A STUDY OF ENVIRONMENTAL KNOWLEDGE SENSITIVITY
ATTITUDES AND ACTION STRATEGIES IN RELATION TO LOCUS
OF CONTROL OF PROSPECTIVE
AND INSERVICE TEACHERS

SUMMARY OF THESIS
Submitted to the
FACULTY OF EDUCATION
PANJAB UNIVERSITY, CHANDIGARH
for the degree of

DOCTOR OF PHILOSOPHY

2007

DEVINDER KAUR
DEPARTMENT OF EDUCATION
PANJAB UNIVERSITY
CHANDIGARH
SUMMARY CONCLUSION AND EDUCATIONAL IMPLICATION

NEED OF THE STUDY

The world scenario has undergone great upheaval during the last century due to technological advancement, ever increasing industrialization and the tendency of masses to settle down in urban area. This has resulted in environmental degradation. The repercussion of deteriorating environment conditions has been casting negative impact on the ecological conditions on the globe. Due to the activities pertaining to over exploitation of biotic and abiotic components, ecological balance is being disturbed day-by day. In the present age of technological revolution, the needs of human being are destroying the nature brutally. Insensitive and irrational exploitation of natural sources and effects of destroying the nature can be seen in the form of global warming, ozone depletion increasing amount of Chlorofluorocarbon, acid rain, green house effects etc. Nature is threatening the mankind in the form of drought, floods, earthquake, landslides, epidemics etc. as far as the prevailing situations are concerned, there is a great need that the society should not only be aware of the present deteriorating environmental conditions but it should also feel the responsibility to save the environment. Environmental problems have reached up to a level where almost every one is conscious of them. The raising consciousness has also given rise to a wide spread responsiveness to the idea for the need to do something about it (Chhokar-2000).

Environment problems are not the problems of developing countries like India but it is concerned with the whole globe. It is the need of hour to make the whole society conscious about the ecosystem and ecological balance. Education is a powerful medium for changing our behavior. Recommendations of the Stockholm conference in 1972 declared that there was close link between the society and the
environment and that the relationship between them was at a critical stage, saying that “a point has been reached in history when we must shape our action throughout the world with a more prudent care for their environmental consequences” (Basu-1991).

Thus, this is a crucial time to realize that environmental sensitivity and environmental friendly behavior should be cultivated among masses particularly among youths. For the awareness of the society, it is essential to work at grass root level. So that the whole society can work to save the environment if we want the environmental value in our children, in due course, we will get the seedlings in the form of adolescents which will nurture as tree i.e., citizen having responsibility towards environment. For this purpose it is essential to educate and train the children regarding the significance of healthy environment. When students learn about the functioning of eco-system and about environmental action strategies that contribute to their maintenance they develop more environmentally responsible behavior. Keeping in view, the discussion in the proceeding paragraphs, the researcher concludes that. As we move into the 21st century the impact of human behavior on the natural environment is becoming readily apparent. Resources are becoming less abundant, space is becoming more limited and pollution of air, water and land are beginning to have a direct impact on the inhabitants of the planet we hear about global issues from the social and economic to the political and environmental, on a daily basis. Now more though it is essential that teacher should have knowledge of environmental issues, sensitivity towards the environment, proper attitudes towards the environment and appropriate action strategies for solving various problems related to the environment. Locus of control of an individual has an impact upon his environment related behavior. So, the investigator proposed to study the environmental. Knowledge sensitivity attitude and action strategies in relation to locus of control of prospective and inservice teachers, because teachers are the role models for students.

