

ECOLOGICAL SENSITIVITY SCALE (ESS)

Mrs. M. CAROLINE MARIA
Research Scholar (PT)
Meston College of Education
Chennai – 600 014

Dr. S. MANI
Professor and Head
Department of Educational Planning and
Administration
Tamil Nadu Teachers Education University
Chennai – 600 097

ABSTRACT

Life on earth is possible only when there exist a conducive environment. But human activities are ruining of the environment drastically which would leave the future generation greatly deprived of basic needs of clean water, air, and food. Hence, it is the pressing need of the hour to take some initiatives to create a positive response to environmental problems. This situation urged the researcher to develop a tool called 'Ecological Sensitivity Scale' in order to measure the level of ecological sensitivity of prospective teachers. Hence, the researcher has developed and validated the Ecological Sensitivity Scale (ESS). This article deals with the different phases of development and validation of the ESS. The rough draft of the instrument contained 100 items, and it was reduced to 80 items after the feedback of subject experts. The draft tool was subsequently subjected to a try-out and the final tool was prepared with 43 items. The face validity of the tool was established by subject experts. The reliability of the tool was found to be 0.861. Thus the tool has become valid and reliable to assess the ecological sensitivity of the prospective teachers.

Keywords: Ecological Sensitivity, Prospective Teachers, Environmental Problems, Environmental Protection.

INTRODUCTION

The environmental problems such as global warming, depletion of natural resources, ozone layer depletion, etc. are posing serious challenges for the sustainable living of organisms on the earth. If the equilibrium of the eco system is disturbed continuously, it might lead for further disasters and also to create critical situations for the survival of all living species and even it may cause for perishing of all living things on Earth. Human activities directly affect the environment and result in unrepairable changes in the environment. Many human activities have created negative consequences especially on human health and most importantly on children (Yildiz et al., 2011; Zsuzsanna, 2009). In order to prevent further damage to the

environment, further more global initiatives are to be taken in addition to the earlier attempts on the development of desirable behaviour in humans towards the environment. Palmer (1998) emphasized that students need to acquire appropriate level of awareness and better understanding about the environment to make critical judgments by them. Madsen (1996) also described that environmental awareness is a pre-requisite for humans to achieve environmental protection and restoration and further emphasized that the students must have a basic grasp of environmental problems. Imparting environmental knowledge would help in enhancing the cognitive skills of people that would possibly reflect in their affective and psychomotor skills. The knowledge about environment and environmental problems are related to the cognitive domain of a person and the responses of an individual towards the environmental problems are related to the affective and psychomotor domains of a person. In order to find solutions to the environmental problems, creating positive changes in behaviours of people is more pertinent (Yeung, 2002). Meinhold and Malkus (2005) stressed the importance of environmental awareness to individuals about ecology and ecological balance and to combine the knowledge with values leading to action. Therefore, the positive responses of an individual towards the protection of environment are considered to be ecological sensitivity.

IMPORTANCE OF ECOLOGICAL SENSITIVITY

The term ecological is relating to the relation of living organisms to one another and to their physical surroundings. It is concerned with the environment and the way that plants, animals, and humans live together and affect each other. Ecological is defined as something related to organisms and how they interact with each other and their surroundings, or something related to the biological study of those organisms. Sensitivity means the quality or condition of being sensitive. It is the ability to respond to affective changes in the interpersonal environment. It is the responsiveness to external stimuli; the faculty of sensation. Sensitivity is the ability of an organism or part of an organism to react to stimuli or irritability. Therefore, one can understand that 'Ecological Sensitivity' refers to individual's response towards the environment in order to protect the environment. To measure the ecological sensitivity of an individual, the researcher has developed and validated a tool called 'Ecological Sensitivity Scale'.

