

ATTITUDE OF TRAINEE-TEACHERS TOWARDS ENVIRONMENTAL SUSTAINABILITY: A COMPARATIVE STUDY

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Abstract:

Environmental sustainability is a global concept today. It is an approach to deal with man's relationship with population, resources, pollution, conservation, technology, urban and rural planning to the bio-sphere. The world faces today myriad problems related to the environment of global and local dimensions depletion of resources, global warming, air, soil and water degradation, creation of waste, loss of forests, concretization of land and many others. Educator, scientist, environment specialist and policy makers are rapidly pointing towards the human activities for the destruction of the environment. To get rid of this problem, at first we have to build appropriate attitude and make aware the citizens about it. It can be done possible by the teaching-society. Teachers are the real man-makers. Therefore, the investigators made an attempted to find out the attitude of trainee-teachers towards environmental sustainability. The investigators developed and standardized a tool –Scale for Measuring Attitude towards Environmental Sustainability (SMATES) which had reliability co-efficient by Cronbach's alpha 0.651. 209 trainees were collected as samples from teacher-training colleges by stratified random sampling techniques. Collected data was analysed by various statistical techniques like mean, standard deviation, t test ANOVA etc. through SPSS 20.0. The study revealed that, gender had significant impact on the difference between mean scores of attitude of trainees. But level of training course had no significant impact on the difference between mean scores of attitude of trainees.

Key words: Knowledge, Attitude, Environmental sustainability, Trainee-teachers.

Introduction

The world faces today myriad problems related to the environment of global and local dimensions depletion of resources, global warming, air, soil and water degradation, creation of waste, loss of forests, concretization of land and many others. Conferences organised by different National and International NGO Forums show that environment is the main agenda. The word "Sustainable development" was first used by 'World Commission on Environment and Development (Brundtland Commission)' in 1987 in their publication 'Our Common Future'.

According to this commission, sustainable development is the ability of humanity to ensure that it meets the needs of present without compromising the ability of future generations to meet their own needs. Sustainable development has three major aspects which are called sustainable triangle viz. environmental sustainability, economic sustainability and social sustainability. United Nations 2005 World Summit Outcome Document refers that those three aspects of sustainable development are mutually interdependent. Ensuring environmental sustainability therefore has become one of the eight Millennium Development Goals established by the UN at the Millennium Summit, where all the member states agreed to achieve these goals by the year 2015. In order to protect and conserve the environment and enabling people to lead quality life, emphasis has been given to environmental education in both formal and non-formal system of education^[1]. In formal system of education, teachers play a very dynamic role in transmitting knowledge, attitude and concern to revert or at least control the damage that has been caused to the environment. A precondition to it remains, that teachers must possess skills to educate, train and sensitize students about the environmental issues. The relevance of including 'sustainable development' in B.Ed. syllabus of teacher training institutes is that the National Policy on Education-1986 (India) and NCFSE (2005) highlight the need for including Environmental concerns at all the levels of schoolings. The Honorable Supreme Court of India has endorsed a model syllabus (2004) prepared by the NCERT for introducing environmental studies as a compulsory school subject. With all effort from agencies responsible for determining quality education, school teachers have the major duty to install values and attitude among students through the subjects they are teaching in school so that students could behave sensibly towards the environment and contribute towards sustainable development. For this noble task, it is necessary that teacher training programme should be designed to equip trainee teachers for inculcating attitude through different subjects and this requires that pupil teachers should have positive attitude towards environment to manifest responsible environmental behavior^[2]. That's why; Environmental Education should have an important issue in pre-service teacher education curriculum^[3, 4]. Due to those reasons the researchers is trying to find out the attitude of teacher-trainees towards environmental sustainability. Hence, the present study may open an avenue for research in curriculum reform for teacher training programme encouraging innovative pedagogical approach to be practiced in school.

