



Studies On Environmental Education For Secondary Education Students

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Abstract:

Through the display ponder it may well be found that natural information and natural capable conduct moved forward emphatically through an experience-based approach to natural instruction. This advancement within the exploratory gather who was instructed natural instruction through issue-oriented experience-based approach demonstrated the reality and on the off chance that openings are given to understudy instructors to analyze natural issues, reflect, critically analyze and arrange, their natural information and natural capable conduct may well be moved forward emphatically. This suggests for the educational programs organizers around the require for rebuilding the existing Auxiliary instruction educational programs in natural instruction.

Keywords: Instruction, environment, educational programs, student, teachers.

INTRODUCTION:

Education is by and large recognized as one of the significant partners of the formative prepare. 'No country can rise over the quality of its instruction system'. Instruction may be a capable instrument to exchange and permeation of information. The teachers ought to meet the fast-changing requests and desires of the society from time to time. The growing information of science and innovation which went with by quick developing natural issues has set in movement, the upgrading of instructive educational module to meet the unused changes and planning the natural cognizant citizen [1]. Since no instruction framework can rise over the quality of its educator, the challenge of instructor instruction shows up to be the foremost overwhelming challenge confronting the instruction framework in common. Teaching the individuals, especially the youth around the environment and its related viewpoints makes a difference to connect the learning prepare with way of life encounters, hence making it more significant [2]. One of the most prominent issues confronting the soil at show is the effect of people on the environment. Specialists contend that the natural issues caused by human improvement, such as worldwide warming, the annihilation of rainforests

and dangers to bio-diversity, have come to an uncommon scale and complexity in world history. Since 1992 World Natural Conference in Rio de Janeiro, a progression of worldwide natural conferences has recognized that the danger to the Earth's environments are worldwide issues that got to be seen and unraveled agreeably by numerous individuals from a run of social foundations [3]. Environmental issues are not the issues of developing countries like India, but it is concerned with the full globe. It is the require of the hour to create the full society cognizant approximately the biological system and biological adjust. Instruction may be an effective medium for alter our conduct. For rising the mindfulness level of the masses, it is exceptionally basic to begin from the grass root level. This demonstrates the require for natural instruction at all levels of instruction [4].

SIGNIFICANCE OF EXPERIENCE AND EXPERIENTIAL LEARNING:

Using experience in a teaching and learning setting is not new; in fact, almost everything we learn is based on some kind of experience. The key hallmark of whether an experience is educational or not is based on how the experience is used to promote further development or learning.

The concept of primary experience is grounded in an event that happens to a particular person. The secondary experience is based on an individual's interpretation of the primary experience. Therefore, the initial experience provides the context for learning, while the secondary experience provides the significance and meaning [5]. Thus, it is the reflective process and quality feedback that turns experience into experiential learning. Consequently, experiential learning "includes both the act of experiencing and what has been experienced". However, what has been experienced is limited to the specific context in which it occurs, to the particular people involved and to individual interpretation.

As a result, experiential learning should be considered not just as a student-centered approach or pedagogical technique. Individual meaning of an experience will always be context specific and will produce different interpretations.

NEED AND SIGNIFICANCE OF THE STUDY:

EE as a teach of national and universal significance finds its vital part at the levels of instruction. Modern talks advocates for the reorientation of EE towards activity abilities and activity competencies of the people. It is trusted that the learners' intrigued in EE themes would be energized through learning that includes hands-on and minds-on exercises. As learners have a place to communities, it is expected that the bigger community would in the long run advantage from learners' information, state of mind and mindfulness. Effective integration of EE into school program is in this manner an energetic step towards moving forward instructing learning. To form the integration of EE compelling, instructors of distinctive subject zones must be cognizant of the accentuation of their claim disciplines and

the information and the aptitudes they need understudies to procure at distinctive grades to diminish covering or over rehashing concepts to the point of being excess [6].

Inquire about has uncovered those understudies taking after a natural course or program based on the standards of Constructivism had the way better understanding of the concepts secured by the subjects of the course or program than did understudies within the conventional educator centred bunch. Students' association in their-own cognitive method and basic considering are significant components for both EE and Constructivism [7].

Therefore, it is vital for teachers to be mindful of and hone such strategies, as they would be exceptionally useful and compelling in-order to realize the instructive destinations of the lesson, action etc [8].