The survival of human beings exclusively depends upon the nature of environment. On contrary, the wellness of the environment is not taken care by the human beings. The interaction between human beings and environment is unavoidable and inseparable. Human beings are the higher order living creatures as compared to other animal species and plants, and undoubtedly who are mainly responsible for both

degrading as well as protecting the environment. On one side, the developmental projects whatsoever seriously affect the nature of environment and the recklessness of human beings towards protection of environment also greatly affects the environment on the other side. Therefore, people should come forward to preserve the quality of environment, because the degraded environment poses serious threats to people's health (Franson & Garling, 1999). In the past, many national and international level meetings and conferences were held and invariably at the end of them series of resolutions were passed to protect the environment. Though the resolutions were implemented, still exists alarming situations for sustainable life of human beings on the earth. Therefore, the prevailing condition demands every individual to quickly respond to all the environmental problems in order to protect the environment not only for the continued survival of the present generation, but also to ensure safe environment for the future generation. It is rightly observed that knowledge and attitude of people determines their behaviour. In this aspect Frick et al., (2004) observes that it is necessary to investigate the attitude and public awareness of individuals in the society towards environmental problems. Sosa (1996) also stressed the importance of creating changes in beliefs and values of people to guide their behaviours to overcome environmental problems. Environmental education is aimed to equip the individuals with knowledge, attitudes and skills in order to raise concern for the environment and to work towards solutions of environmental problems and the prevention of new ones (Stapp et al., 1969; UNESCO, 1977; Davis, 1998). So far, environmental education programmes have mainly focused on increasing environmental knowledge to change environmental behaviour (Pooley & O'Connor, 2000). Culen (2001) observed that if effective environmental education is provided to pre-service teachers, the ultimate goal of environmental education, which is educating environmentally responsible citizens, can be achieved. It was also observed that majority of the teachers showed a favourable attitude towards environmental education (Gupta, 1986). Hence, the researcher has undertaken a study to measure the level of ecological sensitivity of prospective teachers, who are to be more sensible and responsible future citizens.

RATIONALE FOR THE DEVELOPMENT OF ECOLOGICAL SENSITIVITY SCALE

To carry out the intended research and to measure the level of ecological sensitivity of prospective teachers, an appropriate research tool is essential to employ in a distinct way to describe and quantify the data (John W. Best & James. V. Khan, 2014). The literature review done by the researcher pertaining to the proposed study indicates that no suitable research instrument is available to assess the ecological sensitivity

of the prospective teachers in the Indian context. Therefore, the researcher has decided to develop a tool. Accordingly, an 'Ecological Sensitivity Scale' was constructed and validated by adopting the under mentioned procedure. A rating scale involves qualitative description of a limited number of aspects of a thing or of traits of a person (John W. Best & James V. Kahn, 2014:310). The purpose of scale construction is to design a questionnaire that provides a quantitative measurement of an abstract theoretical variable (DeCoster, J., 2005).

PHASES OF CONSTRUCTION AND VALIDATION OF ECOLOGICAL SENSITIVITY SCALE (ESS)

The researcher followed six phases in the construction and validation of the Ecological Sensitivity Scale (ESS).

PHASE I – PLANNING

After consulting the literature available to the researcher and discussion with experts, the researcher decided to develop a four-point Likert-type scale to measure the level of ecological sensitivity of prospective teachers referred as "Ecological Sensitivity Scale (ESS)". George J. Mouly (1970) observes that the rating scale is best conceived as an instrument which permits the quantification of observation through the assignment of numerical values to the ratings of the various components of a given phenomenon and the summation of these ratings into an index of overall status (p.298). The researcher has decided to construct the ESS with six dimensions after the review of related print and electronic materials; and also in consultation with experts in field of psychology, environmental education, and teacher education. Accordingly, Environmental Conservation, Pollution Control, Environmental Behaviour, Health Impacts, Waste Management and Eco-literacy constitute the dimensions of the ESS.

