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ORIGINAL ARTICLE

Environmental Knowledge Among Secondary School Students Of Kamrup District - A Comparative Study

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Abstract:
The present study is an attempt to assess environmental knowledge among 200 students of IXth standard from Kamrup district of Assam. Out of 200 students, 100 were randomly taken from 4 purposively selected schools from Kamrup Metropolitan and the rests 100 from other 4 purposively selected schools from Kamrup Rural. Gender and locality wise comparisons of environmental knowledge were done by using a self-developed knowledge inventory tool.

Key Words: *Environmental Knowledge, Secondary School Student, Comparative Study*
Paper Type: Research Paper

RATIONALE OF THE STUDY:

Environment is the aggregate of all external conditions and influences which affecting the life and development of an organism. Thus, environment is the sum of all social, economical, biological and physical or chemical factors which constitutes the surroundings of man. Increased knowledge about the environment is assumed to change the environmental attitudes. Both environmental knowledge and attitude are assumed to influence the environmental practice and environmental policy.

Environmental concern began to emerge as a burning issue due the advancement of technological growth and its application resulting in a drastic transformation of environmental situation. Young students must know about their environment, its uses, how to protect, preserve and conserve it.

It is most important to study how far the school students are knowledgeable about environment and its related issues. Considering this point in mind, the investigators have carried out the following study:

STATEMENT OF THE PROBLEM:

Environmental Knowledge among Secondary School Students of Kamrup District
---- A Comparative Study

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OPERATIONAL DEFINITIONS OF DIFFERENT TERMS USED:

Environmental Knowledge: Basic understanding of the environment, its related issues, concerns and its associated problems.

Secondary School Student: The present study is confined to the student group of class IX only.

Comparative Study: A study associated with the purpose of comparing the results of two things, events or cases/ results of a phenomenon or case among two or more persons or groups.

OBJECTIVES OF THE PRESENT STUDY:

The present study is intended with the following objectives in view.
1.To assess environmental knowledge among the selected 200 students.
2.To make a comparison of environmental knowledge between urban and rural students (irrespective of gender).
3.To make a comparison of environmental knowledge among the students according to their gender (irrespective of locality).

HYPOTHESES:

As the objective 1 is a fact finding issue, so there is no need to formulate any hypothesis. To fulfil the objective 2 and 3, the following research hypotheses have been formulated:

(a) H1: There is a significant difference in environmental knowledge among the students between the schools of Kamrup Metro and Kamrup Rural.(Irrespective of gender)

(b) H2: There is a significant difference in environmental knowledge between the male and female students. (Irrespective of locality)

METHOD:

Descriptive survey method was followed for the present study.

SAMPLES:

For the present study, 200 students of class IX were taken randomly from 4 purposively selected vernacular medium secondary schools (Under the Secondary Board of Assam-SEBA) from Kamrup District. The features of sample selection (or delimitations of the present study) were:
•Four (4) secondary schools of which 2 were located in Kamrup Metro and 2 in Kamrup Rural.
•Fifty (50) students of class IX were randomly selected from each school so that the total would be 200.
•Out of total 200 students, one-hundred (100) were from Metro schools and one-hundred (100) were from rural schools.
•Out of two-hundred total samples, hundred (100) were male and hundred (100) were the female students.

TOOLS USED:

For gathering the relevant data, the investigators have constructed a self developed tool named as Knowledge Questionnaire on Environment (KQE). The KQE has been constructed by taking thirty (30) questions on various issues on environment. For the purpose of scoring, the correct answer was awarded as '1' and incorrect answer as '0'. So, the total possible correct answer would be 30(=30 x 1) and the total possible incorrect answers would be 0(=30 x 0).

The reliability of the tool was done by using Split-Half (Odd-Even items) method and the index of reliability was found to be 0.82, which showed a high reliability of the self-constructed tool.

The face validity, content validity, predictive validity and item validity of the tool were done accordingly.