**STATEMENT OF THE PROBLEM**
OBJECTIVES

1. To compare the environmental knowledge of prospective and in-service teachers.
2. To compare the environmental knowledge of teachers with internal and external locus of control.
3. To compare the environmental knowledge of prospective and in-service teachers with internal and external locus of control.
4. To compare the environmental sensitivity of prospective and in-service teachers.
5. To compare the environmental sensitivity of teachers with internal and external locus of control.
6. To compare the environmental sensitivity of prospective and in-service teachers with internal and external locus of control.
7. To compare the environmental attitude of prospective and in-service teachers.
8. To compare the environmental attitude of teachers with internal and external locus of control.
9. To compare the environmental attitude of prospective and in-service teachers with internal and external locus of control.
10. To compare the environmental of action strategies of prospective and in-service teachers.
11. To compare the environmental action strategies of teachers with internal and external locus of control.
12. To compare the environmental action strategies of prospective and in-service teachers with internal and external locus of control.
HYPOTHESES

Hypotheses related to mean scores on Environmental Knowledge.

$H_1$ There is no significant difference between total environmental knowledge of prospective and in-service teachers.

There is no significant difference between environmental knowledge of prospective and in-service teachers with respect to:

$H_{1.1}$ Domain-I - Population.

$H_{1.2}$ Domain-II - Water pollution.

$H_{1.3}$ Domain-III - Air pollution.

$H_{1.4}$ Domain-IV - Noise Pollution

$H_{1.5}$ Domain-V - Land & Soil pollution

$H_{1.6}$ Domain-VI - Global Environmental issues

$H_{1.7}$ Domain-VII - Forests & Wildlife conservation

$H_{1.8}$ Domain-VIII - Social & Environmental issues.

$H_2$ There is no significant difference between total environmental knowledge of teachers with internal and external locus of control.

There is no significant difference between environmental knowledge of teachers with internal and external locus of control with respect to:

$H_{2.1}$ Domain-I - Population.

$H_{2.2}$ Domain-II - Water pollution.

$H_{2.3}$ Domain-III - Air pollution.

$H_{2.4}$ Domain-IV - Noise Pollution

$H_{2.5}$ Domain-V - Land & Soil pollution

$H_{2.6}$ Domain-VI - Global Environmental issues

$H_{2.7}$ Domain-VII - Forests & Wildlife conservation

$H_{2.8}$ Domain-VIII - Social & Environmental issues.
$H_3$ There is no significant interaction between environmental teacher type and locus of control with regard to total environmental knowledge.

There is no significant interaction between teacher type and locus of control with respect to:

H$_3.1$ Domain-I - Population.

H$_3.2$ Domain-II - Water pollution.

H$_3.3$ Domain-III - Air pollution.

H$_3.4$ Domain-IV - Noise Pollution

H$_3.5$ Domain-V - Land & Soil pollution

H$_3.6$ Domain-VI - Global Environmental issues

H$_3.7$ Domain-VII - Forests & Wildlife conservation

H$_3.8$ Domain-VIII - Social & Environmental issues.

**Hypotheses related to mean scores on Environmental Sensitivity.**

$H_4$ There is no significant difference between environmental sensitivity of prospective and In-service teachers

There is no significant interaction between environmental sensitivity of prospective and In-service teachers with respect to:

H$_4.1$ Domain-I - Life time Experiences.

H$_4.2$ Domain-II - Sensitivity / Empathy towards environment.

H$_4.3$ Domain-III – Responsible Environmental behavior.

$H_5$ There is no significant difference between environmental sensitivity of teachers with internal and external locus of control.

There is no significant difference between environmental sensitivity of teachers with internal and external locus of control with respect to:

H$_5.1$ Domain-I - Life time Experiences.

H$_5.2$ Domain-II - Sensitivity / Empathy towards environment.
H₅.₃  Domain-III – Responsible Environmental behavior.

H₆  There is no significant interaction between teacher type and locus of control with regard to environmental sensitivity.

There is no significant interaction between teacher type and locus of control with respect to:

H₆.₁  Domain-I - Life time Experiences.

H₆.₂  Domain-II - Sensitivity / Empathy towards environment.

H₆.₃  Domain-III – Responsible Environmental behavior.

**Hypotheses related to mean scores on Environmental Attitude.**

H₇  There is no significant difference between environmental attitude of prospective and in-service teachers with respect to:

There is no significant difference between environmental attitude of prospective and in-service teachers with respect to:

H₇.₁  Domain-I - Population Explosion.

