



## A Study of Energy Awareness of the students of Standard 8<sup>th</sup> in Context of Some Variables

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### **Abstract:**

*Energy has the most important place in human life. We are using lots of energy uncontrollably and because of that the problem of energy has arose. The researcher has tried to reach the problem by using the information collection the self made Energy Awareness test for standard 8<sup>th</sup>. The data was classified in proper manners. It was found that most the students fall in the category of the low level of energy awareness. Most of the students having middle level of energy awareness. So this study will be helpful for the school principals, teachers and the students to give guidance to the students for developing high level of energy awareness. It will be helpful to the government to make various education policies, which can develop positive approach among students towards energy awareness.*

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**Keywords:** Awareness, Context, Energy

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### **1. Introduction**

In the development of any country, the energy has key place. In it energy, energy, energy is the biggest problem of the people of the world. There has been a great change in the energy in last three decades. Because of lot of use by the people and its reducing sources, if we keep it in mind then energy has the most important place in human life. So India and all the countries of the world are trying to develop and use the alternate sources, but with it some questions are still create worry like decreasing level of energy sources, saving of energy, information regarding other sources of energy etc. it is very important to have education regarding this in society.

The fiery problem of energy has come to our home. We should try to get some solution of it at this moment. The birth of universe is attributing to one great blast and with that tremendous amount energy that came with that blast. The whole energy is distributed in the whole universe. The earth is just a small planet of the universe. But as per our knowledge it is the only planet on which there is a life. From normal one cell life to human kind after the system of evolution the human life came before 20 lack years. All the organisms need energy to develop and to be.

The man has used the limited sources of energy uncontrollably and because of that the problem of energy has arose. The demand of energy is increasing day by day. Because of increasing demand of energy it is necessary now to find the new resources in the today's time. Because of the limited sources of un alternate energy sources like coal, petroleum, electric Urban the attention is now centered to use and develop the alternate, sources of energy. The wood for fire, the solar energy, the water energy, the wind energy, biomass, and the energy produced from waves of oceans and the development of it and its use is now became necessary to think. This

energy is continually produced from this type of resources. So now it is time to use this type of resources.

So, the situation for the problem of emergency of resources has arisen necessarily. So the tool to reach the problem is education. The educated society and government should do the maximum try. By taking the above necessity in mind the study or problem was chosen.

## 2. Objectives of the Study

There are objectives behind our each activity. There is no meaning of work without objective. There is no meaning of human life without objective. If it is thought to do any action and at the same time it becomes necessary to plan its objective. The work without objective is like finding a needle in a bunch of grass. In any research work objectives holds an important place. By that the research work gets the proper way. The following objectives were decided to give the proper way to the following study.

1. To construct Energy Awareness Test to assess students' energy awareness.
2. To decide the level of students' energy awareness.
3. To check the effect of gender on students' energy awareness.
4. To check the effect of type of school on students' energy awareness.
5. To check the effect of area on students' energy awareness.
6. To check the effect of interaction of independent variables on students' energy awareness.

## 3. Hypothesis of the Study

The hypothesis is like the heart of educational research. So in any research the creation of hypothesis is very essential. The person doing research via hypothesis gets the way of own problems. The following hypotheses were formulated for the testing of objectives of the present study.

**Ho<sub>1</sub>** There would be no significant effect of gender on students' energy awareness.

**Ho<sub>2</sub>** There would be no significant effect of type of school on students' energy awareness.

**Ho<sub>3</sub>** There would be no significant effect of area on students' energy awareness.

**Ho<sub>4</sub>** There would be no significant two and three ways interaction effect of three independent variables on students' energy awareness.

## 4. Variable of the Study

"Variables means the situation which's direct or indirect behavior's effect is based on examples" D. Ameto (1970) shows own opinion about the variable that, "The characteristic of anything incident or persons which can be measured is called variable" In any research the variable should be clear. The motives and concepts can be clear from variables. In this study the following type of variables are included.

### 4.1 Independent Variable

**Table 1**  
**Independent Variables and its level**

| No. | Variables          | Levels       |                  |
|-----|--------------------|--------------|------------------|
| 1   | Gender(A)          | Boys (A1)    | Girls (A2)       |
| 2   | Type of School (B) | Granted (B1) | Non-Granted (B2) |
| 3   | Area of School (C) | Rural (C1)   | Urban (C2)       |

### 4.2 Dependent Variable

The dependent variable is Students' Energy Awareness.

