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Title of Research paper: Knowledge, Attitude And Practice (KAP) of B.Ed. Trainee Teachers On Environmental Sustainability

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Abstract

This study seeks to investigate KAP concerning environmental sustainability among B.Ed. trainees prior to and following the rollout of NEP 2020 and to compare the average scores of KAP of trainees on environmental sustainability by gender prior to and following the rollout of NEP 2020. A descriptive survey research method was conducted among 114 B.Ed. trainees of different universities of West Bengal for fulfillment of this purpose. The sample consists of 12 female and 102 male trainees. Data were collected using a self-development questionnaire and analyzed with statistical techniques such as percentages, mean, t-test. This study revealed that implementation of NEP 2020 had no effect on KAP of B.Ed. trainees regarding environmental sustainability. Trainees should participate in seminar, workshops, field visits, nature camps, community awareness programs and activity based learning to build knowledge, attitude to develop environmental sustainable practices.

Keywords: Knowledge, Attitude and Practice (KAP), Environmental Sustainability, National Education Policy (NEP 2020), B.Ed. trainees, West Bengal.

Introduction

In the recent years, climate change, biodiversity loss and ecological damage have become global concerns. Environmental sustainability involves the responsible use of natural resources to preserve the environment and fulfill future generations' needs. Although governmental policies and innovative technologies are essential to deal with these global challenges, Education has a

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role in cultivating sustainable practices and environmental awareness over time. Bachelor of Education (B.Ed.) trainees is at the forefront of this endeavor as they will shape the future by educating the coming generations. Teacher education has a significant impact on delivering effective environmental education. Three major components, namely; Knowledge, attitude, and practice (KAP) are essential for a teacher to inculcate sustainability in learners. For a B.Ed. trainee, it is essential to learn and gain awareness about environmental concepts to develop a positive attitude and adopt appropriate practices and techniques in classrooms to educate future generations for a sustainable future. Moreover, teacher education needs to be in consonance with the state policies such as National Education Policy (NEP 2020) which envisages incorporating Sustainable Development Goals (SDGs) in all levels of education. Hence, it is imperative to assess the extent to which B.Ed. trainees acquire knowledge, attitudes, and practices to contribute to environmental sustainability. The study's objective is to ascertain the level of environmental sustainability by assessing the knowledge, attitudes, and practices of B.Ed. trainees. Furthermore, it tries to establish a relationship between knowledge of future teachers about environmental sustainability with their attitudes and practices. An understanding of the findings of this study will help in improvising teacher education to build effective teachers who can educate future generations for a sustainable future. The findings of this research will be helpful to the policymakers, curriculum planners, teacher educators, and future teachers to enhance pre-service teacher education. This study is relevant to achieve the goals related to education and the environment in not only India but also in other countries.

Statement of the problem

While there is consensus on the need to incorporate environmental sustainability into education, several teacher education programs encounter challenges in combining theoretical understanding with practical applications to teach environmental sustainability. B.Ed. trainees are expected to nurture students' environmental awareness. Most B.Ed. trainees are not adequately trained to teach environmental sustainability through projects, activities, assignments, visits to landfills, and recycling programs. Environmental education is viewed as a theoretical subject and not as part of teaching practices in teacher education programs. Thus, future teachers can gain knowledge about environmental education, but they are not skilled to encourage sustainable

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practices among children. Hence, it is critical to evaluate the knowledge, attitudes, and practices of B.Ed. trainees to improve teacher education programs.

Need and Importance of the Research

This research is important for several reasons:

• ***Understanding Behavioral Patterns*:** This study helps identify how factors such as gender, educational background, and location influence the environmental behavior of future teachers. It provides a better understanding of differences among trainee groups.
•***Bridging the gap in Teacher preparation*:** Many studies have focused on environmental awareness among students but only a few examine how prepare pre-service teachers are to teach environmental sustainability. This study aims to understand why B.Ed. trainees, even when they have good environmental knowledge do not always use sustainable teaching practices in the classroom.
•***Improving Curriculum*:** The finings can help improve teacher education programs by promoting the inclusion of environmental education in different subjects and teaching methods.
• ***Creating Classroom Impact*:** Teachers with strong environmental awareness can encourage students to develop eco-friendly attitudes which can positively influence families and communities as well.
• ***Supporting Policy and Planning*:** The study provides useful information for educational planners and policymakers to create better sustainability programs in teacher training institutions.

Objectives

1. To measure KAP of B.Ed. trainees on environmental sustainability prior to and following the rollout of NEP 2020in West Bengal.
2. To compare the KAP of B.Ed. trainees on environmental sustainability prior to and following the rollout of NEP 2020in West Bengal.

Methodology

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This study is descriptive in nature. It aims to describe and compare the cultural knowledge attitudes and sustainable behaviour practices of trainees.

Research design

A quantitative research design was applied.

Research approach

A survey design was adopted to collect data from B.Ed. trainee students. A self-developed standardised questionnaire made by researcher was used to gather information on their environmental KAP. To test null hypotheses and analysis of data, t-test was used. Standard deviation and Mean were also calculated for analysis.