H₇.₂  Domain-II - Health and Hygiene.

H₇.₃  Domain-III - Polluters

H₇.₄  Domain-IV - Wildlife

H₇.₅  Domain-V - Forests

H₇.₆  Domain -VI - Environmental Concern.

H₈  There is no significant difference between environmental attitude of teachers with internal and external locus of control.

There is no significant difference between environmental attitude of teachers with internal and external locus of control with respect to:

H₈.₁  Domain-I, Population Explosion.

H₈.₂  Domain-II, Health and Hygiene.
$H_{8.3}$ Domain-III - Polluters

$H_{8.4}$ Domain-IV - Wildlife

$H_{8.5}$ Domain – V - Forests

$H_{8.6}$ Domain – VI – Environmental Concern.

$H_9$ There is no significant interaction between teacher type and locus of control with regard to Environmental attitude.

There is no significant interaction between teacher type and locus of control with respect to:-

$H_{9.1}$ Domain-I - Population Explosion.

$H_{9.2}$ Domain-II - Health and Hygiene.

$H_{9.3}$ Domain-III - Polluters

$H_{9.4}$ Domain-IV - Wildlife

$H_{9.5}$ Domain – V - Forests

$H_{9.6}$ Domain – VI – Environmental Concern.

**Hypotheses related to mean scores on environmental action strategies**

$H_{10}$ There is no significant difference between environmental action strategies of prospective and In-service teachers.

There is no significant difference between environmental action strategies of prospective and In-service teachers with respect to:-

$H_{10.1}$ Domain-I - Persuasion Strategies.

$H_{10.2}$ Domain-II - Consumer Action.

$H_{10.3}$ Domain-III - Ecomanagement

$H_{10.4}$ Domain-IV - Political Action
H₁₁ There is no significant difference between environmental action strategies of teachers with internal and external locus of control.

There is no significant difference between environmental action strategies of teachers with internal and external locus of control with respect to:

H₁₁.₁ Domain-I - Persuasion.
H₁₁.₂ Domain-II - Consumer Action.
H₁₁.₃ Domain-III - Ecomanagement
H₁₁.₄ Domain-IV - Political Action

H₁₂ There is no significant interaction between teacher type and locus of control with regard to total environmental action strategies.

There is no significant interaction between teacher type and locus of control with respect to:

H₁₂.₁ Domain-I - Persuasion strategies.
H₁₂.₂ Domain-II - Consumer Action.
H₁₂.₃ Domain-III – Ecomanagement
H₁₂.₄ Domain-IV – Political Action

DELIMITATIONS

The study was delimited with respect to the following:

- The study was conducted only in schools and colleges of Education of Chandigarh.
- The study was delimited with respect to the sample of 200 prospective and 200 in-service teachers only.

TOOLS USED
For the present investigation the following tools were used

- Environmental knowledge test (Developed by the investigator)
- Environmental sensitivity scale (Developed by the investigator)
- Taj Environmental Attitude Scale (By Dr. Haseen Taj)
- Environmental action strategies scale (Develop by the investigator).
- Locus of control scale (LCS) (By Dr. N. Hasnain and Dr. D.D. Joshi).

