

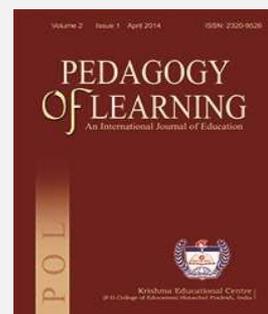
PEDAGOGY OF LEARNING (POL)

International Refereed/ Peer Reviewed
Journal of Education

E-ISSN: 2395-7344, P-ISSN: 2320-9526

Abstracted and indexed in: Google Scholar,
Research Bib, International Scientific Indexing
(ISI), Scientific Indexing Services (SIS),
WorldCat, Cite Factor,
Impact Factor: 0.787(GIF)

Website: <http://pedagogyoflearning.com>



Environmental Awareness of the Prospective Teachers in Elementary Teacher Training Institutes of Odisha

Krupasindhu Karan, Ph.D.

Lecturer in Education

N.P.Mahila Mahavidyalaya, Nayagarh, Odisha, India

E-mail: krupasindhu.karan@gmail.com

Nityananda Pradhan, Ph.D.

Principal, Regional Institute of Education

NCERT, Bhopal, Madhya Pradesh

Email: npradhan17@rediffmail.com

Corresponding Author: Krupasindhu Karan, Ph.D.

E-mail: krupasindhu.karan@gmail.com

Article History:

Received: 17 May 2019, Received in revised form: 29 June 2019

Accepted: 28 June 2019, Published online: 26 July 2019

Abstract

This study is undertaken to investigate the environmental awareness of the prospective teachers studying in elementary teacher training institutes of Odisha. This paper is based on the outcomes of the environmental awareness as a whole and five aspects of environmental activities like afforestation and soil conservation, conservation of energy, health and sanitation, pollution control, and population situation. The objectives of the study were to study the environmental awareness of the prospective teachers studying in elementary teacher training institutes with reference to their sex and levels of education. Survey research design was employed in carrying out of the study. Sex and qualification variables of the sample were investigated. The sample of the study consisted of 428 (Male-268, Female-160, High Qualified-164, Low Qualified -264) pupil teachers studying in three DIETs and nine S.T Schools of Odisha from the three revenue divisions of Odisha—viz. Central, Northern, Southern. Cluster sampling technique was followed in selection of the sample. The data were collected by employing the tools like Environmental Awareness Test (EAT) developed by the

investigator. Both qualitative and quantitative statistical techniques were employed in the analysis of data. For qualitative analysis percentage is employed through five levels of environmental awareness such as A, B, C, D, E respectively for High level, Above Average level, Average level, Below Average level, Low level. For quantitative analysis 't' test is employed to test the significance of difference and testing of null hypotheses. The results of environmental awareness of prospective teachers are presented in Table I to IV. In environmental awareness test majority of prospective teacher possess average (C-Level) Level of awareness. The female Prospective teachers are more aware towards/about their environment as compared to their male counterparts (Table-2). The mean environmental awareness score of male and female prospective teachers did not differ significantly (table-2, $t=0.78$; $p>0.05$). The same is noticed in case of qualification variable, the mean environmental awareness scores of high qualified prospective teachers did not differ significantly as compared to their low qualified counterparts (table-4, $t=0.59$; $p>0.05$).

Keywords: Environmental awareness, Prospective teacher

BACKGROUND AND RATIONALE

The whole world's attention is now focused on the state of the environment. Degradation of the environment brought about by development in science and technology and the need to satisfy the demands of the growing population are becoming more visible. Environment is polluted day by day due to rapid growth of industry, power plant, automobiles, acid rain, harmful, ultraviolet rays, depletion of ozone layer, deforestation, nuclear explosion, etc. degradation of environment brings serious consequences like soil erosion, desertification, climatic changes, floods, increased concentration of carbon dioxide, drought, heat waves, increase in snowfall, rise in sea level etc.