STATISTICAL TESTS OF SIGNIFICANCE:

To make comparative analysis between two groups, viz metro and rural students and between the male and

female students, 't'-test has been applied for testing the significant difference.

ANALYSIS AND INTERPRETATION OF DATA:

After collecting the relevant data, those were analysed and interpreted (objective and hypothesis wise) in the following ways.

Objective 1: To assess environmental knowledge among the selected 200 students.

TABLE 1: SHOWING THE VALUES OF DIFFERENT PARAMETERS OF KNOWLEDGE SCORE OF THE ENTIRE SAMPLE (N=200)

Parameters	Knowledge Score
Mean	22.13
SD	2.43
First Quartile(Q_1)	21
Third Quartile (Q_3)	23

Table 1 has depicted the mean, SD and Quartile values of the knowledge scores among the entire 200 samples. The mean score among the samples was found out to be 22.13 along with a standard deviation (SD) value of 2.43. The Q1 and Q3 were calculated as 21 and 23 respectively.

On the basis of the Q values, the sample students were categorised into three levels as below:
1.Students who have secured score below Q1 value (i.e. <21) were treated as having Inadequate knowledge.
2.Students who have secured between Q1 to Q3 value (i.e. 21 to 23) were treated as having Average knowledge.
3.Students who have secured score more than Q3 value (i.e.>23) were treated as having Adequate knowledge.

On the basis of these criteria, the analysis on Knowledge levels of students is as follows:

TABLE2: SHOWING THE DISTRIBUTION OF STUDENTS (N=200) WITH RESPECT TO THEIR KNOWLEDGE LEVEL

Knowledge Level	No. of student	%
Inadequate Knowledge	49	24.50%
Average Knowledge	107	53.50%
Adequate Knowledge	44	22.00%

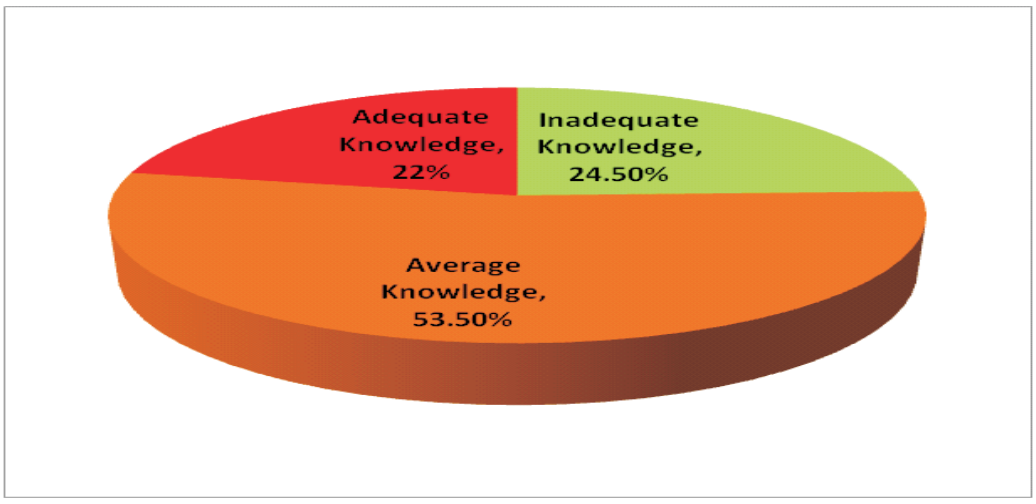

FIGURE 2.1: PIE DIAGRAM SHOWING THE % DISTRIBUTION STUDENTS (N=200) WITH RESPECT TO THEIR KNOWLEDGE LEVEL

Table 2 and figure 2.1 have revealed that Out of 200 students, 49(i.e.24.5%) have inadequate knowledge, because those 49 students have got the summated score of knowledge smaller than the Q1 value, which has been calculated as 21.

Out of 200 students, maximum students i.e. 107(53.5%) have the average knowledge, because those 107 students have scored between Q1 to Q3 (i.e. score 21 to 23).