**SAMPLE**

In a research project, researchers usually come across unmanageable population. So, representative sample of the population is drawn for the study as it is often desirable in order to reduce expenditure, time and energy and also to produce greater precision and accuracy. Sampling is the process by which a relatively small number of individuals or objects are selected and organised in order to find out something about the entire population from which it is selected. Sampling procedure provides generalizations on the basis of relatively small proportion of population. Firstly, the investigator approached Principals of various schools and colleges of education of Chandigarh to seek their cooperation for conducting the survey. After obtaining permission and promise for Cooperation. Locus of Control test was administrated to 300 prospective teachers of two colleges of education Viz., Govt. College of Education Sector – 20D Chandigarh and Dev-Samaj College of Education Sector-38, Chandigarh Sheets were provided to the Prospective teacher. Scoring was done with the help of scoring key. After that Locus of control test was administrated to 300 in service teachers of various schools of Chandigarh viz., Govt. Senior Secondary School Sector 20-D, Chandigarh, Govt. Senior Secondary School, Sector 20-B, Chandigarh, Govt. Model High School 20-D, Chandigarh, Govt. Senior Secondary School 29-D, Chandigarh, Govt. Model High School 28-D, Chandigarh, D.A.V. School Sector -15, Chandigarh, D.A.V. School Sector 8-A, Chandigarh, Govt. Model Middle School Manimajra, Govt. Model High School, Manimajra, Govt. Senior Secondary school Manimajra Town. Sheets were provided to the in-service
teachers. Scoring was done with the help of scoring key. The scores of the Teachers on Locus of control test were arranged in an ascending order. In accordance with manual. Teachers with external and internal locus of control were identified. Thus 200 Prospective teachers 100 with external locus of control and 100 with internal locus of control were Selected and 200 in-service teachers 100 with external locus of control and 100 with internal locus of control were selected. So, the final sample comprised of 400 Teachers.

Prospective teachers were asked to mention their age, sex, name of college and educational qualification. Teaching subject opted. In-service teacher were asked to mention their Age, Sex, Teaching Subject Educational Qualification and Name of the school in which they are teaching.

**DESIGN OF THE STUDY**

A research design is a detailed plan of the investigation. In fact, it is the detailed procedure of testing the hypotheses and analysing the obtained data. The research design thus may be defined as the sequence of these steps taken a head of time to ensure that the relevant data will be collected in a way that permits objective analysis of the different hypotheses formulated with respect to the research problem. Descriptive survey method of research was employed for the present study. This method is concerned with surveying, describing and investigating the existing phenomenon or issues, conditions and relationship that exist. To study the main effects and interaction effects of prospective and in-service teacher with external and internal locus of control on all the four variables i.e. Environmental knowledge, Environmental Sensitivity, Environmental Attitude and Environmental Action strategies. ANOVA was employed. The efforts were directed to the question. In what way and what extent external and internal locus of control effects all the four variables. The answer to this question was sought through the four factorial designs (2x2) for both prospective and in-service teachers with external and internal locus of control.
The two independent variables were teacher type which was studied at two levels, viz., Prospective (T₁) and In-service (T₂) teachers. The variable of Locus of control was studied at two levels viz., internal (L₁) and external (L₂) levels. The four dependent variables in the four 2x2 designs were Environmental knowledge, Environmental sensitivity, Environmental Attitude and Environmental Action Strategies.

Different kind of variables used in the study is as under:-

**Independent Variables:** The independent variables were prospective teacher sand in-service teachers.

**Organismic Variables:** In research, frequent use is made of organismic variables (Edwards 1968) which means a classification based upon prior observation of responses. Locus of control was the organismic variable in the present study, upon which classification of group was made. Locus of control was controlled by equating the number of internal locus of control and external locus of control teachers in each group.

**Dependent Variables:** The dependent variables were gain scores on Environmental Knowledge, Sensitivity & Action Strategies. The teachers were scored on these variables.

**PROCEDURE**

Procedure of the survey comprised of two main stages which are: selection of the sample and administration of the various tests.

**Stage-I**

**Selection of the Sample**

The present study was conducted on 400 Prospective and in-service teachers from different schools and colleges of Education of Chandigarh Teachers were selected after administrating locus of control test to 300 Prospective 300 in-service
teachers. Each group of Prospective and in-service teachers were divided on the basis of their scores on LOC scale into internal and external locus of control groups.

Stage-II

Administration of Tests

This phase involved the administration of the following tests to the Prospective and In-service teachers with external and internal locus of control in October and November 2006.

