mean scores of all male and all female students. Hence it can be concluded that overall awareness of all male and all female students is almost similar (Table 4.27). Therefore H05 is accepted.

H06  There is no significant difference in awareness between pedagogical students of arts & science group towards Environmental Education.

With regard to the overall awareness, there is a statistically significant difference between the mean scores of all arts group and all science group students at 0.01 level. Thus it can be further stated that all science group students with higher mean scores have better awareness than all arts group students (Table 4.32). Therefore H06 is rejected.

H07  There is no significant relationship between attitudes and awareness of pedagogical students towards environmental education.

The obtained value of ‘r’ was not found to be significant at any level of significance. Hence it can be further said that attitude and awareness of all pedagogical students have an almost negligible but positive relationship (Table 4.35). Therefore H07 is accepted.

### 5.3 RESULTS

(a) Results with regard to overall attitude of different groups of students towards environmental education

- Overall attitude of government college sub-groups and total group is significantly higher than the private college sub-groups and total group at 0.01 level.
Overall attitude of male students (government colleges) is significantly higher than their female (government colleges) counterparts whereas overall attitude of female students (private colleges) is higher than their male (private colleges) counterparts.

There is no significant difference found between overall attitude of male and female students (arts group). However, overall attitude of the female students (science group) is significantly higher than the male students (science group) at 0.05 level. Overall attitude of all female students is significantly higher than all male students at 0.05 level.

There is no significant difference found between the overall attitude of arts and science group students (govt. colleges). However, overall attitude of the science group students (private colleges) is significantly higher than the arts group students (private colleges) at 0.05 level.

Arts group students (male) and science group students (male) possess almost similar overall attitude. However, science group (female) students possess higher overall attitude than the arts group (female) students at 0.01 level.

Overall attitude of all science group students is found to be significantly higher than all arts group students at 0.05 level.

(b) Results with regard to overall awareness of different groups of students towards environmental education

Statistically, there is no significant difference found between overall awareness of government and private college sub-groups and total group, that is, their overall awareness is almost similar.

Male and female sub-groups and total group are also almost similar in their overall awareness.
Overall awareness of science sub-groups and total group is found to be significantly higher than the arts sub-groups and total group.

5.4 DISCUSSION OF THE RESULTS

- The present study highlighted that the students have a positive and responsive attitude towards the environment, and the overall environmental awareness of the students is also high. The present finding is in tune with the findings of Ponniah (1981), Strong (1998), Makki et al., (2003), Kyridis et al., (2005), Erdogan et al., (2007), Gupta (1986), Shahnawaj (1990), Praharaj (1991), Gopalakrishnan (1992), Kumar and Patil (2007).

- Results indicate that there is significant difference found between all government and all private college students in their attitude towards environment. Attitude of all government college students is higher as compared to their private college counterparts. The results were in tune with the findings of Sabhlok (1995) and Tuncer et al., (2005). Sabhlok found that the teachers of government school are better in their awareness than private school teachers. Tuncer reported that school type had a significant effect on attitude towards environment. However this contradicted the finding of Shobeiri et al., (2006) who reported that type of school management has no influence on environmental attitudes of teachers.

- The present study highlighted that all female students possess better attitude as compared to all male students. This result is in agreement with Sabhlok (1995) who reported that environmental attitude is more widespread among the female than male. Tuncer et al., (2005) also found that gender had a significant effect on attitude towards environment. Shobeiri et al., (2006) also said that gender has influence on environment. Female teachers have better attitude than male towards environment. However, this contradicted the
finding of Francis (2001), Rout and Agarwal (2006), and Kumar and Patil (2007) who reported that gender had no impact independently or jointly on the attitude of students.

- In this study it was found that all science group students have better attitude towards environment as compared to all arts group students. The present finding is in tune with the findings of Agrawal (2007) and Rout and Agarwal (2006), who reported that the students of science stream have more environmental attitude than the students of non science stream. However, this contradicted the finding of Verma (2005) who found that the discipline had no significant effect on the attitude towards environmental problem among pre-service teachers.

- Results indicate that there is no significant difference found between all government and all private college students with regard to their awareness towards environment. This finding is in accordance with the findings of Tripathi (2000), Sahaya and Paul (2005) who reported that type of school do not affect the awareness among the students. And this contradicted the findings of Sabhlok (1995), Barathi et al., (2004) who found that awareness of private school students is higher than their govt. school counterparts. Mishra (2006) also reported that school background has significant independent effect on overall environment. Shobeiri and Prahallada (2006) found that type of school influences the level of students’ environmental awareness.