An assessment by UNEP in 1984 revealed that about 4000 million hectares of the world's rangelands, rain fed croplands and irrigated lands- an area approximately the size of North and South America combined- is affected by desertification. Each year some 21 million hectares are reduced to a state of near or complete usefulness. According to Red Data Book issued by the IUCN, 1000 species of birds and mammals are currently, threatened with elimination. IUCN estimates that 10 percent of the species of flowering plants are also threatened with elimination. An estimated prepared for Global 2000 study suggests that between half a million and 2 million species – 15 to 20 percent of all species on earth- could be extinct by 2000, mainly because of loss of wild habitat but also in part because of pollution Extinction of species on this scale is without precedent in human history (UNESCO-UNEP, 1988; Reported in Sharma and Tan, 1990 P.114). Consumption Explosion" is mainly happening in the developed countries. The developed countries with only 25 percent of the world's population consume about 75 percent of the world's resources (Ramana, 1980; Reported in Sharma and Tan, 1990, pp.104-165).

There has been a lot of discussion in the relationship between environment and education. It is now recognized that where poverty is widespread and large numbers of people do not have adequate food, shelter, healthcare, education or proper employment, sheer lack of development may degrade the quality of life more than the adverse environmental impacts of development. The grinding and pervasive poverty in the developing nation has been referred to as the "pollution of poverty" while the wide spread neglect of the environment and erosion of social values in the developed nations has been described as the "pollution of affluence" (Ramana, 1980 ; Reported in Sharma and Tan, 1990 , p.164).

Review of researches on environmental education and teacher education related to the study revealed that both the areas are neglected mostly in terms of quality of research. It can be seen from the review of related studies on environmental education in India that a good number of studies have been conducted to assess the environmental awareness and attitude of students, teachers and community members at different levels (e.g. Rajput, 1980; Gupta, 1981; Gupta, 1986 ;Praharaj, 1991; Kaur, 1992; Mohanty, 2003 Annakodi,(2008)) ; Roa,(2010); Larijani,(2010); Singh,(2011); , Singhal (2012); Dave,(2012); Poonam,(2012); Hassan (2012); Deka (2013) . Most of these studies seek only to reveal the state of awareness or attitude with reference to independent variables like sex, levels of education, experience and locality etc.

The intervention studies conducted by the researchers (Pal, 1981; Antonysamy, 1989; Verma, 1997; Singh, 2000) also suffer from the similar deficiencies. The foreign studies, on the other hand, have put more stress on planning and implementation of environmental projects at the community/School level involving the beneficiary school students and community members. These studies carried out in different parts of the globe e.g. USA, Australia, Canada, Greece, Romania, reported to have generated tremendous impact on the environmental awareness, attitude and interest of the school teachers, students and community members.

It can be seen from a cursory look at the abstracts of the related studies in teacher education are related to attitude of teachers towards teaching profession. None of these attitude studies have touched upon the other important concerns of teaching learning process on society including our environment. Thus, most of the researches in teacher education in India have been narrowly conceived. The present study is an attempt to study the environmental awareness of the target group with the ultimate aim to use them in designing on framework for curriculum development.

Objectives of the study

1. To study the environmental awareness of the prospective teachers studying in Elementary Teacher Training Institutes (ETTs) of Odisha with reference to their sex.
2. To study the environmental awareness of the prospective teachers studying in Elementary Teacher Training Institutes (ETTs) of Odisha with reference their levels of education.

Hypotheses

1. There exists no significant difference between male and female prospective teachers studying in ETTs of Odisha with regard to their environmental awareness.
2. There exists no significant difference between high qualified and low qualified prospective teachers studying in ETTs of Odisha with regard to their environmental awareness.

DESIGN OF THE STUDY

Survey research design was followed for the study.

Variables

In this study the environmental awareness (attitude and interest) of the prospective teachers have been studied with reference to their sex and levels of education (High qualified

and low qualified). The subjects possessing with Degree and above qualification are considered are high qualified pupil teachers and the subjects with Higher Secondary or less qualification are considered as low qualified.