- Environmental Knowledge test.
- Environmental Sensitivity Scale.
- Environmental Attitude Scale
- Environmental Action Strategies

Finally Scoring was done

STATISTICAL TECHNIQUES

The following statistical techniques were employed to analyse the data obtained from the survey to test the Hypotheses:

- Descriptive Statistical techniques like mean, S.D’s are of scores on environmental knowledge, Sensitivity, Attitude and Action Strategies.
- Factorial design 2x2 Analysis of variance for mean scores on environmental knowledge and its various domains.
- Factorial design 2x2 Analysis of variance for gain scores on environmental sensitivity and its various domains.
- Factorial design 2x2 Analysis of variance for gain scores on environmental attitude and its various domains.
- Factorial design 2x2 Analysis of variance for mean scores on environmental action strategies and its various domains.
• For further investigation, t-test was employed where F-ratio were found to be significant.

**MAJOR FINDINGS**

Findings of the present study divided into four sub parts viz., Environmental Knowledge, Environmental sensitivity, Environmental Attitude and Environmental Action Strategies.

**Findings Pertaining to Scores on Environmental Knowledge.**

• In-service teachers exhibited better total environmental knowledge than prospective teachers. With respect to the domain in-service teachers exhibited better knowledge than prospective teachers regarding domain –I viz., Population domain-II viz., Water pollution domain –III viz., Air pollution domain-VI, Noise pollution domain-V viz., Land and soil pollution domain-VI, Global & environment issues, domain-VII viz., Forest & Wild Life viz., domain-VIII viz., social & Environmental issues.

• Prospective and in-service teachers exhibited comparable knowledge with respect to domain-VIII viz., Social environmental issues.

• Teachers with internal locus of control exhibited better scores on total environmental knowledge than their counterparts with external locus of control.

• The internals exhibited better environmental knowledge than externals with respect to all the domains, i.e. domain-I viz., population, domain-II viz., Water pollution domain-III viz., Air pollution domain-IV, Noise pollution domain-V viz., Land and soil pollution.

There was significant interaction between teacher type and locus of control with respect to total environmental knowledge. Also with respect to domain-II viz., Water pollution, domain-III viz., Air pollution and domain-VIII viz., Social and
environmental issues significant interaction between teacher type and locus of control was observed.

There was significant interaction between teacher type and locus of control for total Environmental knowledge.

Further the findings revealed that:-

In-service teacher with internal locus of control exhibited better environmental knowledge than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better environmental knowledge than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better environmental knowledge than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better environmental knowledge than prospective teacher with external locus of control. In-service teachers with internal locus of control exhibited better environmental knowledge than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better environmental knowledge as compared to prospective teachers with external locus of control.

There was no significant interaction between teacher type and locus of control with respect to domain I, viz., Population, domain –IV, viz., Noise pollution domain – V viz., Land & oil pollution and domain –VI viz., Global environment issues.

There was significant interaction between teacher type and locus of control for domain-II viz., Water pollution.

Further findings revealed that,

In-service teachers with internal locus of control exhibited better with respect to domain-II than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better knowledge with respect to
domain-III than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better knowledge with respect to domain-II than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better knowledge with respect to domain-II than prospective teacher with external locus of control. In-service teachers with external locus of control exhibited better knowledge with respect to domain-II than in-service teachers with external locus of control. In-service and prospective teachers with external locus of control exhibited comparable knowledge with respect to domain-II.

There was significant interaction between teacher type and locus of control for domain-III viz., Air pollution.

Further findings revealed that:

In-service teachers with internal locus of control exhibited better with respect to domain-III than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better knowledge with respect to domain-III than prospective teachers with external locus of control. Prospective teachers with internal locus of control and in-service with external locus of control exhibited comparable knowledge with respect to domain-III. In-service teachers with internal locus of control exhibited better knowledge with respect to domain-III than prospective teacher with external locus of control. In-service teachers with internal locus of control exhibited better knowledge with respect to domain-III than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better knowledge with respect to domain-III as compared to prospective teachers with external locus of control.