STATEMENT OF THE PROBLEM:

Teachers got to be capacitated to execute dynamic learning with the "environment as a topic". There are, in any case, a number of questions in terms of educators' readiness to coordinated EE into all of the Learning Zones, counting the address: Are all teachers mindful that EE ought to be coordinates into all learning ranges? A significant address is whether teachers instruct EE in an coordinates approach. For occurrence, can teachers distinguish natural subjects and relate these to their educating? One wonders in case all teachers are mindful that they ought to plan learning programs that address local environmental issues so that the learners can be in a position to illuminate worldwide natural issues. One should act locally, but think all-inclusive since the world has contracted to such a degree that there are lost bits due to advancement in innovation, that unacceptable exercises in one portion of the world inevitably impacts contrarily on other parts of the world. With this foundation the examiner had chosen to conduct a ponder on the viability of an experience-based approach to natural instruction on natural information and natural mindful conduct of understudy instructors at auxiliary instructor instruction [9]. It was aiming to consider the viability on the premise of natural mindful conduct and the natural information of the understudy instructors at the auxiliary level.

OBJECTIVES OF THE STUDY:

The following objectives were formulated for the present study.

1. To develop an experience-based approach to Environmental Education to transact with the student teachers at secondary level.
2. To study the effectiveness of experience-based approach in EE for the secondary teacher education level on certain student teacher related variables namely:
3. The environmental knowledge

4. The environmental responsible behaviour

HYPOTHESES OF THE STUDY:

Based on the above objectives, the following hypotheses were formulated.

1. There is a significant difference between post-test performance of student teachers belonging to experimental and control groups on environmental knowledge.
2. There is a significant difference in the gain scores of student teachers belonging to experimental and control groups on environmental knowledge.
3. There is a significant difference in the pre-test and post-test performance of student teachers belonging to experimental group on environmental knowledge.
4. There is a significant difference in the post-test performance of student teachers belonging to experimental and control groups in the environmental knowledge when the pre-test performance was taken as covariate.
5. There is a significant difference between post-test performance of student teachers belonging to experimental and control groups on environmental responsible behaviour.
6. There is a significant difference in the gain scores of student teachers belonging to experimental and control groups on environmental responsible behaviour.
7. There is a significant difference in the pre-test and post-test performance of student teachers belonging to experimental group on environmental responsible behaviour.
8. There is a significant difference between post-test performance of student teachers belonging to experimental and control groups on environmental responsible behaviour when the pre-test score was taken as covariate.
9. There is a significant difference between the pre-test and post-test performance of student teachers belonging to experimental and control groups in the environmental responsible behaviour component wise.

VARIABLES USED IN THE STUDY:

Independent Variable: Experience based approach to Environmental Education

Dependent Variables: Student teachers'

1. Environmental Knowledge
2. Environmental Responsible Behaviour

Intervening Controlled Variables

Intervening Uncontrolled Variables

Situational Variables

DESIGN OF THE STUDY:

Quasi-experimental design is applied to much educational research where the random assignment of schools and classroom is quite impracticable. Non-randomized experimental-control group design was employed for the present study, which is similar to the pre- post-test control group design except for absence of random selection of the participants from a population and the random assignment of participants to groups. This design is similar to the static group comparison design except that both groups are given a pre-test, which can be used to determine whether two groups are equivalent, even though they have not been formed by random assignment.

SAMPLING PROCEDURE:

The major population of the study consisted of student of West Bengal state (Bankura district). The sub population of student who opted for science was under consideration in the present study. Purposive sampling technique also known as judgment sampling was used wherein the unit of sample is selected at the discretion of the researcher, wherein he/she may exercise his/her own judgment based on experience or expert judgment (Kalton, 1983) for including a given student in the sample. Such a sample is arbitrarily selected because there is good evidence that it is a representative of the total population (Kaul, 1984). "Where matching is not possible, the researcher is advised to use samples from the same population or samples that are as alike as possible" (Kerlinger, 1970). The class as a whole in its natural settings was considered for implementing the study. The sample was drawn from the intact group from selected areas of Bankura district in West Bengal as experimental and control group respectively.

SAMPLE OF THE STUDY:

The intact groups of 62 student teachers in experimental and 60 student teachers in control group were initially taken for the study. Later 2 students from experimental group were eliminated from the sample due to their absence in the pre or post-test. Finally, the sample comprised of 120 student teachers including both experimental and control group. The sample included 34 males and 86 females in total.

INSTRUMENTS USED FOR THE STUDY:

Two instruments were used to gather data for this study: (i) Environmental Responsible Behaviour Test, and (ii) Environmental knowledge Test. Both the instruments were designed and standardized by the investigator.

PROCEDURAL DETAILS OF THE STUDY:

The study was carried out in five phases.

