ASSESSING THE DEGREE OF ENVIRONMENTAL AWARENESS AMONG COLLEGE TEACHERS: A STUDY ON KNOWLEDGE, ATTITUDES, AND PRACTICES

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Abstract

Background: In the contemporary world, when environmental issues are increasingly apparent, educators are crucial in fostering responsibility, sustainability, and ecological awareness. Significant environmental challenges include deforestation, agricultural degradation, air pollution, water contamination, noise pollution, soil degradation, overcrowding, waste management, climate change, global warming, and biodiversity preservation. Teachers have a vital and multifaceted role in fostering environmental awareness and teachers help students become responsible global citizens who are committed to protecting and preserving our planet for future generations. So, teachers should know about the environmental issues and their solutions. Hypothesis: There is a significant difference between male and female teachers with regard to their level of environmental awareness; There is a significant difference between rural and urban area of the teachers with regard to their level of environmental awareness; Higher the age of the teachers and higher the level of environmental awareness. Aim: To find out the level of environmental awareness of the teachers and to analyse the difference and relationship between selected dependent and independent variables. Methods: Descriptive research design was adopted and 40 respondents were selected by using systematic random sampling technique. SPSS software was using for analysing the data and the tool Rahi Environmental Awareness Scale for Prospective Teachers prepared by Avtar Singh Rahi in 2015 was used. Results: In this study researcher found that, teachers are having low level of environmental awareness, there is no significant difference between male and female of the teachers with regard to their environmental awareness, there is no significant difference between rural and urban area of respondents with regard to their environmental awareness and finally they don't have relationship between their age and their environmental awareness.

Keywords: Teacher, Environment, Pollution and Awareness.

Introduction

An environment refers to the conditions or surroundings in which an individual, animal, or plant exists or functions. Our environment is ever evolving, necessitating heightened awareness of the environmental challenges driving these transformations. Given the significant rise in natural disasters, fluctuations in temperature, and various weather changes, individuals must exercise greater caution in their lifestyles in relation to the environmental challenges confronting our world.

Environmental awareness among college teachers is a critical factor in advancing sustainable practices and environmental education within higher education institutions. The role of educators in fostering a culture of sustainability is well-documented, with numerous studies highlighting the impact of teachers' environmental awareness on their teaching practices and student outcomes. O'Neill and Polman (2004) contend that teachers with heightened environmental awareness are more adept at incorporating sustainability themes into their courses, therefore shaping pupils' attitudes and behaviors regarding environmental stewardship. Sterling (2001) underscores the significance of transformative learning, wherein educators who grasp the intricacies of environmental challenges can foster critical thinking and problem-solving abilities in their pupils.

Kagawa (2007) examines the relationship between teachers' environmental consciousness and their capacity to motivate pro-environmental behaviors in pupils, positing that knowledgeable educators are crucial for fostering sustainable lives. Wals (2011) endorses this perspective by promoting a shift in higher education towards sustainability, initiated by the environmental consciousness of educators. Furthermore, research by Tilbury (2010) and Scott (2002) emphasizes that educators' awareness and involvement in environmental issues are essential for the effective execution of education for sustainable development (ESD) initiatives.

Furthermore, research conducted by Hopkinson, Hughes, and Layer (2008) indicates that educators' environmental consciousness can facilitate the formulation of institutional policies that advocate for sustainability. Shephard (2008) asserts that instructors' personal dedication to environmental issues frequently results in enhanced teaching techniques and increased student involvement in sustainability activities. Finally, Leal Filho (2010) underscores the necessity for continuous professional development for educators to improve their environmental consciousness and their capacity to tackle developing environmental issues.