PHASE II – POOLING OF ITEMS

The researcher initially prepared a pool of 100 statements on a four-point Likert-type scale on six dimensions. To check the language style, ambiguity of words, and appropriateness of the statements, it was submitted to language teachers, environmentalists, psychologists, and teacher educators to ensure the content validity of the tool. The researcher used four-point scale for the response as 'Strongly Agree', 'Agree', 'Disagree', and 'Strongly Disagree'. The researcher purposefully avoided neutral response or undecided in order to avoid confusion in the respondents as well as to get the proper response from the respondents to measure their level of ecological sensitivity. For each positive item, the scores were assigned as 4, 3, 2 and 1, and for each negative statement the scores were assigned in reverse order as 1, 2, 3 and 4

respectively. After the administration of the scale, it was scored with due consideration to the scoring procedure suggested by Likert. The sum of the scores of all the items indicates the level of ecological sensitivity of the prospective teachers.

PHASE III – EXPERTS’ OPINION

Experts’ opinion refers to the opinion sought from the subject experts with regard to the draft tool. The draft tool was initially submitted to language experts to verify the language and the appropriateness of statements. Based on the feedback and suggestions of the language experts, the statements were reworded and rewritten. After the reconstruction of the 100 statements meant for Ecological Sensitivity Scale (ESS), the researcher submitted them to a panel of ten experts drawn from the field of environmental education, psychology, and teacher education to check the veracity and suitability of statements. They were requested to check the statements of the draft ESS keeping in mind the following major points:

- Whether statements are appropriately made for the Ecological Sensitivity Scale?
- Whether the statements specified under each dimension are fitting to measure the Ecological Sensitivity of prospective teachers?
- Whether the statements are logically arranged under each dimension of Ecological Sensitivity Scale?
- Whether there is clarity and specificity in each item of the Ecological Sensitivity Scale?
- Whether the language of each statement of the measuring instrument is simple and objective to measure the Ecological Sensitivity of the prospective teachers?

Based on the suggestions given by the experts the statements which were considered as complex, vague, or inappropriate to measure the Ecological Sensitivity of prospective teachers were deleted and some of them were modified. Thus, the researcher prepared the draft tool of ESS with 80 statements as given in Appendix - 1.

PHASE IV – PILOT STUDY

A pilot study was needed to find out the difficulty in understanding the items and for knowing the time required for administration of the scale. Hence the researcher carried out a pilot study of the draft tool of ESS by administering it to 100 prospective teachers from six colleges of education in and around Chennai during the academic year 2014-2015, in order to ensure the clarity of the wordings and the standard of

statements. The researcher scored the answer sheets according to the scoring key prepared for this purpose and subjected to statistical analysis to find out the reliability of ESS.

PHASE V – ESTABLISHING VALIDITY AND RELIABILITY OF ESS

Reliability and validity are essential to the effectiveness of any data-gathering procedure (John W. Best & James V. Kahn, 2014: 288). Hence, the researcher had subjected the newly developed tool ESS for the process of establishing its reliability and validity.

CONTENT VALIDITY OF ESS

The ESS was subjected to content validation during the preparation of the draft tool of ESS to ascertain the coverage of the content and objectives of assessment. The validation of content through competent judgement is most satisfactory when the sampling of items is wide and judicious, and when adequate standardization groups are utilised (Henry E. Garrett, 2008: 355). The researcher gave copies of the initial draft tool of ESS to a panel of ten experts, in order to judge whether each statement would measure what it meant to measure adequately and clearly. Thus the content validity of the ESS was established.

RELIABILITY OF ESS

Reliability is the degree of consistency that the instrument or procedure demonstrates whatever it is measuring, it does so consistently (John W. Best & James V. Kahn, 2014: 289). A test score is called reliable when we have reasons for believing the score to be stable and trustworthy (Henry E. Garrett, 2008: 337). The researcher used Cronbach Alpha Co-efficient and Test-retest method to measure the reliability of the ESS.