Population and Sample

The population of the study constitute all the pupil- teachers (pre-service) studying in 13 DIETs and 53 S.T.Schools run under the Department of School and Mass Education, Govt. of Orissa. The sample of the study consists of 428 (male-268, female-160, highqualified-164, low qualified-264) pupil teachers studying in 3 DIETs and 9 S.T. Schools of Orissa. These pupil teachers constitute the key informants for the study. Cluster or multistage sampling technique was employed in selection of the sample (Aggarwal, 1988, PP. 60-68). For the purpose one DIET and three S.T. Schools were selected from three revenue divisions of Orissa, viz. Central, Northern and Southern, by following simple random technique.

Tools

Environmental Awareness Test (EAT) to assess the environment awareness of prospective teachers studying in DIETs and S.T. Schools of Odisha was constructed by the investigator. The test consists of 42 items covering the five aspects of environmental activities like afforestation and soil conservation, conservation of energy, health and sanitation, pollution control, and population situation. The items of the test are multiple-choice type of objective items. For each correct answer, the respondent was awarded one mark and 0 (zero) for wrong answer.

Method of Data Collection

The data were collected by the investigator personally. The investigator visited three DIETs and nine S.T. Schools for the purpose of collection of data: one DIET and three S.T. Schools from Central, Northern and Southern Revenue Divisions of Orissa. Each test was administered separately, and no time limit was given for answering the test. But the pupil-teachers were requested to respond to all the items as quick as possible.

Techniques of Data Analysis

Both qualitative and quantitative techniques were used in the analysis of data. The data collected through the structured tools like Environmental Awareness Test (EAT) was put to both qualitative and quantitative analysis, using percentage and 't' test respectively.

RESULTS

The data collected through the tools were analyzed and interpreted with regard to environmental awareness, (attitude and interest) of prospective teachers. For qualitative analysis percentage is employed through five levels such as A,B,C,D,E respectively for High level, Above Average level, Average level, Below Average level ,Low level. For quantitative analysis 't'is employed to test the significance of difference and testing of null hypotheses.

Table-1: Prospective Teachers Studying in ETTIs of Odisha at Different levels of Environmental Awareness by Sex

Levels of Awareness	Scores	Number and percentage of Respondents		
		Male(N=268)	Female(N=160)	Total(N=428)
A	36-42	5(1.87)	2(1.25)	7(1.64)
B	26-35	51(19.03)	14(8.75)	65(15.19)
C	16-25	149(55.60)	132(82.50)	281(65.65)
D	6-15	56(20.89)	8(5.00)	64(14.95)
E	0-5	7(2.61)	4(2.50)	11(2.57)

Note (i) Figures in the parenthesis indicate percentage (ii) A=High Level, B=Above Average Level, C=Average Level, D=Below Average Level, E =Low Level.

The results of environmental awareness of prospective teachers studying in ETTIs of Odisha as a whole indicate that majority of them possess average level (c-level)of environmental awareness(65.65%). The sex difference appears to be wide at average level (5.90% male and 82.50%female) as well as below average level(20.89% male and 5.00% female) with higher percentage of female prospective teachers but negligible at high level, above average level and low level. With regard to five aspects of environmental awareness, that majority of prospective teachers possess average level of awareness and in favour of female prospective teachers.

Table-2: ‘t’ value: Significance of Difference between mean Environmental Awareness Scores of Male and Female Prospective Teachers

Groups	N	Mean	SD	Sep	‘t’-value
Male	268	20.19	7.39		0.78
Female	160	20.66	5.11	.60	(P>0.05)

The results of mean environmental awareness score of male prospective teachers did not differ significantly from that of their female counterparts ($t=0.78$; $P>0.05$). however the higher mean score of female prospective teachers (20.66) as compared to that of their male counterparts (20.19) indicate that the former category more aware than the later. On the basis of this result the null hypothesis ($H_{01.1}$) was retained. However, the difference in respect of afforestation and soil conservation aspect was found significant and in favour of female prospective teacher $t=2.93$; ($P<0.01$). the mean difference in other four aspects of environment awareness was found not significant and in favour of female prospective teachers.