Objectives of the Study

The objectives of the present study are given below-

1. To know the level of attitude towards environmental sustainability of trainee-teachers.
2. To compare the level of attitude towards environmental sustainability of male and female trainee-teachers.
3. To compare the level of attitude towards environmental sustainability of B.Ed. and M.Ed. trainee-teachers.
4. To study the interaction effect between the variables (gender and training-course).

Hypotheses

- 1) **H₀₁**: There was no significant difference between male and female trainee-teachers in their attitude towards environmental sustainability.

- 2) **H₀₂**: There was no significant difference between B.Ed. and M.Ed. trainee-teachers in their attitude towards environmental sustainability.
- 3) **H₀₃**: There was no significant interaction effect between the variables e.g. gender and training-course on environmental sustainability.

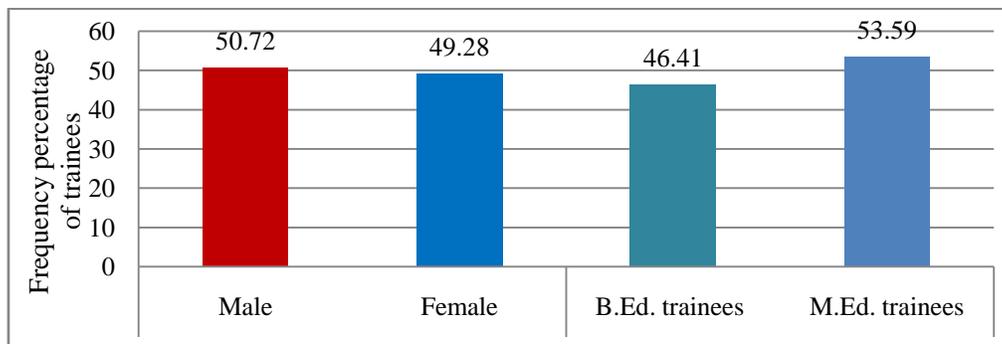
Methodology of the study:

Present study falls under the domain of survey type descriptive research.

Sample:

Stratified random sampling technique had been used for selection sample. 209 trainee-teachers of B.Ed. and M.Ed. courses were selected from four teachers-training colleges of two districts of South Bengal (Howrah and Kolkata). The detailed break up of the sample is given in table 1

Training-course	Gender	No. of trainees	%
B.Ed.	Male	50	23.92
	Female	47	22.48
M.Ed.	Male	56	26.79
	Female	56	26.79
	Total	209	100.00



Variables of the study:

In the present study, the researcher was considered two types of variables. These are given below-

1. Major Variables: -
Attitude towards Environmental Sustainability
2. Categorical Variables:-
 - A. Gender – Male & Female
 - B. Training course – B.Ed.and M.Ed.

Tool of the study:

Researcher used a Self-made questionnaire “Scale for Measuring Attitude towards Environmental Sustainability” (SMATES)in the present study. The reliability of the scale was computed by Cronbach’s alpha through SPSS version 20.0 and reliability was found to be 0. 651.

Statistical technique used:

A two way factorial ANOVA design and t-test were employed for the analysis and interpretation of data and testing null hypotheses. Mean, SD were also calculated.

Data analysis and interpretation:

Table 2:Test of Normality			
Shapiro-Wilk Test			
	Statistic	df	Sig.
SMATES	.889	209	0.059

From Table 1, it is seen that P value of Shapiro-Wilk test for df209 is 0.059 ($P > 0.05$). So, it can be said that scores of the scale is normally distributed. For these reasons the investigators have gone through parametric test for further analysis.