In order to measure the reliability of the ESS, initially the researcher calculated Cronbach Alpha Co-efficient to find out the reliability of the draft tool and the value was found to be 0.841 as given in Appendix – 2. The items which scored below 0.3 in the item-total correlation were rejected and finally 43 items were selected for ESS final tool as given in Appendix – 3. Cronbach Alpha was calculated for the final tool ESS as 0.861 as given in Appendix – 4. The intrinsic validity coefficient of the tool was also established by taking the square root of reliability coefficient (0.861), which was found to be 0.927. Thus, it is inferred that the ESS is reliable and valid for the study.

PHASE VI – FINAL FORM OF ESS

The draft tool of 100 statements was limited to 80 statements after the experts' opinion. Based on the pilot study and SPSS analysis, only 43 items were selected. The final tool contains 12 negative statements, and 31 positive statements, altogether 43 statements. Thus the final form of the ESS and the scoring key are given in Appendix 3 and Appendix 4 respectively. The following Table 1 presents the Dimension-wise item numbers and total number of items in each dimension of Ecological Sensitivity Scale and Table 2 presents the scoring key of ESS.

Table – 1
Dimension-wise Item Distribution of Ecological Sensitivity Scale (ESS) and Scoring

Sl. No.	Dimensions	Item Number	Total no. of statements
D 1	Environmental Conservation	1,2,10,23,24,30, 34,36,37,38,39, 41,42,	13
D 2	Pollution Control	8,12,13,22	4
D 3	Environmental Behaviour	3,4,5,6,7,18,19, 20,25,26,27,28, 29, 32,33	15
D 4	Health Impacts	11,40	2
D 5	Waste Management	9,14,15,16,17,21,35	7
D 6	Eco-literacy	31,43	2
Total			43 items

Table - 2
Scoring Key of ESS

Sl. No.	Item Number	Nature of Item	Score			
			Strongly Agree	Agree	Disagree	Strongly Disagree
1	1,2,6,8,9,10,11,12,13,14,15,16,17,21,22,23,24,30,31,32,33,34, 35,36, 37, 38, 39, 40,41,42,43	Positive	4	3	2	1
2	3,4,5,7,18,19,20,25,26,27,28,29	Negative	1	2	3	4

CONCLUSION

Ecological sensitivity enables every individual to respond positively towards environmental issues. If each individual takes some effort to bring a positive change within them, there is more scope for sustainable life on earth. If any harm done to the environment in any part of the world, it will certainly affect the entire world in one or the other form. Hence, it is not only reserved for some people alone are to be ecologically sensitive, rather the mother earth demands that every individual on the earth is to be ecologically sensitive in order to provide a safe environment for future generation and sustainable living of the present generation. Therefore, the researcher has developed an Ecological Sensitivity Scale (ESS) to measure the level of ecological sensitivity of the prospective teachers who are the architects of the future generation. The validity and reliability co-efficient of the measuring instrument is a reasonably valid and reliable one to measure ecological sensitivity of the target population.

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Appendix – 1

Draft Tool – Ecological Sensitivity Scale

Instructions:

Dear student-teachers,

Kindly read the following statements carefully and put a tick mark (√) against any one of the alternatives given. This is only to test the attitude pertaining to the environment and kindly feel free to answer all the questions without omitting any one. This will be used only for research work.

Sl. No.	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
01.	Human beings should take the responsibility of tackling the climate change.				
02.	People should minimize the use of energy to reduce the climate change.				

03.	People think that managing today is more important than protecting the environment for future generation.				
04.	No one is willing to sacrifice their personal comforts for the cause of protecting the environment.				
05.	People think that owning a car is a social status than worrying about the air pollution.				
06.	Humans have no rights to modify the natural environment to suit their demands.				
07.	Humans are severely misusing the planet.				
08.	Plants and animals also have the rights to live as humans on earth.				
09.	People think that it is below their dignity to use the public transport system.				
10.	People think that it is below their dignity to walk or cycle to their work place.				
11.	Better to compost the leaves instead of burning or throwing them away.				
12.	I prefer printing on both sides of paper than one side of the paper.				
13.	I recommend for the reuse of envelopes, folders, paper clips etc.				
14.	I prefer to communicate through e-mail than use of papers.				
15.	People should come forward to the use recycled papers as much as possible.				
16.	Paint with brushes and or rollers instead of using spray paints to minimize harmful emissions.				
17.	I wish to join in car pool or van pool to go to work/ office.				