There was significant interaction between teacher type and locus of control for domain-VII viz., Social & Environmental.

Further findings revealed that:
In-service teachers with internal locus of control exhibited better knowledge with respect to domain-VIII than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better knowledge with respect to domain-VIII than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better knowledge with respect to domain-VIII than prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better knowledge with respect to domain-VIII than prospective teacher with external locus of control. In-service teachers with internal locus of control exhibited better knowledge with respect to domain-VIII.

Findings Pertaining To Scores on Environmental Sensitivity

In-service teachers exhibited better total environmental sensitivity than prospective teacher with respect to the domains in-service teachers exhibited better environmental sensitivity than prospective teachers regarding domain-I viz., Lifetime experience, domain-II.

Teachers with internal locus of control exhibited better environmental sensitivity than their counterparts with external locus of control.

The internals exhibited better environmental sensitivity than externals with respect to all the domains i.e. domain-I viz., Life time experience, domain-II viz., Sensitivity / Empathy towards environment and domain-III viz., Responsible environmental behavior.

There was significant interaction between teacher type and locus of control with respect to total environmental sensitivity and also with respect to domain-I viz., Life time Experiences, domain-II viz., Sensitivity / Empathy towards environmental and domain-III viz., Responsible environmental behavior.

There was significant interaction between teacher type and locus of control for total Environmental sensitivity.

Further findings revealed that:-
In-service teachers with internal locus of control exhibited better environmental sensitivity than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better environmental sensitivity than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better environmental sensitivity than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better environmental sensitivity than prospective teacher with external locus of control. In-service teachers with internal locus of control exhibited better environmental sensitivity than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better environmental sensitivity as compared to prospective teachers with external locus of control.

**There was significant interaction between teacher type and locus of control for domain-I viz., Life time experiences.**

In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-I than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-I than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-I than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-I than prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-I as compared to prospective teachers with external locus of control.

**There was significant interaction between teacher type and locus of control for domain-II viz., Sensitivity / Empathy towards environment.**
Further findings revealed that:

In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-II than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-II than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-II than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-II than prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-II than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-II as compared to prospective teachers with external locus of control.

There was significant interaction between teacher type and locus of control for domain-III viz., Responsible environmental behavior.

Further findings revealed that:

In-service teachers with internal locus of control and prospective teacher with internal locus of control exhibited comparable sensitivity with respect to domain-III. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-III than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better sensitivity with respect to domain-III than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-III than prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better sensitivity with respect to domain-III than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better sensitivity with respect to domain –III as compared to prospective teachers with external locus of control.
Findings Pertaining to Scores on Environmental Attitude

In-service teachers exhibited better total environmental attitude than prospective teacher also with respect to the domains in-service teachers exhibited better attitude than prospective teachers regarding domain-III viz., Polluters, domain-IV viz., Wildlife, domain-V viz., Forests and domain VI viz., Environmental concern.

Prospective and in-service teachers exhibited comparable attitude with respect to domain-I viz., Population explosion and domain-II viz., Health and hygiene.

Teachers with internal locus of control exhibited better scores on total environmental attitude than their counter parts with external locus of control.

The internals exhibited better environmental attitude than externals with respect to domain-I viz., Population explosion domain-II viz., Health and hygiene, domain-III viz., Polluters, domain-IV viz., Wildlife, domain-V viz., Forests and domain-VI viz., Environmental concerns.

There was significant interaction between teacher type and locus of control with respect to total environmental attitude. Also with respect to domain-III viz., Polluters significant interaction between teacher type and locus of control was observed.

There was no significant interaction between teacher type and locus of control with respect to domain-I viz., Population explosion, domain-II viz., Health and Hygiene, domain-IV viz., Wildlife, domain-V viz., Forest and domain-VI viz., Environmental concerns.

There was significant interaction between teacher type and locus of control for total environmental attitude.