- This study indicates that there is no significant difference found between all male and all female students with regard to their awareness towards environment. The results were in agreement with the findings of Sabhlok (1995), Rai (2000), Barathi et al., (2004), Dhillion and Sandhu (2005), Sahaya and Paul (2005), Rout and Agarwal (2006), Shobeiri and Prahallada (2006), Nagra and Singh (2007) who reported that gender do not affect the environmental
awareness among the students. However, Tripathi (2000) found that male students were significantly higher than girl students with respect to their environmental awareness. Shahnawaj (1990) found that girls possessed significantly more awareness of the environment than boys.

- The results of this study indicate that there is a significant difference between all arts group and all science group students with regard to their environmental awareness. All science group students were found to possess better awareness as compared to all arts group students. Similar results were also found by Barathi et al., (2004), Dhillion and Sandhu (2005), Rout and Agarwal (2006) who reported that students of science stream have more environmental awareness than the students of non science stream. However, Tripathi (2000), found that arts students were significantly higher than science students with respect to their environmental awareness. Verma (2005) found that the discipline had no significant effect on the awareness of environmental problem among pre-service teachers.

- Results also indicate that attitude and awareness of all pedagogical students have an almost negligible, positive relationship but not significant. However, Verma (2005) found a positive but significant relationship between awareness and attitude towards environmental problems among pre-service teachers.

5.5 CONCLUSIONS OF THE STUDY

(i) According to the statistical results of the survey, on all parameters, the students have a positive and responsive attitude towards the environment. Overall environmental awareness of the students is also found high. This study provides evidence that the students in the Bundelkhand region of M.P. are concerned about the environment. This concern may be attributed to the
increase of knowledge and responsive attitude about the environmental issues through newspapers, magazines, radio, television and inclusion of environmental concepts at different stages of school education and also due to various problems caused by the pollution.

(ii) Attitude of all government college students was found to be higher than all private college students with respect to all dimensions of attitude scale independently as well as jointly. Probably the reasons may be that the students who take admission in government B.Ed. colleges are high in intellect, and they have a better understanding of environmental issues since they are meritorious as compared to the students of private colleges. Another reason may be the higher education level of faculties and conduct of regular classes in government colleges.

(iii) All female students were found to be better than all male students in overall attitude towards environment. The same result was found for dimensions namely, wild life and pollutant. This could perhaps be due to the nurturing instinct in females towards care and protect of the environment. Further, this may be due to the higher sincerity, knowledge and perception level of females for environmental concerns. However, there is no significant difference found between all male and all female students with respect to their attitude on the dimensions, namely, Health & Hygiene, Forest, Population Explosion and Environmental Concern.

(iv) All science group students were found to be better than all arts group students in overall attitude towards environment. The same result was found for dimensions, namely, Health & Hygiene, Forest and Environmental Concern. This may be due to the fact that the students of science group study environmentally related subjects of science in their curriculum and are focused
on systematic study. However, there is no significant difference found in attitude of all arts and all science group students with respect to Wild Life, Population explosion and Pollutant dimensions.

(v) Awareness of all students of government colleges is found to be higher than all students of private colleges with respect to Pollution dimension. Reasons may be that the students who take admission in government colleges have a better understanding of environmental issues since they are meritorious as compared to students of private colleges. However, there is no significant difference found between all government and all private college students with respect to Forest including trees, Pollution (air, water, noise and soil), Energy conservation, wild life and animals, environmental and related problems, population, teaching skills of EE. The analysis reveals the same statistical results about the overall awareness towards environment.

(vi) No major differences are found between all male and all female students with respect to their awareness on Forest including trees, Pollution (air, water, noise and soil), Energy conservation, Wild life and animals, and population. The analysis also reveals the same statistical results for overall awareness towards environment. However, awareness towards environmental and related problems and teaching skills of EE are found to be higher in all female students than all male students. This may be explained by the facts that the females are more concerned towards the protection of environment due to their nurturing instincts.

(vii) There is no significant difference found between all arts and all science group students with respect to their awareness about Forest including trees and population dimensions. Whereas, awareness towards pollution (air, water, noise and soil), energy conservation, wild life and animals, environmental and related problems, teaching skills of EE as well as overall awareness towards
environment are found to be higher in all science group students than all arts
group students. Reasons may be that environmental aspects are incorporated
and explained better in science subjects than arts subjects/humanities.

(viii) It has also been found out that there exists a very small, positive but not
significant relationship between attitude and awareness for all the groups. This
shows that these two factors do not have much dependence on each other. One
person can have a good attitude but it is not necessary that s/he should have
awareness in the same line. Positive correlation between attitude and
awareness shows that although the relationship is marginal but still there is
some possibility so that an increase in one could lead to an increase in the
other.