18.	It is better to turn off washing machine's water supply to prevent water leaks, when it is not in use.				
19.	I go for periodical servicing and emission checking of vehicles to prevent air pollution				
20.	I prefer to buy provisions in bulk from loose bins whenever possible to reduce the packaging waste.				
21.	I try to repair and maintain the durable products instead of buying a new one.				
22.	I carry cloth bags than plastic bags for shopping.				
23.	I recommend for use of cloth napkins instead of tissue papers.				
24.	I recommend for use of reusable utensils instead of disposable ones.				
25.	I prefer to use rechargeable batteries for electronic devices.				
26.	People should compost the vegetables scraps, instead of throwing them on the road.				
27.	It is better to share the vehicle by the family members instead of using separate vehicles.				
28.	There is nothing wrong in dumping trash on streets as everyone does it.				
29.	It is the responsibility of the garbage collector to remove the trash from the streets thrown by us.				
30.	People think that their duty ends with just plantation of saplings.				
31.	There is nothing wrong in using chemical fertilizers and pesticides for good yield of crops.				

32.	Segregation of the waste before its disposal is essential to avoid pollution.				
33.	I don't feel that my little damage to environment is going to greatly affect the ecosystem.				
34.	I will campaign for recycling of waste water.				
35.	I suggest my family members to use air conditioned room rarely to reduce the emission of Chloro Fluro Carbon.				
36.	I motivate people to plant as many saplings as possible in their life time.				
37.	I prefer to use organic manure and vermin compost fertilizers for my garden.				
38.	I have a hope in the future generation may find some solutions for invention may come in future for the replacement of Chloro Fluro Carbon.				
39.	Let me enjoy the available energy resources as much as possible.				
40.	Finding solutions to environmental issues is not my botheration.				
41.	Every human being has all the rights to use the natural resources.				
42.	I would prefer wooden furniture rather than any other materials.				
43.	I don't mind to spend any amount of money for fast/junk food than spending on fruits and vegetables.				
44.	I enjoy bursting crackers even though it causes air pollution.				
45.	I am not bothered to segregate biodegradable and non –biodegradable waste in my home.				

46.	People should protest against the cutting down the trees.				
47.	I am much worried of the increasing global warming.				
48.	I am much worried about the loss and extinction of plants and animals.				
49.	I will try all possible means to reduce the energy consumption at home and work place.				
50.	Violation of rules with regard to the protection of environment worries me.				
51.	Environmental Education should be taught as an interdisciplinary subject at all levels of education.				
52.	I prefer to purchase eco-friendly products.				
53.	I prefer to eat vegetarian food than non-vegetarian food.				
54.	I prefer to pay all my bills through online.				
55.	I have nothing to do with carbon foot print.				
56.	I am much worried about the water scarcity that will affect over 1.8 billion people by 2025 as projected by WHO.				
57.	I am much afraid of water demands likely to double by 2050 as projected by WHO.				
58.	Every individual should take active participation in the environmental awareness programme/movement.				
59.	It is better to turn off my PC/laptop when it is not in use for more than 20 minutes.				
60.	I prefer to use stair case instead of using the elevators/lifts.				
61.	I wanted to be a role model for the conservation				