Population

The population consists of B.Ed. trainees who were admitted before the implementation of NEP 2020 and B.Ed. trainee students who were admitted after the implementation of NEP 2020 from various universities located in West Bengal.

Sample size

114 trainee students were participated in the study.Before NEP 2020, 23 students were enrolled, and after NEP 2020, 91 students were enrolled. The samples of B.Ed. trainee students are collected from University of Calcutta and Aliah University from West Bengal. The detailed breakup of the sample is given in table 1.

Table 1. Students' demographic information

University Name	Number of B.Ed. trainees (ES)
University of Calcutta	54
Aliah University	60
TOTAL	114

Gender	Number of	Caste	Number of

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	students for ES		students for ES
Female	12	General	60
Male	102	OBC	42
Others	0	SC/ST	12
Total	114	**Total**	114

Results

The findings of the study are discussed in the given below objectively and hypotheses-wise.

Objective 1

To assess knowledge, attitude, and practice in ES (**Objective 1**), 114 samples are used. Before NEP 2020, 23 students were enrolled and after NEP 2020, 91 students were enrolled. The mean scores of KAP and overall mean score of B.Ed. students on environmental sustainability before NEP and after NEP are showed by descriptive statistics (**Table 2**).

Table 2 . The Mean score by dimension of B.Ed. trainees prior to and following the rollout of NEP 2020

Programme time	Number of B.Ed. trainees	Mean of Knowledge	Mean of Attitude	Mean of Practice	Mean (Overall)
ES					
Before NEP	23	38.30	39.74	31.17	109.22

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2020					
After NEP 2020	91	38.62	39.53	30.93	109.08

Objective 2

H_{01}: *There is no significant difference in knowledge of B.Ed. trainees on environmental sustainability in West Bengal before and after the implementation of NEP 2020.*

To assess variation in average knowledge scores of ES among B.Ed. trainees prior to introduction of NEP 2020 (Mean= 38.30, Standard deviation= 3.37) and following the introduction of NEP 2020 (Mean= 37.62, Standard deviation= 3.30), an independent t-test was carried out. The results showed *t*=0.40 with degrees of freedom at 112 and *p-value* is 0.82. Since the *p*-value exceeds significance threshold of 0.05, null hypothesis is therefore not rejected (**Table 3**).Therefore, NEP 2020 did not produce any significant change in trainees' knowledge of regarding environmental sustainability.

H_{02}: *There is no significant difference in attitude of B.Ed. trainees on environmental sustainability in West Bengal before and after the implementation of NEP 2020.*

To assess variation in average attitude scores of ES among B.Ed. trainees prior to the introduction of NEP 2020 (Mean= 39.74, Standard deviation= 3.01) and following the introduction of NEP 2020 (Mean = 39.53, Standard deviation= 4.24), an independent t-test was carried out. The results showed *t*=0.22 with degrees of freedom at 112 and p-*value* is 0.82. Since p-value exceeds significance threshold of 0.05, null hypothesis is therefore not rejected (**Table 3**) . Therefore, NEP 2020 did not produce any significant change in trainees' attitude of regarding sustainability towards environment.

H_{03}: *There is no significant difference in the practice of B.Ed. trainees on environmental sustainability in West Bengal before and after the implementation of NEP 2020.*

To assess variation in average practice scores of ES among B.Ed. trainees prior to the introduction of NEP 2020 (Mean= 31.17, Standard deviation= 3.71) and following the introduction of NEP 2020 (Mean= 30.93, Standard deviation= 3.86), an independent t-test was carried out. The results showed *t*=0.26 with degrees of freedom at 112 and *p-value* is 0.82. Since

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the *p*-value exceeds significance threshold of 0.05, null hypothesis is therefore not rejected (**Table 3**).Therefore, NEP 2020 did not produce any significant change in trainees' practice of regarding sustainability towards environment.

***H_{04}**: There is no significant difference in overall score of B.Ed. trainees on environmental sustainability in West Bengal before and after the implementation of NEP 2020.*

To assess variation in mean overall scores of ES among B.Ed. trainees prior to introduction of NEP 2020 (Mean = 109.22, Standard deviation= 8.45) and following the introduction of NEP 2020 (Mean= 109.08, Standard deviation= 9.20), an independent t-test was carried out. The results showed *t*=0.06 with degrees of freedom at 112 and *p-value* is 0.75. Since the *p*-value exceeds significance threshold of 0.05, null hypothesis is therefore not rejected (**Table 3**). Therefore, NEP 2020 did not produce any significant change in trainees' overall mean score regarding environmental sustainability.