Educators significantly impact students' perceptions and attitudes about environmental issues, rendering their awareness essential for effective environmental education (Kollmuss & Agyeman, 2017). The level of environmental awareness among teachers is linked to the effectiveness of environmental education, which is essential for promoting sustainability and environmental stewardship in society (Rahman & Nahar, 2020).As educators, college teachers are not only responsible for imparting knowledge but also for cultivating a sense of responsibility towards the environment. The awareness of environmental issues teachers influences how among they integrate sustainability concepts into their curricula and the extent to which they model environmentally responsible behaviors. Studies have shown that teachers with higher levels of environmental awareness are more likely to engage in practices that promote sustainability, both in and out of the classroom (Barth & Rieckmann, 2016). When college educators exhibit a profound level of environmental consciousness, they are more inclined to integrate sustainability into their curricula, advocate for environmentally responsible practices, and motivate students to engage actively in tackling environmental issues (Mogensen & Schnack, 2018). This awareness not only enriches the educational experience but also contributes to the cultivation of a more environmentally conscious society (Schild, 2016).

Environmental Protection Acts: The objectives of the Environment (Protection) Act, 1986 are to safeguard and enhance the environment, establish regulations to control environmental pollution, set standards and maximum permissible limits for air, water, and soil pollutants across various domains, impose prohibitions and restrictions on the management of hazardous substances, and regulate the siting of industries, with penalties that may be imposed. Any individual identified as the source of pollution may face penalties of up to five years' imprisonment, a fine of one lakh rupees, or both (Sec 15, 16, 17). Failure to comply will incur an additional fine of Rs. 5000 per day; continued non-compliance for over one year may result in imprisonment of up to 7 years (Yadav, 2013).

In the contemporary world, when environmental issues are increasingly apparent, educators are crucial in fostering responsibility, sustainability, and ecological awareness. Educators are obligated to educate students with urgent environmental concerns, including climate change, deforestation, pollution, and biodiversity loss. Educators may equip students with a thorough awareness of environmental concerns through classroom discussions, movies, and pertinent literature. By contextualizing these challenges in a manner related to students' experiences, educators can successfully communicate the urgency and importance of environmental protection.

Review of Earlier Studies

A study on Investigation on Environmental Awareness Level of Teachers revealed that, When the regression analysis of teachers' level of knowledge, attitude and behaviour revealed their environmental awareness, information about the neighbourhood was explained by R2 = .44, R2 = .51 for environmentally friendly and R2 = .13 for environmentally friendly behaviour. It is an important finding that the teachers' behaviour levels are at a low level both in terms of estimating environmental awareness and total scores. While teachers are inadequate to transform their knowledge of the environment into behaviour in their own lives, it should be discussed their role of educating and role modelling, and their impact on making society more environmentally conscious (Erten, 2018).An investigation of prospective teachers' awareness toward environmental issues found that, the mean level of environmental awareness was found to be X = 57.86. Although no specific value range is defined, regarding high or low levels of awareness, and considering that the highest attainable score on the scale is 88, it is possible to say that the prospective teachers' scores on the scale for environmental issues are above average. The difference in levels of environmental awareness on environmental issues by academic year was examined using the Mann-

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Whitney U non-parametric test. Results suggest a significant difference between academic years (U=23732; p=0.012; p<0.05). According to these results, seniors appear to be more environmentally aware of environmental issues (X=252.60) than juniors (X=221.20). The knowledge, awareness, attitudes and behaviours of the prospective teachers included in this study become of great importance as these qualities will also influence and shape the attitudes, characteristics, and behaviours of the young students they will teach. especially regarding environmental issues (Ozonur, 2018). According to the findings of the study on An Examination of the Relationship between Pre-school Children's and Their Teachers' Attitudes and Awareness towards the Environment, it can be said that pre-school children's attitudes towards environment are high but their awareness about environment is medium.pre-school teachers' attitudes towards environmental problems seem to be over the pre-school teachers' awareness average, about environmental problems is high for the synthesis factor and medium for other sub factors (Omeroglu, 2018).

Statement of the Problem

The rapid rising population is the reason to leading a number of environmental issues in India. Environmental issues are the unsafe effects of human activities on the environment.Significant environmental challenges include deforestation, agricultural degradation, air pollution, water contamination, noise pollution, land degradation, overpopulation, waste management, climate change, global warming, and biodiversity preservation. Climate change is a significant problem in the current context. Greenhouse gases are the primary contributors to climate change.