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	of natural resources.				
62.	People littering the highways annoy me much.				
63.	I am interested in donating my unused things/materials to the needy and poor, instead of burning or throwing them.				
64.	Youngsters should be motivated to protect the 'mother earth'.				
65.	Use of organic fertilizers and bio-manure should be encouraged in agriculture.				
66.	Use of traps are ideal than the other insect killers.				
67.	Watering the plants in the early morning is always advisable.				
68.	It is better to use solar power than electric power.				
69.	Brushing teeth with water running continuously should be avoided.				
70.	One has to buy the products maximum that can be reused.				
71.	We all should go for community cooking to reduce fuel consumption.				
72.	I prefer to use of sprinklers for watering plants to avoid soil erosion.				
73.	Everyone should practice the rain water harvesting for regeneration of water.				
74.	We should avoid artificial colours and chemicals in cooking.				
75.	All should use biogas to reduce fuel scarcity.				
76.	People need to encourage e-books and digital library to save trees.				

77.	We should use social networking effectively to spread environmental awareness.				
78.	Owners of automobiles should use only Compressed Natural Gas (CNG) instead of petrol and diesel.				
79.	Smoking should not be banned.				
80.	People should have the freedom to spit anywhere.				

Appendix 2

Reliability of Draft Tool of Ecological Sensitivity Scale

No. of Items	Cronbach's Alpha
80	.841

Item-Total Statistics

Ecological Sensitivity Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Items Selected / Rejected
ES.1	268.30	287.162	.618	.835	Selected
ES.2	268.38	284.460	.589	.834	Selected
ES.3	268.47	284.716	.482	.835	Selected
ES.4	268.38	284.804	.554	.834	Selected
ES.5	268.35	286.957	.541	.835	Selected
ES.6	270.35	314.008	-.422	.852	Selected
ES.7	268.17	300.143	-.041	.842	Rejected
ES.8	268.15	300.068	-.046	.841	Rejected
ES.9	268.29	293.359	.356	.838	Selected
ES.10	268.20	297.091	.193	.840	Rejected
ES.11	268.40	288.889	.390	.837	Selected
ES.12	268.27	298.482	.099	.841	Rejected
ES.13	268.56	288.815	.390	.837	Selected
ES.14	268.32	292.361	.357	.838	Selected
ES.15	268.25	299.866	-.016	.842	Rejected
ES.16	268.52	297.080	.313	.841	Selected

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ES.17	268.50	296.535	.365	.840	Selected
ES.18	268.56	297.926	.055	.842	Rejected
ES.19	268.40	299.051	.430	.842	Selected
ES.20	268.20	298.263	.165	.840	Rejected
ES.21	268.23	299.431	.422	.841	Selected
ES.22	268.53	299.908	-.323	.842	Selected
ES.23	268.22	292.840	.525	.838	Selected
ES.24	268.47	285.585	.489	.835	Selected
ES.25	268.19	299.105	.076	.841	Rejected
ES.26	268.30	297.162	.148	.840	Rejected
ES.27	268.27	299.674	.000	.841	Rejected
ES.28	268.51	299.505	.420	.842	Selected
ES.29	269.11	287.089	.308	.838	Selected
ES.30	268.31	288.701	.533	.836	Selected
ES.31	268.21	299.723	-.007	.842	Rejected
ES.32	270.37	313.569	-.486	.851	Selected
ES.33	268.36	292.374	.292	.838	Rejected
ES.34	268.48	283.949	.523	.834	Rejected
ES.35	270.63	311.023	-.386	.850	Selected
ES.36	270.57	313.419	-.442	.851	Selected
ES.37	268.36	286.596	.529	.835	Selected
ES.38	269.29	306.592	-.194	.850	Rejected
ES.39	268.35	287.604	.538	.835	Selected
ES.40	270.45	313.705	-.403	.852	Selected
ES.41	269.58	287.519	.241	.840	Rejected
ES.42	268.40	287.232	.491	.835	Selected
ES.43	269.86	298.990	-.005	.844	Rejected
ES.44	268.37	288.155	.481	.836	Selected
ES.45	269.34	289.217	.205	.841	Rejected
ES.46	269.45	287.361	.269	.839	Rejected
ES.47	268.45	284.452	.501	.835	Selected
ES.48	270.16	312.984	-.459	.851	Selected
ES.49	268.27	298.482	.099	.841	Rejected
ES.50	270.04	310.584	-.128	.851	Rejected
ES.51	268.85	274.654	.611	.830	Selected
ES.52	269.09	273.497	.604	.830	Selected
ES.53	269.24	274.002	.159	.831	Rejected
ES.54	268.99	274.616	.298	.831	Rejected
ES.55	268.50	284.697	.254	.835	Rejected
ES.56	268.52	297.080	.113	.841	Rejected
ES.57	268.30	297.162	.148	.840	Rejected