Further findings revealed that:-

In-service teachers with internal locus of control exhibited better environmental attitude than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better environmental attitude than prospective teachers with external locus of control. Prospective teachers with internal locus of
Control exhibited better environmental attitude than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better environmental attitude than prospective teacher with external locus of control. In-service teachers with internal locus of control exhibited better environmental attitude than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better environmental attitude as compared to prospective teachers with external locus of control.

There was no significant interaction between teacher type and locus of control with respect to domain-I viz., Population Explosion, domain-II viz., Health & hygiene, Domain-IV viz., Wildlife, Domain-V viz., Forests, domain-VI viz., Environmental concern.

There was significant interaction between teacher type and locus of control domain-III viz., polluters.

Further findings revealed that:

In-service teachers with internal locus of control exhibited better attitude with respect to domain-III than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better attitude with respect to domain-III than prospective teachers with external locus of control. Prospective teachers with internal locus of control and in-service teachers with external locus of control exhibited comparable attitude with respect to domain-III. In-service teachers with internal locus of control exhibited better attitude with respect to domain-III than prospective teachers with external locus of control. In-service teacher with internal locus of control exhibited better attitude with respect to domain-III than in-service with external locus of control. In-service teacher with external locus of control exhibited better attitude with respect to domain-III as compared to prospective teachers with external locus of control.
Findings Pertaining to Scores on Environmental Action Strategies

In-service teachers exhibited better total environmental action strategies than prospective teacher with respect to the domains, in-service teachers exhibited better action strategies than prospective teachers regarding domain-I viz., Persuasion strategies, domain-II viz., Consumer action, domain-IV viz., Political action.

Prospective and in-service teachers exhibited comparable action strategies with respect to domain-III viz., Ecomanagement.

Teachers with internal locus of control exhibited better scores on total environmental action strategies than their counter parts with external locus of control.

The internals exhibited better action strategies than externals with respect to all domains i.e. domain-I viz., Persuasion strategies, domain-II viz., Consumer action, domain-III viz., Ecomanagement, domain-IV viz., Political action.

There was significant interaction between teacher type and locus of control with respect to total environmental action strategies. Also with respect to domain-I viz., Persuasion strategies, domain-II viz., Consumer action and domain-IV viz., Political action, significant interaction between teacher type and locus of control was observed.

There was no significant interaction between teacher type and locus of control with respect to domain-III viz., Ecomanagement
There was significant interaction between teacher type and locus of control for total environmental action strategies.

Further findings revealed that:-

In-service teachers with internal locus of control exhibited better environmental action strategies than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better environmental action strategies than prospective teacher with external locus of control. Prospective teachers with internal locus of control exhibited better environmental action strategies than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better environmental action strategies than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better environmental action strategies than prospective teachers with external locus of control.

There was significant interaction between teacher type and locus of control for domain-I viz., Persuasion strategies.

Further findings revealed that:-

In-service teachers with internal locus of control exhibited better action strategies with respect to domain-I than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-I than prospective teacher with external locus of control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-I than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better action strategies with respect to persuasion strategies than in-service teachers with external locus of control. In-service teachers with internal locus of control exhibited better
action strategies with respect to domain-I than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better action strategies with respect to domain-I than prospective teachers with external locus of control.

There was significant interaction between teacher type and locus of control domain-II viz., Consumer action.

Further findings revealed that:

In-service teachers with internal locus of control exhibited better action strategies with respect to domain-II than prospective teachers with internal locus of control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-II than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-II than in-service teacher with external locus of control. In-service teachers with internal locus of control exhibited better action strategies with respect to domain-II action than prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better action strategies with respect to domain-II than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better action strategies with respect to domain-II action than prospective teachers with external locus of control.

There was no significant interaction between teacher type and locus of control with respect to domain-IIIviz., Ecomanagement.