#### **4.3 Controlled Variables**

1. The area of students' schools - Sabarkantha district.
2. Gujarati medium schools.

#### **5. Selection of Sample**

To give the justice to time, energy and money and to wide area and to prosper the scheme the samples are necessary. The base of success of research is based on sample. Normally to collect the information from each person of world is very hard and unobtainable but not impossible so in any research the whole world's leadership and that type's sample are made the choice of sample's main motive is to do the leadership and get the result by research. According to English and English (1980). "Sample is a part of the world which leaders the whole world for the motive so the result based on sample will be proper for the world".

Sample is a prime part of research which should be taken care of scientifically. Good sample is being a leader, should be free from carelessness, favor, hurry, and mistakes. The area of the following study was Sabarkantha district. So, the schools situated in Sabarkantha district of Gujarati medium in which, 6 granted and 6 non-granted schools were selected by random sampling method. In this way the students were selected through cluster sampling technique. Among these sample, out of total 513 students; 273 boys and 240 girls were selected as final sample.

#### **6. Research Tool**

When any research is taken in hand than collection of information is necessary for the research problem. For this, some equipment are necessary. Normally, the equipments in the research are attitude measurement, questionnaire, personal interview, opinion list, searching, projection methods; chronological measurement entries etc. are included. For the research whichever the equipment is used should be faithful, and proper in terms of the research. In the present study, the data have collected from the students of standard 8<sup>th</sup>. The self made Energy Awareness Test was used to know the energy awareness of the students of standard 8<sup>th</sup>. In the present study, the following steps were followed to construct the tool.

##### **6.1 Collections of Questions**

Firstly for the construction of energy awareness test the person who dose the study had kept in mind the books published by Gujarat Pathya Pustak Mandal of science and technology and the books published by Government and non-government institutions, the friends of M. Phil, resource persons, and by guide and by keeping the age of the students in mind the questions were chosen this test were having options. So for each question four options were prepared.

##### **6.2 Editing of Questions and Construction of Primary Form**

At the time of study or editing of questions the following matters were kept in mind and the primary form type of energy awareness test was created this test was having options. So for the each questions four options were created. The primary form type of attitudinal measurement

- Not to take the questions of intricacy.
- Not to take the questions that has more than one meaning.
- Remove the questions that are not related with point.
- The language of questions should be simple, sober, and easily understandable.
- The questions should be sort and should have only one thought.
- 'Mostly', 'Mainly', 'Always', 'Never' types of word should not be used because by this kind of words the questions gets double meaning.

- The sentence pattern and language should be according to people who will get this.
- In one sentence two negative words should not be used.

### ***6.3 Experts' Opinions and Constructions of Second form of the test***

The person who studies, after, editing the questions and after primary type of energy awareness test the questions measures the students' proper parts? Is the sentence is proper as per the pattern? For the investigation the primary type of energy awareness test were send to 5 different resource persons. So, there are 65 questions included in the primary type of test. Thereafter this test was send to resource person and guides to check. According to the instruction shown by the resource person 13 sentence were having problems. Hence, through removing that in the second type of test 49 sentences were included. The second type of energy awareness test.

### ***6.4 Primary Try Out***

After making the second type of energy awareness test the person who study had tried it. For the checking of primary test the person who studies this had chosen 100 students. In which 25 boys and 25 girls were from 25 boys and 25 girls were from urban area. For the primary checking after getting the permission of chosen school's principal's as per the proper time the person who studies this had personally gone to check the effect of second type of energy awareness test and the result were got. In filling this test each students had taken the time of 50 minutes. The filled tests were collected from students and according to marking system marking was done.

### ***6.5 Marking of Questions***

In the following study as the information has to be collected from the students of standard 8<sup>th</sup>. The energy awareness test was made by MCQS form. For analyze this test, each correct answer considered for one marks by the researcher.

### ***6.6 Article Analyses***

For the primary testing the test was to be filled by 100 students the marking as the marking system was done and result of energy awareness was done. After that the analysis of the questions included in the test was done. For this the person who studies this had kept the figures of the result in lower order and 27 figures which were having higher energy eligibility means 27 students results and the 27 results of lower energy awareness were differentiated after that from the results of each questions results the internal continuity checking the characters whichever weight age of marks and total weight age the correlation value was found out.

### ***6.7 Selection of Questions and Construction of Final Test***

According to the result of article analysis the questions were accepted and the list of that question was mad and final type of energy awareness test was made. Total 49 questions Included in second type of energy awareness test.

### ***6.8 Construction of Manual for Energy Awareness Test***

After the construction of the final tool, the manual for the tool is prepared. In the present study the manual for the test was prepared too.