PHASE 1: ANALYSIS OF CURRICULUM AND PREPARATION OF ISSUE BASED SYLLABUS

PHASE 2: DEVELOPMENT OF THE TOOLS AND EXPERIENTIAL BASED TRANSACTIONAL MATERIALS

PHASE 3: ADMINISTRATION OF PRE-TESTS

PHASE 4: EXPERIMENTAL TREATMENT

PHASE 5: ADMINISTRATION OF POST-TESTS

STATISTICAL TECHNIQUES EMPLOYED:

Various statistical techniques were used to analyze the data. Descriptive statistics was used to summarize the pre-test scores and post-test scores. They were inspected to determine if the sample showed deviation from normal distribution. Cronbach's Alpha and Kuder Richardson's Alpha were used to establish internal reliability of the tool. 't' test and ANCOVA were employed to test the various hypotheses [10].

ANALYSIS OF DATA:

The data collected were compiled, cleaned and coded and SPSS version 18.0 were used to analyze the data. The effectiveness of an experience-based approach to environmental education for secondary teacher education was analyzed with its effectiveness on environmental knowledge and environmental responsible behaviour. It was also studied the difference in the environmental responsible behaviour of student teachers with respect to their level of environmental knowledge.

MAJOR FINDINGS OF THE STUDY:

The major finding of the study has been categorized into i) findings related to environmental knowledge and ii) Findings related to environmental responsible behaviour.

FINDINGS RELATED TO ENVIRONMENTAL KNOWLEDGE OF STUDENT TEACHERS

1. There was a significant difference in the post-test performance of student teachers belonging to experiential and control group on environmental knowledge, with a significant

't' value 14.52(at 0.01 level of significance). The student teachers in the experimental group had a high mean score, 35.87 than that of control group with 27.43.

2. There was a significant different in gain scores of student teachers belonging to experimental and control group on environmental knowledge with a significant t-value 13.34 (at 0.01 level of significance). The student teachers of the experimental group had high gain mean score 11.80 than that of control group with 4.18.

3. There was a significant difference in the pre and post-test performances of student teachers belonging to experimental group on environmental knowledge with a significant t-value 23.86 (at 0.01 level of significance). The student teachers in the experimental group scored high in post-test performance with a mean score 35.87, than that in the pre-test performance with 24.07.

4. There was a significant difference in the post-test performance of student teachers belonging to experimental and control group on environmental knowledge when the pre-test performance was taken as covariate, with a significant F-value 1039.56 (at 0.01 level of significance).

5. The adjusted mean in environmental knowledge of student teachers belonging to experimental group, 35.66 was significant with a t-value 23.59 (a 0.01 level) with that of the control group with an adjusted mean 27.64.

FINDINGS RELATED TO ENVIRONMENTAL RESPONSIBLE BEHAVIOUR

1. There was a significant difference in the post-test performance of student teachers belonging to experimental and control group on environmental responsible behaviour with a significant t-value 28.26 (at 0.01 level). The student teachers of experimental group had a higher mean score, 248.52 than that of control group with 205.57.

2. There was a significant difference in the gain scores of student teachers belonging to experimental and control group on environmental responsible behaviour with a significant t vale 45.46 (at 0.01 level). The student teachers of experimental group had a higher mean score, 64.05, than that of control group with 22.42.

3. There was a significant difference in the pre and post-test performances of student teachers belonging to experimental group on environmental responsible behaviour with a significant t-value 27.26 (at 0.10 level). The experimental group had a high mean environmental responsible behaviour of 248.52 in post-test than that in the pre-test with 184.47.

4. There was a significant difference in the post-test performance of pre service teachers belonging to experimental and control group on environmental responsible behaviour, when

the pre-test performance was taken as covariate, with a significant F-value, 838.44 (at 0.01 level).

5. The adjusted mean score, 248.21 of experimental group was significantly higher, with a t-value 26.11 (at 0.01 level), than that adjusted mean score of control group with 205.88.

6. There was a significant difference in the pre and post-test performance of pre service teachers on environmental responsible behaviour component wise, with a significant t-value of 50.05 for entry level component; with a significant t value of 71.50 for ownership level component; with a significant t-value of 34.24 for empowerment level component.

CONCLUSION:

The present study could also find out that, there is difference in the environmental responsible behaviour of student teachers based on their level of environmental knowledge. From the analysis, it could be inferred that the experience-based approach to environmental education, which was used as an experimentation, could be the best strategy to improve the environmental responsible behaviour of student teachers who have low environmental knowledge.

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