Significance of the Study

Teachers play a crucial and diverse role in promoting environmental consciousness. Educators significantly contribute to the cultivation of environmentally conscious students by integrating environmental education into curricula, promoting sustainable habits, orchestrating awareness campaigns, and fostering a passion for nature. Through these initiatives, educators facilitate the development of responsible global citizens dedicated to safeguarding and conserving our world for future generations. Teachers should be informed about environmental challenges and their corresponding remedies.

Hypothesis

- There is a significant difference between male and female of the teachers with regard to their level of environmental awareness
- There is a significant difference between rural and urban area of the teachers with regard to their level of environmental awareness
- Higher the age of the teachers and higher the level of environmental awareness

Methods and Materials

Based on the reviews the researcher planned to find out the level of environmental awareness, to analyse the different and relationship between teachers and their environmental awareness and to offer the suitable suggestion to increase the level of awareness and to overcome the issues. Descriptive research design was adopted in this present study and this quantitative study was conducted in Pasumpon Muthuramalingam Thevar College in Usilampatti Taluk, Madurai District of Tamil Nadu. Total 40 teachers were selected from 161 teachers by using systematic random sampling technique. Each 4th teacher was selected from the list of 161 teachers for the purpose of data collection. The researcher was used Rahi Environmental Awareness Scale for Prospective Teachers prepared by Avtar Singh Rahi in 2015. The data were analysed by using SPSS package. Descriptive statistics, frequency, t-test and correlation analysis were tested.

Results

The researcher when analysing the social characteristics of the teachers, the results reveals that only 20 percent of them belongs to the age group of below 30 rests of the 80 percent were 31 to 40 years and above 40 years each 40 percent. When observed the sex of the teachers, more than half (60.0%) of them are male and less than half (40.0%) of them are female. It clearly explains that male are dominant than female in this study. While focusing residential area of the teachers, more than half (57.5%) of them from rural areas and remaining 42.5 percent only from urban areas. Here the rural respondents October 2018

are higher than the urban. It may reason to locate the institution in rural background may possible to utilize the rural teachers easily got the teaching opportunity.

Table 1 Distribution of the respondents

by their Social Characteristics

SI.	Variables	No. of Respondents	%	
No.		(n=40)	70	
	Age			
1	Below 30years	8	20.0	
	31 to 40years	16	40.0	
	Above 40years	16	40.0	
	Gender			
2	Male	24	60.0	
	Female	16	40.0	
	Domicile			
3	Rural	23	57.5	
	Urban	17	42.5	

When observed the level of environmental awareness of the teachers, more than half i.e. 55.0 per cent of the teachers having low level and less than half i.e. 45.0 per cent of them only having high level in factor of awareness on orientation. While measure the level of awareness regarding environment, more than two third i.e. 70.0 per cent of them having low level and only 30.0 per cent of them having high level of awareness and when analysing the teaching skills regarding environment, more than half (55.0%) of them having low level and rest of them i.e. 45.0 per cent having high level. It clearly explains that, majority of the teachers having low level of overall environmental awareness.





The researcher applied 'Z' test for analyse the difference between male and female of the respondents with regard to their environmental awareness. The result revealed that the Z value is -1.608 and p value is greater than 0.05 per cent level. It clearly explains that, there is no significant difference between male and female of the teachers with regard to their factors of orientation; when observed the environmental awareness, the Z value is -0.165 and p value is greater than 0.05 per cent level. So there is no significant difference between male and female of the respondents with regard to their environmental awareness and when analysing the teaching skills of the respondents, the Z values is -0.336 and p value is greater than 0.05 per cent level. So, there is no significant difference between male and female of the respondents with regard to their teaching skills.