Levels of Education and Environmental Awareness

Table-3: Prospective Teachers Studying in ETTIs of Odisha at different Levels of Awareness by Levels of Education

Levels of Awareness	Scores	Number and Percentage of Respondents		
		High Qualified (N-164)	Low Qualified (N-264)	Total (N=428)
A	36-40	2(1.22)	5(1.89)	7(1.64)
B	26-35	18(10.98)	47(17.80)	65(15.19)
C	16-25	127(77.44)	154(58.33)	281(65.65)
D	6-15	13(7.92)	51(19.32)	64(14.95)
E	0-5	4(2.44)	7(2.65)	11(2.57)

Note i-Figures in the parenthesis indicate percentage; ii- A=High Level, B=Above Average Level, C=Average Level, D=Below Average Level, E=Low Level

The results of table-3 show that majority of the prospective teachers possess average level (C-Level) of environmental awareness (65.65%). The difference between high qualified and low qualified prospective teachers was found to be wide at average level (77.44% and 58.33%) as well as above average level (10.98% and 17.80% respectively). The difference is negligible at the high as well as low level.

With regard to five aspects of environmental awareness that majority of prospective teachers possess average level (c-level) of awareness and in favour of high qualified prospective teachers as compared to their low qualified counterpart.

Table-4: ‘t’-value: Significance of Difference between mean Environmental Awareness Scores of High Qualified and Low Qualified Prospective Teachers

Groups	N	Mean	SD	SE _D	‘t’-value
High Qualified	164	20.59	5.57	0.63	0.59
Low Qualified	264	20.22	7.48		(P>0.05)

The results of thable-4 show that the mean environmental awareness scores of High Qualified prospective teachers did not differ significantly from that of their low qualified counterparts(t=0.59; P>0.05). However, the higher mean score of the high qualified prospective teachers (20.59) as compared to that of their Low Qualified counterparts (20.22) indicate that the former group is more aware that the later.

DISCUSSION AND CONCLUSION

The results of environmental awareness of prospective teachers are presented in table I to IV. In environmental awareness test majority of prospective teacher possess average (C-Level) Level of awareness. The female Prospective teachers are more aware towards/about their environment as compared to their male counterparts (table-2). The mean environmental awareness score of male and female prospective teachers did not differ significantly (table-2,

t=0.78; p>0.05). The same is noticed in case of qualification variable, the mean environmental awareness scores of high qualified prospective teachers did not differ significantly as compared to their low qualified counterparts (table-4, t=0.99; p>0.05). It further depicts that higher mean score of high qualified prospective teachers are more aware about their environment as compared to their low qualified counterparts. The male and female prospective teachers and high qualified and low qualified prospective teachers studying elementary teacher training institute of Odisha do not differ with regard to their environmental awareness in this study. Teacher is the right person who can disseminate environmental information to the students very easily and intelligently through various curricular and co-curricular activities by which the younger generation can aware about their immediate and remote environment. Keeping in view the importance of environment for existence of human civilization the apex court of India instructed to provide Environmental Education at each stage of education on 22nd November 1991. Teachers need to be prepared to become environmental education (EE) facilitators, who will proactively adopt the activity oriented approach to teaching and learning through, about and for the environment. This will require in addition to teacher training, ongoing support that will reach into schools/colleges and influence the environmental education (EE) programme. This support could be perhaps from an external resource agency that closely interacts with the educational system on an ongoing basis. The problem of environment abuse is a serious one and needs to be addressed at the local, national and international levels. It is concluded that since environmental knowledge do not always influence awareness and behavioural intentions, a strategy has to be chalked out on national level for environmental education in teacher education, and current curricula should be reconsidered in terms of effectiveness.