## **7. Method of the Study**

“After the properly clearing the problem of research then according to the motives of study to collect the information some special work is done, which can be called the research method”.

There are many methods for the research. But if the motives and sample's size is kept in mind according to that if the method is chosen then acceptable result can be get. By keeping the motives and sample in attention the survey method is used.

### **8. The Process of Data Collection**

To collect the information the person who studies this had conducted the principals of the chosen schools to get the permission. After getting the permission and the fixed time of the permission and at that time by going in the school the students chosen of standard8 from sample and after giving them proper instructions proper contact was made. There after they were told to give the feedback of the test. Whether the students filled the important in formations or not? It was checked. There after the person who studies this had done the duty of supervisor. As there was no time limit to the students took 40 to 45 minutes. There after the filled tests were collected. So, the tests which were collected by information collection the marking was done as per the marking key. The results which are collected from the marking work the analysis and meaning was done of the information.

### **9. Data Analysis**

In references to the objects and hypothesis of the studies the selection of research method and tool selection have been applied. In that through selected tool the obtained data for the verification of the hypotheses it is necessary to make classification in to proper division. If these data classified in proper manners, then analysis process become more easy and simple. Through Data collection method the obtained data shall be analysis, the working for the analysis is very tough and roper care caution skill is essential while adopting this work. On the basis of data analysis the researcher could get and clear out scathes purpose to take exact decisions, interpretations, conclusions or instructions. Obtained data which are collected by the data collection method, for analysis purposes various statically techniques have been applied and used. In this study the dependent variable is" students 's energy awareness" While as the independent variable the caste, school type and the school area type of variables were included. In which castes as boys and girls, school type granted school and self-financed school and the school area like rural and urban were divided.

P33 and P67 had been calculated depending upon the received scores on energy awareness test of the students for deciding the standard of energy awareness of the students to standard-8 of Secondary school. Critical ratio had been calculated for checking the average, standard deviation, standard error and null hypothesis depending on the scores of the classified data in context of various variables selected by the researcher. And two ways and three ways variance analysis had been calculated according to  $2 \times 2 \times 2$  factor design for checking the interaction effect and main effect of various independent variables.

After classification of the data with a view to proper information would be got to the every person studying the research, tables and graphs for the pictorial presentation had been used.

### **10. Findings**

In this study classification has been done in the three parts which included results regarding the energy awareness level, the results regarding the main effect of independent variable on the student's energy awareness, the results regarding the interrelated effect of independent variable and their effect on students energy awareness. The descriptions of the same are given below.

### ***10.1 Findings Regarding the Level of Students' Energy Awareness***

- Most of the students fall in the category of the low level of energy awareness.
- There was equality between the students who having high level of energy awareness and the students who having middle level of energy awareness.
- There was equality between the boys and girls who having middle level of energy awareness.

### ***10.2 Findings Regarding the Effect of Independent Variables on Students' Energy Awareness***

- Results regarding the main effect of independent variables of the student energy awareness.
- There was not any significant effect of gender on the boys and girls energy awareness.
- There was significant effect of the school type on the energy awareness of the granted school children and the Non-Granted school children. So, students from granted school were Granted school children.
- There was not any significant effect of school area on the rural area school children and urban area school children.

### ***10.3 Findings Regarding the Variables Interaction on Students' Energy Awareness***

- The effect of interrelated effect of the independent variables on the professor's attitude towards their profession.
- There was a significant effect of eight groups which were formed with help of  $2 \times 2$  factorial design and their effect on the boys and girls energy awareness. There is valid effect of interrelated procedure between gender and the school type on the student's energy awareness.
- There was not valid effect of interrelated procedure between the gender and the school type on the students' energy awareness.
- There was not valid effect of interrelated procedure between the school type and the school area on the student's energy awareness.
- There was not valid effect of interrelated procedure between the genders, school type and school area on the student's energy awareness.

## **11. Educational Implications**

This study will be helpful for the school principals, teachers and the students who are responsible citizens for developing positive approach towards energy. Most of the students having middle level of the energy awareness. So this study will be helpful for give guidance to students for developing high level of energy awareness. In addition to the information from this research will be very helpful to the academicians of the Gujarat state while including the information regarding the energy awareness and them energy saving in the current syllabus. So, by this way students and teachers will understand the importance of the energy and will become conscious to protect it.

The result of this study also will helpful to the government to make various education policies, by this way they can develop positive approach among students and towards the energy because of this the development in the energy save campaign would be speedy.



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