There was significant interaction between teacher type and locus of control for domain-IV viz., Political action

Further findings revealed that:

In-service teachers with internal locus of control exhibited better action strategies with respect to domain-IV than prospective teachers with internal locus of
control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-IV than prospective teachers with external locus of control. Prospective teachers with internal locus of control exhibited better action strategies with respect to domain-IV than in-service teacher with external locus of control. In-service teachers with internal locus of control exhibited better action strategies with respect to domain-IV prospective teachers with external locus of control. In-service teachers with internal locus of control exhibited better action strategies with respect to domain-IV than prospective teachers with external locus of control. In-service teacher with internal locus of control exhibited better action strategies with respect to domain-IV than in-service teachers with external locus of control. In-service teachers with external locus of control exhibited better action strategies with respect to domain-IV than prospective teachers with external locus of control.

EDUCATIONAL IMPLICATIONS

The results of this study have shown that there was a significant difference between environmental knowledge of prospective and in service teachers. In-service teacher exhibited better environmental knowledge than prospective teachers. This shows that environmental education has to be made a compulsory subject at all levels of education and specially B.Ed. level in order to achieve grand success if we want to save our natural environment, the main thing is to educate the masses and the right criteria for this is through channels of educating students in schools and colleges. Over the course of primary year students should become knowledgeable about a large array of environmental issues. Ideally these issues would be local in nature at early year and expand into more regional, national and international concerns at succeeding level.

As the results have shown that in-service teaches exhibited better environmental sensitivity than prospective teachers. It is felt that there is desired need to create sensitivity / empathy towards environment among prospective teachers, who
are the future teacher. This should be taught not only through the formal education but include other factors such as involvement in out-door oriented youth organization or in group camping. Educator role models appear to be as important as out-door experiences. Teachers should become members of eco-clubs and participation rallies and celebration of environment day, vanmahotsava, etc.

As the results have shown there was a significant difference between the environmental attitude of prospective and in-service teachers. In-service teachers exhibited better environmental than prospective teachers. As the prospective teachers are the future teachers, the more they are aware about their environment, the more positive attitude they are likely to exhibit for the environment which in turn will enable them to develop environmental values among their students also. So there is need to improve teaching technique. They should be taught by giving projects on environment and participate in field activities related to nature environmental. Researchers believe that people’s attitude towards the environment and the types of concern they develop towards the environment are associated with the degree to which they view themselves as interconnected with nature.

The results have shown that in-service teachers exhibited better Environmental action strategies than prospective teachers. Responsible decision making is refined as students formulate action plans and evaluate the environmental and socio-cultural implication of those plans. Although no demand should be made that the students take actions, educations should provide support and encouragement for students who wish to implement their action plans. By exposing students to a multitude of action strategies from passive to the active or from verbal to written to artistic, we can give students a vision for what their role in change might look like. Showing picture and showing efforts of effective eco-heroes is an effective way to tell such action – related stories story books or current event clippings.

Internal exhibited better environmental knowledge, sensitivity, attitude and action strategies than externals. This internal mechanism cannot be developed directly
but can be enhanced by the cumulative and consistent influence of family, home and school and life experiences that support the importance of individual actions. By teaching citizens action skill, educators can help build up students’ locus of control. Of course without a desire to act, there will be no action, we can add strength to a student’s locus of control by using positive reinforcement, engaging hiking groups in leadership and empowerment activities that allow them to be more self. Sufficient and telling those stories of other young students who have made a positive difference in these areas.

**SUGGESTIONS FOR FURTHER RESEARCH**

The present study opens up fresh areas for further research.

A similar study may be conducted by taking a large sample of prospective and in-service teachers.

The present study was confined to teachers only. Similar research can be conducted on doctors, lawyers, Engineers and university professor to determine their environmental knowledge, sensitivity attitude and action strategies in relation to their socio-economic status and professional level.

A similar investigation may be conducted on different levels viz., degree colleges and university level. But it is highly desirable that if we want to bring a drastic change to save our perishing environment such studies should be conducted at a large scale.

Research may be conducted involving other important variables such as environmental ethics, perception of Environmental Education and environmental awareness.

A similar investigation may be conducted on teachers of different states i.e., Haryana Punjab and Himachal at a large scale.