Only 44 (i.e.22%) students have been found to have adequate knowledge, because they have secured score higher than the Q3 (i.e. 23) value.

TABLE 3: MEAN AND SD SCORES OF KNOWLEDGE AMONG THE STUDENTS ACCORDING TO THEIR KNOWLEDGE LEVELS

Students having	No. of student	Mean Knowledge	SD Score
Inadequate Knowledge	49	19.43	1.53
Average Knowledge	107	21.96	0.88
Adequate Knowledge	44	25.57	1.50

Table 3 has depicted that the 49 students who have inadequate knowledge on environment have the mean knowledge score as 19.43 along with the SD value of 1.53. The 107 number of students having average knowledge have the mean knowledge score 21.96 with the SD score of 0.88; the rests 44 students having the adequate knowledge have the mean knowledge score 25.57 with the SD score of 1.50.

The objective 1 has been fulfilled by the facts from table 1 to table 3.

OBJECTIVE 2: To make a comparison of environmental knowledge between urban and rural students (irrespective of gender).

TABLE 4: COMPARISON OF'T' VALUE OF KNOWLEDGE AMONG THE STUDENTS ACCORDING TO THEIR LOCALITY (IRRESPECTIVE OF GENDER)

Variable	Locality	N	Mean	SD	d.f.	t-value	Significance
Locality of the School	Kamrup Metro	100	22.73	2.38	198	2.44*	Significant at 0.05 level
	Kamrup Rural	100	21.86	2.66			

*→Significant

Table 4 has shown that the mean knowledge score among the metro pupils was higher than that of the rural pupils. The't' test also revealed that there exists a 'significant difference' in knowledge of students on environment between the metropolitan and rural school at 0.05 level. So, the research hypothesis H1 has been accepted.

TABLE 5: COMPARISON OF'T' VALUE OF KNOWLEDGE AMONG THE STUDENTS ACCORDING TO THEIR GENDER (IRRESPECTIVE OF LOCALITY)

Variable	Gender	N	Mean	SD	d.f.	t-value	Significance
Gender	Male	100	22.70	2.58	198	3.41*	Significant at 0.01 level
	Female	100	21.56	2.13			

*→Significant

Table 4 has depicted the mean and SD of knowledge score among the sample students with respect to the variable gender. It has been found that the mean knowledge on environment is higher among male students as compared to their female counterparts.

't'-test was applied to test the significance of difference between male and female students. It showed that there exists a 'significant difference' of environmental knowledge between the male and female students at 0.01level of significance. So, the research hypothesis H2 has been proved.

MAJOR FINDINGS:

1.Out of the entire sample (N=200), 53.50% of students have the average environmental knowledge. Only 22% students have been found to have adequate knowledge and 24.5% have the inadequate knowledge.
2.Regarding the variable Locality, the metro pupils have found to have higher environmental knowledge as compared to their counterparts who are residing and studying in rural locality. A significant difference was found between the two groups.
3.Regarding the variable gender, the male students have found to have higher environmental knowledge than their female counterparts. Significant difference was found between the two groups.

CONCLUDING REMARK:

If environmental consciousness is created from the present stage (Secondary stage) among them, then they can be remain alert regarding the various emerging environmental problems and how to mitigate them and how to take effective steps to stop for their future happening of such environmental problems. It would be a holistic approach to spread the knowledge, awareness and attitude regarding the environment through environmental education.

REFERENCES

•Garrett Henry E, Woodworth R.S., 1981: Statistics in Psychology and Education Vakils, Feffer and Simons Ltd.
•Fifth Survey of Educational Research, 1988-1992: Abstract, Volume II, NCERT, New Delhi
•Mohapatra Damodar, 1995: Environmental Education Kalyani Publisher, New Delhi
•Koul Lokesh, 2001: Methodology and Educational Research Vikash Publishing House Pvt.Ltd
http//www.google.com