ES.58	268.63	277.367	.629	.831	Selected
ES.59	268.53	299.908	-.023	.842	Rejected
ES.60	269.01	273.141	.636	.830	Selected
ES.61	268.25	299.866	-.016	.842	Rejected
ES.62	268.99	272.818	.661	.829	Selected
ES.63	268.50	296.535	.165	.840	Rejected
ES.64	268.56	297.926	.055	.842	Rejected
ES.65	268.40	299.051	.030	.842	Rejected
ES.66	268.20	298.263	.165	.840	Rejected
ES.67	268.23	299.431	.022	.841	Rejected
ES.68	269.51	321.788	-.516	.858	Selected
ES.69	268.69	285.267	.492	.835	Selected
ES.70	268.27	299.674	.000	.841	Rejected
ES.71	268.45	289.179	.261	.836	Rejected
ES.72	268.70	283.667	.518	.834	Selected
ES.73	268.57	282.975	.638	.833	Selected
ES.74	268.61	283.675	.557	.834	Selected
ES.75	268.58	284.347	.525	.834	Selected
ES.76	268.43	283.924	.567	.834	Selected
ES.77	268.86	273.819	.640	.830	Selected
ES.78	268.69	291.024	.246	.838	Rejected
ES.79	269.66	277.439	.185	.833	Rejected
ES.80	268.31	295.166	.186	.840	Rejected

Appendix 3

Final Tool of Ecological Sensitivity Scale

Instructions:

Dear student-teachers,

Kindly read the following statements carefully and put a tick mark (✓) against any one of the column given. This is only to test the attitude pertaining to the environment and kindly feel free to answer all the questions without omitting. This will be used only for research work.

Sl. No.	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
01.	I should take the responsibility of tackling climate change.				
02.	I should minimize the use of energy to reduce climate change.				

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03.	I think managing today is more important to me than protecting the environment for future generation.				
04.	I am not prepared to sacrifice my comforts for the cause of protecting the environment.				
05.	Owning a car is a social status for me than bothering about the air pollution.				
06.	I don't have the rights to modify the natural environment to suit my demands.				
07.	I think, it is below my dignity to use the public transport system to commute.				
08.	I prefer composting the leaves instead of burning them.				
09.	I prefer to reuse the envelopes and folders as far as possible.				
10.	I prefer to communicate through e-mail than papers where ever possible.				
11.	I recommend for painting with brushes or rollers instead of using spray paints.				
12.	I wish to join in car pool or van pool to go to work.				
13.	I do periodical emission checking for my vehicle to prevent air pollution.				
14.	I wish to repair and maintain the durable products instead of buying a new one.				
15.	I prefer to use eco-friendly bags than plastic bags for shopping.				
16.	I prefer to use cloth napkins instead of tissue papers.				
17.	I prefer to use of reusable utensils than disposable ones.				
18.	I think, there is nothing wrong in me of dumping trash on streets like others.				