5.6 EDUCATIONAL IMPLICATIONS OF THE STUDY

The purpose of educational research is not only to contribute new facts
to the field of education for the sake of knowledge alone but it should yield
some recommendations for the improvement in educational process and
practices. It should orient on practical / applied aspects also. The findings of
the present investigation were examined in this light and the following
implications were identified:

(i) The findings of the present investigations are encouraging and
important. The overall attitude and awareness of all pedagogical students
towards environment was found to be favourable. This suggests that the
students have gained environmental education from formal and informal
sources from early stages of school education till the present time. This also
shows that the students understand the importance of conservation of
environment, and this character of Environmental Education at primary,
secondary and higher level should be protected, preserved and nurtured by the
Education Departments.
(ii) It has been revealed from the study that overall attitude of all private college students and all male students; and overall attitude & awareness of all arts group students was not found to be as favourable towards environment as compared to all government college students, all female students and all science group students possess. This may make us to realize that there should be continuous evaluation of all B.Ed. colleges by higher authorities from Department of Higher education to judge level of teachers, regular conduct of classes, etc. Exposure of students and teachers to industries, field trips, exhibitions, videos, documentary films, and environmental magazines would enhance the understanding of problems associated with environment. This also urges to think holistically to review our curriculum and enriching environmental aspects in both science and humanities area of education.

(iii) The attitude and awareness of the students reflected towards environment in the present study would help the teachers of training colleges in designing the training courses appropriately to update the knowledge related to environmental changes and challenges faced by the society in the today's world, and to equip and enable the teachers to pass on the information to their students. Thus training should be provided to all teachers, environmental educators, and facilitators to refresh their professional acumen and expertise.

(iv) Planners of the policies in all the fields would also be able to know the attitude towards environment of the pedagogical students and would accordingly make the policies for safer environment. The findings of the present investigation would help to modify the curricula of primary, secondary and higher level education and to make them relevant to the local conditions. The pedagogy should be improved by making it more learner centered and activity-oriented.
(v) This study would help the government and administrators in different departments to understand the mindset of the pedagogical students who are the future teachers and makers of the nation towards environmental problems. Study would certainly help the government and administration to take the environment friendly measures for the better living conditions of the public.

(vi) Commerce and industry would also realize from the present study that the public particularly the students and teachers are aware of the pollution caused due to the industrial effluents and waste material, and should take necessary measures for prevention of pollution as a social responsibility.

(vii) This study involves many parameters like the attitude and awareness of male and females, arts and science group, govt. and private colleges etc. towards environmental education. These findings can very well be used for demographic studies and then may also help in planning and decision making for optimum use of human resources.

(viii) This study shows the attitude and awareness of pedagogical students towards the environmental education. This also indirectly reflects the attitude and awareness of graduates whether BA, B.Com or B.Sc. (since most of the pedagogical students are from these streams), which they have built up from the education gained in their earlier years of education i.e. schooling and college days. Any requirement of type and need of environmental education at schooling or college level can thus be made out from the present study and incorporated while preparing the books and materials on environmental education in future.

(ix) In B.Ed. syllabi, Environmental education is one of the optional subject papers. This study may make us realize that it can be made as a compulsory paper so that students of all streams can take maximum advantage from this.
5.7 SUGGESTIONS FOR FURTHER STUDIES

The present study opens up fresh areas for further research. Some broad suggestions are as follows:

(i) The present study was confined to pedagogical students of B.Ed. degree only. Similar research can be conducted on in-service teachers, teacher educators, parents, literate and illiterate classes, rural and urban residents to determine their attitudes and awareness towards environmental education.

(ii) Follow-up study of student teachers could be undertaken when they begin teaching in regular schools to check their attitude & awareness towards environmental education.

(iii) A comparative study could be done to compare the attitude and awareness of student teachers of regular colleges of education and distance education towards environmental education.

(iv) A similar investigation may be conducted on the students studying at primary, middle and higher levels in separate groups. But it is highly desirable that if we want to bring a drastic change to save our perishing environment then such studies should be conducted at a large scale.

(v) The same type of study may be conducted in other states and the results may be compared.

(vi) This study has been conducted in "C" class cities of Bundelkhand region of M.P. It is suggested that such studies may be conducted in metros and class A & B cities of country.

(vii) Standardized tools for assessing environmental education of students and teachers may be developed under Indian conditions.

(viii) Investigation may be carried out on other variables not studied in this research work.
It is hoped that the findings, implications and suggestions of the present study as mentioned in this chapter will help and guide the teachers, parents and educational institutions to develop the suitable modules of environmental education for the children and encourage other scholars to undertake further research and follow up work in this area as suggested.