Table 3: Variation in students' ES score prior to and following the rollout of NEP 2020:

Dimensionwise ES	Preimplementation of NEP 2020		Postimplementation of NEP 2020		df	t	p	Remarks
	M	SD	M	SD				
Knowledge	38.30	3.37	37.62	3.30	112	0.40	0.82	Not Rejected
Attitude	39.74	3.01	39.53	4.24	112	0.22	0.82	Not Rejected
Practice	31.17	3.71	30.93	3.86	112	0.26	0.82	Not Rejected
Overall	109.22	8.45	109.08	9.20	112	0.06	0.75	Not Rejected

Discussion

Moreover, this study revealed that implementation of NEP 2020 had no effect on the KAP of B.Ed. trainees regarding sustainability towards environment. This is consistent with earlier findings like Namdev (2026), Lateh and Muniandy (2013). But Bhakta and Guha (2017) disclosed that there was significant mean difference in attitude towards environmental sustainability between male and female trainees. Although NEP 2020 was introduced at the country level in 2020, it was implemented at institutional and educational level more

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substantially in 2023. Since the current study was conducted in 2025, a short period of time was available for the implementation of the given policy. A comprehensive educational policy such as NEP 2020 needs to be implemented at a country level, requiring a substantial amount of time before any significant changes can be observed or measured. Therefore, the current results should not be considered as proof that NEP 2020 has no effect.

Instead, the lack of significant differences in the current results might suggest that more time is required for NEP 2020 to show some effect, or that additional factors need to be considered. Further implementation of the new education policy and additional studies conducted in the future will provide more data and allow for more accurate and objective conclusions to be made.

Conclusions

- The introduction of NEP 2020 did not significantly effect on B.Ed. trainees' knowledge on environmental sustainability.
- The introduction of NEP 2020 did not significantly effect on B.Ed. trainees' environmental sustainability.
- The introduction of NEP 2020 did not significantly effect on B.Ed. trainees' practice on environmental sustainability.
- The introduction of NEP 2020 did not significantly effect on overall ES score of students.

This suggest that their knowledge, attitude and practices towards environment are influence more by their share learning experiences, institutional exposures and practical activities such as tree plantation, community awareness programs rather than personal demographic characteristics and common curriculum. It also shows that teacher education can help develop a strong of environmental responsibility among future teachers. Teacher educators should act as role models by demonstrating environmentally responsible behaviour in their teaching and daily activities.

Since B.Ed. trainees already show similar environmental behaviour, teacher education institutions can strengthen it by including workshops, training programs, reflective learning and teaching methods that focus on sustainability. Teaching methods should focus on experiential and activity-based learning so that trainees can apply environmental concepts in real-life situations. Educational stakeholders should organize seminars, projects and training programs to improve students' knowledge, awareness and positive attitude toward environmental

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sustainability. This can help future teachers develop a stronger commitment to protecting the environment and supporting sustainable development at both the national and global level.

References

1. Arunkumar, J. (2012) "A Study on Assessment of Environmental Awareness among Teacher Trainees in Teacher Training Institutes."*International Journal of Research in Social Sciences*. 2(3), 312-321.
2. Bennett, D. & Bennett, A. (2004). "The Importance of Sustainability in Education."*Journal of Education for Sustainable Development*, 1(1), 55-66.
3. Bhakta, D. K. & Guha, A. (2017). "Knowledge, Attitude of M.Ed Trainees towards Environmental Sustainability."*International Journal of Research Granthaalayah*. Vol-5(6), pp-102-110.
4. Lahiri, S. (2011). "Assessing the Environmental Attitude among Pupil Teachers in Relation to Responsible Environmental Behavior: A Leap towards Sustainable Development."*Journal of Social Sciences*. Vol-7 (1), pp-33-41.
5. Lateh, H. and Muniandy, P. (2013) "Pre-Service Teachers' Attitude towards Teaching Environmental Education (EE) during Practicum in Malaysian Primary Schools."*Journal of Environmental Protection*. Vol-4, pp-201-204.
6. Namdev, N. (2026). "Study of Environmental Behaviour of B.Ed. Trainees." *International Journal for Innovative Research in Multidisciplinary field*. Vol-12(3), pp- 279-284.
7. Patil, G.V. & Jinjar, A.S. (2012). "A Comparative Study about Environmental Attitude of D.Ed., B.Ed. and M.Ed. Student Teachers." *Global Online Electronic Interdisciplinary Journal*. Vol-I (III), pp-61-71.
8. Saxena, A. (2019). "Environmental attitudes and practices among B.Ed. trainees." *International Journal of Education and Psychological Research*, 8(2), 1–7.
9. Shobeiri, S. M. (2005) "Environmental awareness of teacher trainees in India." *Journal of Human Ecology*. 18(2), 85–88.
10. Singh, R., & Mishra, P. (2016)"Environmental awareness among teacher trainees: A comparative study."*Educational Research International*, 5(3), 45–52.

ISSN: 3139-6917 (Online)
Volume- 01, Issue-02
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11. Yeasmin, M. (2026). "Knowledge, Attitude and Practices KAP towards Environmental Sustainability among Undergraduate Students Studied before and after NEP 2020." *International Journal of Technology Health and Sustainability.* Vol-2(3), pp- 954-962.

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