Table 3: Summary of two way ANOVA results					
Source of variation	SS	df	MS	F ratio	P value
Gender (A)	327.884	1	327.884	4.165	0.043
Training-course (B)	165.532	1	165.532	2.103	0.149
AXB	294.459	1	294.459	3.741	0.049

Table 4: Determination of t values

Categorical variables	Pair of comparison	No. of Sample	Mean	SD	df	t value	P value (2 tailed)
Gender	Male	106	95.74	9.86	207	-2.189	0.030
	Female	103	98.45	7.90			
Training-course	B.Ed. trainees	97	96.12	9.25	207	-1.430	0.154
	M.Ed. trainees	112	97.91	8.79			

Table 5: Interaction between A & B

Gender	Training-course	No. of Sample	Mean	SD	df	t value	P value (2 tailed)
Male	B.Ed.	50	96.06	10.23	104	0.309	0.757
Male	M.Ed.	56	95.46	9.60			
Female	B.Ed.	47	96.19	8.21	101	-2.747	0.003
Female	M.Ed.	56	100.35	7.17			
Male	B.Ed.	50	96.06	10.23	95	-0.069	0.944
Female	B.Ed.	47	96.19	8.19			
Male	M.Ed.	56	95.46	9.60	110	-3.053	0.002
Female	M.Ed.	56	100.35	7.17			

The data was analysed to test the hypotheses formulated for the study. These are present below-

A. Gender:

ANOVA results presented in Table 3 shows significant difference ($P > 0.05$) in the mean score of attitude among trainee-teachers belonging different gender e.g. male and female. From Table 4 it is seen that mean scores of female trainees (98.45) is higher than male trainees (95.74). The calculated t value is 2.189 which is significant ($P < 0.05$). On the basis of above finding, H_{01} is rejected. It may be concluded there exists significant mean difference between male and female trainee-teachers in their attitude towards environmental sustainability.

B. Training- course:

ANOVA results presented in Table 3 shows no significant difference ($P > 0.05$) in the mean score of attitude among trainee-teachers belonging different training course e.g. B.Ed. and M.Ed.

Further from Table 4, it is seen that mean scores of M.Ed. trainees (97.91) is negligibly higher than B.Ed. trainees (96.12). The calculated t value was found 1.430 which was not significant ($P > 0.05$). On the basis of above finding, H_0 is accepted. It may be concluded there exists no significant mean difference between B.Ed. and M.Ed. trainee-teachers in their attitude towards environmental sustainability.

C. Interaction effect:

The F value for the interaction variables (gender and training-course) of the students given in the Table 3 was significant ($P < 0.05$).

This was further confirmed by carrying out t test between mean scores of different pairs. From Table 5 it is clear that two pairs out of four pairs were found to be significant 0.05 level. The results showed that female M.Ed. trainee-teachers had more favourable attitude towards environmental sustainability than female B.Ed. trainee-teachers and male M.Ed. trainee-teachers respectively.

Discussion and Conclusion:

From the above investigation, it was found that trainee-teachers had positive attitude towards environmental sustainability. It reveals that would be teachers and teacher-educators have proper attitude towards environmental sustainability. In case of attitude, it is found that female trainees have significantly better attitude than male. This is consistent with earlier findings of many researchers like Shobeiri ^[5], Frrokhan ^[6]. But Latch and Muniandy ^[7] found that male and female trainees had no significant difference in their attitude teaching environmental education during practicum. So it can be concluded that gender is one of the factors for building of attitude towards environmental sustainability. On the other hand, it was found that M.Ed. trainees had more favourable attitude than B.Ed. trainees but the difference is not significant. But this was inconsistent with Jinjar and Patil ^[8], they found that environmental attitude significantly differ between B.Ed. and M.Ed. trainees.

Educational Implication:

In future, teacher-trainees will be teachers or teacher-educators and by them directly or indirectly our future generation will be aware of environmental sustainability. Their attitudes towards environmental sustainability deeply influence their students and make them conscious about environmental awareness, pollution and degradation etc. This study will help the curriculum makers to include the principles of environmental awareness, protection of environment into present teacher-training curriculum to increase their knowledge on environmental sustainability which will be helpful for building their better attitude towards environmental sustainability. Moreover, educational stakeholders should conduct regular seminars, project and training for trainees for developing their knowledge and attitude towards environmental sustainability.

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