Table 2 Difference between Male and Female of the Teachers with regard to their Environmental Awareness

SI.	Gender	Mean	Std.Devia	Statistical
No.	Ochuci		tion	Inference
	Oriontation			Z = -1.608
1	Mala	24 50	4.699	P > 0.05
		24.50		(Not
	Female 26.75	4.074	Significant)	
	A			Z = -0.165
2	Awareness Male Female	0.00	3.595 4.112	P > 0.05
		8.66		(Not
		8.87		Significant)
	Teaching			Z = -0.336
3	Skills	8.66 9.12	3.772 4.500	P > 0.05
	Male			(Not
	Female			Significant)

The researcher applied 'Z' test for analyse the difference between rural and urban area of the respondents with regard to their environmental awareness. The result revealed that the Z value is -0.999 and p value is greater than 0.05 per cent level. It clearly explains that, there is no significant difference between rural and urban area of the teachers with regard to their factors of orientation; when observed the environmental awareness, the Z value is -1.769 and p value is greater than 0.05 per cent level. So there is no significant difference between rural and urban area of the respondents with regard to the provide the environmental awareness.

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their environmental awareness and when analysing the teaching skills of the respondents, the Z values is -1.756 and p value is greater than 0.05 per cent level. So, there is no significant difference between rural and urban area of the respondents with regard to their teaching skills.

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Table 3 Difference between Rural and Urbanarea of the Teachers with regard to their Environmental

SI.	Domicilo	Moon	Std.	Statistical
No.	Domicile	Weall	Deviation	Inference
1	Orientation			Z = -0.999
	Dural	24.78 26.23	4.879 4.039	P > 0.05
	Urban			(Not
				Significant)
	A			Z = -1.769
2	Awareness Rural	7.86	1.791	P > 0.05
				(Not
	Urban	9.94	5.237	Significant)
	Teaching			Z = -1.756
3	Skills	7.04	4 504	P > 0.05
	Rural	7.91	1.534	(Not
	Urban	10.11	5.775	Significant)

Awareness

The researcher applied Coefficient of Correlation test for analyse the relationship between ages of the teachers with regard to their environmental awareness. The result revealed that the correlation value is -0.096 in the factor of Orientation, -0.024 in the factor of Environmental Awareness and -0.084 in the factor of Teaching Skills. All the three factors the p value is greater than 0.05 per cent. So, there is no significant relationship between ages of the respondents with regard to their environmental awareness.

Table 4 Relationship between Ages of the Teachers with regard to their Environmental Awareness

SI. No.	Variables	Correlation	Statistical Inference
1	Age Orientation Awareness Teaching Skills	-0.096 -0.024 -0.084	P>0.05 (Not Significant) P>0.05 (Not Significant) P>0.05 (Not Significant)

Results of the Hypothesis

Hypothesis 1: There is a significant difference between male and female of the teachers with regard to their level of environmental awareness.

Null hypothesis for hypothesis 1: There is no significant difference between male and female of the teachers with regard to their level of environmental awareness.

Result: The Z test result revealed that, there is no significant difference between male and female of the teachers with regard to their level of environmental awareness. Hence, the null hypothesis do not rejected (Table 2).

Hypothesis 2: There is a significant difference between rural and urbanarea of the teachers with regard to their level of environmental awareness.

Null hypothesis for hypothesis 2: There is no significant difference between rural and urbanarea of the teachers with regard to their level of environmental awareness.

Result: The Z test result revealed that, there is no significant difference between rural and urbanarea of the teachers with regard to their level of environmental awareness. Hence, the null hypothesis do not rejected (Table 3).

Hypothesis 3: Higher the age of the teachers and higher the level of environmental awareness

Null hypothesis for hypothesis 3: There is no significant relationship between ages of the teachers with regard to their level of environmental awareness.

Result: The Coefficient of Correlation test result revealed that, there is no significant relationship between ages of the teachers with regard to their level of environmental awareness. Hence, the null hypothesis do not rejected (Table 4).

Suggestion

 Suggestion to the Teachers: Based on the findings, the researcher suggests that teachers should recognize the significance of nature, comprehend environmental issues, and enhance their pedagogical skills concerning environmental challenges and their solutions.

- Suggestion to Management of the Institution: Management strongly suggest to their teachers to gain new knowledge regarding nature, environment issues, climate change, pollution related issues like water and air.
- Suggestion to the future researcher:Future researchers should focus more on environmental difficulties, pollution-related problems, and climate change in the southern districts of Tamil Nadu. This study was conducted in the southern district of Tamil Nadu.