REFERENCES

- Annakodi , R (2008). *Environmental awareness among the high school students of Coimbatore, recent trends environmental education*. Department of Education, Avinashilingam University of Women, p.10-17.
- Antonymsamy, L.(1989). *Teaching environmental concepts to school dropouts through video and charts*. M.Phil. Madurai Kamaraj University; In NCERT(2000): Fifth Survey of Educational Research (1988-92), Vol.II, New Delhi: NCERT.
- Dave.D.(2012). Impact of environmental studies on the environmentally appropriate behaviour and awareness of students of Udaipur and Gautam Buddha nagar city. *Indian Journal of Environmental Education, Vol . 12, ISSN : 0975*
- Deka,R.S. (2013). Programmes taken by the schools for preserving environment-a study in the international organization of scientific research. *Journal of Research & Method in Education (IOSR-JRME), Volume 1, Issue 2 , pp. 34-37.*
- Gupta, V.P. (1981). A study of the environmental awareness among children of rural and urban schools and non-formal education centers. Regional College of Education, Bhopal; In Buch, M.B(1987).*Third Survey of Research in Education*, NCERT, New Delhi.
- Hassan,D. (2012). A study of relationship between environmental awareness and scientific attitudes among higher secondary students. *Indian Journal Of Applied Research X 57, Vol. 1 ,Issue : 12 , p. 57*
- Kaur, H.P.(1992). A study of population awareness in relation attitude towards environmental education and population education of professional teachers. Ph.D.

- Edu. Punjab University, In NCERT (2000): *Fifth survey of Educational Research (1988-22)*, Vol.II, P.1743.
- Larijani, M. (2010). Assessment of environmental awareness among higher primary school teachers of Mysore city in India. *Journal of Human Ecology*, vol. 31 (2).
- Mohanty, B. (2003). Creating awareness about forest protection. *UNESCO-UNEP Environmental Education News letter*, Vol. XXVIII, Nos. 102, 2003; UNESCO, Education Sector, Paris.
- Pal, S.G.(1981). Preparation and tryout of curriculum in environmental studies leading to lifelong education for college students, Ph.D. Edu. M.S University; In Buch, M.B (1987): *Third Survey of Research in Education (1978-83)*, New Delhi: NCERT.
- Poonam (2012). A comparative study of environmental awareness among government and private secondary school students. *International Journal of Educational Planning & Administration*. Volume 2, Number 2, pp. 125-127.
- Praharaj, B. (1991). Environmental knowledge, environmental attitude and perception regarding environmental attitude and perception regarding environmental education among pre- service and in-service secondary school teachers. Ph.D. Edu.M.S. University, Baroda; In NCERT(2002) *Fifth Survey of Educational Research(1988-92)*, Vol.II, P.1756, New Delhi.
- Rajput, J.S. (1980). A research study in environmental approach of teaching at primary level, regional college of education, Bhopal; In Buch, M.B. (1987-83), New Delhi: NCERT.
- Ramana, D.V. (1980). An Overview of Environment and development in Asia and the Pacific, Bangkok, UNAPDI, In Sharma and Tan (1990): Source Book in Environmental Education for Secondary School Teacher UNESCO Principal Regional Office for Asia and the Pacific, Bangkok.
- Roa, K. (2010). Environmental awareness among the Diploma in education students of rural and urban colleges of Gurgaon and Rewari district. *International Referred Research Journal Vol.II*, Issue -18. p.16.
- Singh, P. D. (2000). Keeping our water resources clean. In Connect-UNESCO-UNEP, *Environmental Education Newsletter*, Vol.XXV, Nos.2, 2000: UNESCO Education Sector, Paris.
- Singhal, A. (2012). Environmental awareness and environmental attitude of secondary and higher secondary school teachers and students, Ph.D. Thesis, University of Rajasthan, *Fifth Survey of Educational Research*, vol.II.(33). New Delhi: NCERT.
- Verma, O.P.(1997). Clean up the World Programme for Environmental Education Activities. *Connect-UNESCO-UNEP-Environmental Education Newsletter*, Vol.XXII, No.1, 1997: UNESCO Education Sector, Paris.

Recommended citation of this article:

Karan, K. and Pradhan, N. (2019). Environmental awareness of the prospective teachers in elementary teacher training institutes of Odisha. *Pedagogy of Learning*, 5(3), 09-16. Available at: <http://pedagogyoflearning.com>.