Ecological Sensitivity Scale (ESS)

19.	It is the responsibility of the garbage collector to remove the trash from the streets thrown by me.				
20.	I think that my duty ends with just plantation of saplings.				
21.	I think it is my responsibility to segregate the waste before its disposal.				
22.	I advise my family members to use air conditioner rarely to reduce the emission of Chloro Fluro Carbon.				
23.	I encourage people to plant as many saplings as possible in their life time.				
24.	I prefer to use organic manure and vermi compost fertilizers for my garden.				
25.	I wish to enjoy maximum the available energy resources as much as possible.				
26.	Finding solutions to environmental issues is not my botheration.				
27.	I do not mind to cut of trees for making furniture.				
28.	I enjoy bursting of crackers even though it causes pollution.				
29.	I am not bothered about the increase in global warming.				
30.	I think extinction of plants and animals should be prevented.				
31.	I wish that environmental education should be taught as an interdisciplinary subject at all levels of education.				
32.	I prefer to purchase eco-friendly products as far as possible.				
33.	I would like to actively participate in the environmental awareness programmes.				

34.	I prefer to use stair case instead of escalators to save electricity.				
35.	I would like to avoid littering in public places.				
36.	I recommend for usage of solar power than electric power.				
37.	I try to avoid water running continuously for my usage.				
38.	I prefer to use sprinklers for watering plants to avoid soil erosion.				
39.	Everyone should practice rain water harvesting for regeneration of water.				
40.	I would like to avoid artificial colours and chemicals in cooking.				
41.	I prefer to use biogas to reduce fuel scarcity.				
42.	Everyone needs to encourage e-books and digital libraries to save trees.				
43.	I think social networking could be effectively used to spread environmental awareness.				

Appendix – 4

Reliability of Final Tool - Ecological Sensitivity Scale

No. of Items	Cronbach's Alpha
43	.861

Item-Total Statistics

Sl. No	Ecological Sensitivity Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	ES.1	141.59	80.164	.554	.694
2	ES.2	141.67	79.355	.484	.693
3	ES.3	141.76	79.821	.365	.698

Ecological Sensitivity Scale (ESS)

4	ES.4	141.67	79.557	.449	.694
5	ES.5	141.64	80.354	.456	.696
6	ES.6	141.46	86.675	-.376	.716
7	ES.9	141.58	83.236	.306	.705
8	ES.11	141.69	81.347	.312	.702
9	ES.13	141.85	81.260	.316	.701
10	ES.14	141.56	85.178	.460	.710
11	ES.16	141.81	84.398	.342	.710
12	ES.17	141.79	84.733	.336	.711
13	ES.19	141.69	86.196	-.412	.716
14	ES.21	141.52	86.192	.304	.714
15	ES.22	141.82	85.846	.413	.716
16	ES.23	141.59	84.749	.356	.710
17	ES.24	141.56	85.845	.356	.713
18	ES.28	141.80	85.576	.448	.714
19	ES.29	142.40	78.970	.314	.700
20	ES.30	141.50	86.313	-.421	.715
21	ES.32	143.66	92.590	-.430	.742
22	ES.35	143.92	91.529	-.354	.740
23	ES.36	143.86	92.808	-.412	.744
24	ES.37	141.65	83.523	.383	.709
25	ES.39	141.64	80.980	.425	.698
26	ES.40	143.74	92.922	-.379	.747
27	ES.42	142.58	88.872	-.375	.739
28	ES.44	142.74	81.811	.441	.714
29	ES.47	141.74	79.447	.399	.696
30	ES.48	143.45	92.371	-.411	.742
31	ES.51	142.14	73.940	.546	.680
32	ES.52	142.38	73.672	.523	.681
33	ES.58	141.92	74.640	.604	.679
34	ES.60	141.56	85.178	.360	.710
35	ES.62	141.81	84.398	.342	.710
36	ES.68	141.82	85.846	.413	.716
37	ES.69	141.59	84.749	.356	.710
38	ES.72	141.99	77.848	.497	.689
39	ES.73	141.86	77.314	.635	.684
40	ES.74	141.90	77.444	.567	.686
41	ES.75	141.87	78.336	.495	.691
42	ES.76	141.72	77.355	.594	.686
43	ES.77	142.15	72.290	.642	.672