Conclusion

Teachers played a vital role in teaching environmental awareness. The teacher have role to add the environmental education into their curricula, advocating for sustainable practices, organizing awareness campaigns, and nurturing a passion for nature, educators play a key role in developing environmentally conscious students. So, their level of environmental awareness should be higher than other field. In this study researcher found that, teachers are having low level of environmental awareness. there is no significant difference between male and female of the teachers with regard to their environmental awareness, there is no significant difference between rural and urban area of respondents with regard to their environmental awareness and finally they don't have relationship between their age and their environmental awareness.

References

- Barth, M., & Rieckmann, M. (2016). Academic staff development as a catalyst for curriculum change towards education for sustainable development: An output perspective. *Journal of Cleaner Production*, 26(1), 28-36. https://doi.org /10.1016/j.jclepro.2015. 10.093
- Erten, E. S. (2018). Investigation on Environmental Awareness Level of Teachers. *The Eurasia Proceedings of Educational & Social Sciences*, 9, 96-103.
- Hopkinson, P., Hughes, P., & Layer, G. (2008). Sustainable graduates: Linking formal, informal and campus curricula to embed education for sustainable

development in the student learning experience. *Environmental Education Research*, *14*(4), 435-454. https://doi.org/10.1080/135046 20802282459

- Kagawa, F. (2007). Dissonance in students' perceptions of sustainable development and sustainability. *International Journal of Sustainability in Higher Education*, 8(3), 317-338. https://doi.org/ 10.1108/14676370710817174
- Kollmuss, A., & Agyeman, J. (2017). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239-260. https://doi.org/10.1080/13504620 220145401
- Leal Filho, W. (2010). Teaching sustainable development at university level: Current trends and future needs. *Journal of Baltic Science Education*, 9(4), 275-284.
- Mogensen, F., & Schnack, K. (2018). The action competence approach and the 'new' discourses of education for sustainable development, competence and quality criteria. *Environmental Education Research*, 26(4), 495-510. https:// doi.org/ 10.1080/13504622.2018.1450846
- Omeroglu, A. B. (2018). An Examination of the Relationship between Pre-school Children's and. *Journal of Education and Learning*, 7(2), 221-229.
- O'Neill, D. K., & Polman, J. L. (2004). Why educate "little scientists"? Examining the potential of practicebased scientific literacy. *Journal of Research in Science Teaching*, 41(3), 234-266. https://doi. org/10.1002/tea.20011
- Ozonur, M. (2018). An investigation of prospective teachers' awareness toward environmental issues. *International Journal of Curriculum and Instruction*, 13(2), 1845-1856.
- Rahman, M., & Nahar, M. (2020). Environmental awareness among teachers: A study on the role of education in promoting sustainable development. *Journal of Environmental Education*, 51(4), 289-305. https://doi.org/10.1080/009589 64.2020.1748361.
- Schild, R. (2016). Environmental awareness and environmental behavior among teachers: An empirical investigation. *Journal of Environmental Education*,

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47(3), 159-171. https://doi.org/ 10.1080/00958964 .2016.1146355

- 13. Scott, W. (2002). Sustainability and learning: What role for the curriculum? *Forum for the Future*.
- Shephard, K. (2008). Higher education for sustainability: Seeking affective learning outcomes. International Journal of Sustainability in Higher Education, 9(1), 87-98. https://doi.org /10.1108/ 14676370810842201
- 15. Sterling, S. (2001). Sustainable education: Re-visioning learning and change. *Green Books*.
- Tilbury, D. (2010). Are we learning to change? Mapping global progress in education for sustainable development in the lead up to 'Rio plus 20'. *Global Environmental Research*, 14(2), 101-107.
- Wals, A. E. J. (2011). Learning our way to sustainability. *Journal of Education for Sustainable Development*, 5(2), 177-186. https:// doi.org/10.1177/097340821100500208
- Yadav, A. (2013). An Empirical Study on Environmental Issues in India. Global *Journal of Management and Business Studies*, 3, 949-954.