



# Effect of Area on Learning Difficulties in Biology Subject

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## Abstract:

Everyone requires education for achievement in contemporary society. Life is getting simpler as a consequence in a significant way to science. Everyone is trying to learn more about it. But the students faces many challenges while learning the different subjects. As specially the students facing difficulties while learning Biology subjects at higher secondary level is one of the major problem. In order to ascertain the various factors that affect the students of higher secondary school and how to overcome their problems this research is being done.

**Key Word:** Rural Area, Urban Area, Learning Difficulties, Biology Subject

## 1. Introduction

Everyone's life depends on education. It causes the person to change from being a living individual to becoming an individual who thinks and acts. The scientific environment and its applications have an impact on contemporary society. Science is now ingrained in every aspect of our daily lives. A person living in contemporary India will find countless examples of science all around him. Science has drastically altered human perception and shrunk the world. In fact, science now has a profound impact on every aspect of human life. Furthermore, the scope of modern science's accomplishments has expanded beyond the earth and is no longer limited to this planet.

Both internal and external factors can be used to identify the difficulties that students face during learning process. Based on the findings it is seen in the students problems with learning process , including a lot of scientific language, less reference material that causes boredom and a lack of enthusiasm, and a lack of focus that makes it difficult to concentrate. On external factors including the teacher's techniques of instruction, the families lack of interest and communication, and the ways that the students learn. This study set out to

determine how difficult it was for students to learn biology. The purpose of this study was to find out student's learning difficulties in biology subject

## 2. Objectives of the Study

Objectives of present study are as follows:

1. To study the learning difficulties in biology subject of higher secondary school students of Gandhinagar district.
2. To study the relationship between the Area of higher secondary school students with respect to learning difficulties in biology subject.

## 3. Hypothesis of the Study

**Ho1** There is no significant difference between mean score of higher secondary school students of Urban Area and Rural Area with respect to learning difficulties in biology subject.

**Ho2** There is no significant difference between mean score of boys of higher secondary school students of urban area and boys of higher secondary school students of rural area with respect to learning difficulties in biology subject.

**Ho3** There is no significant difference between mean score of girls of higher secondary school students of urban area and girls of higher secondary school students of rural area with respect to learning difficulties in biology subject.

## 4. Variables of the Study

In this study the following types of variables are selected.

### 4.1 Independent Variable

In this study Educational Area (Rural and Urban) and Gender (Boys and Girls) are taken as independent variable.

### 4.2 Dependent Variable

In this study Learning Difficulties in Biology Subject has been taken as dependent variable.

## 5. Definitions of Keywords

### Operational Definition of Learning Difficulties

A group of neurodevelopmental disorders known as learning difficulties can severely impair a person's capacity to learn new things. It can show up as difficulties with activities like speaking, reading, writing, paying attention, comprehending, and remembering information, as well as difficulties with doing math calculations or coordinating movements. Reading and writing difficulties are also referred to as "learning difficulties" in this context. It can also be used in other subject areas, like biology.

## **Operational Definition of Biology Subject**

The study of living things, including their origins, anatomy, morphology, physiology, behaviour, and distribution, is known as biology. Every region of the world is teeming with life, from the icy Arctic to the scorching Sahara. The only planet in the universe where life is known to exist is the earth, where more than 8.7 million species have been identified as of yet. Technology developments have made it possible to learn even more about life and its components. For instance, the discovery of viruses has forced scientists to re-evaluate conventional definitions and approach life from a completely different angle.

## **6. Delimitations of the Study**

Delimitations of present study are as follows.

1. The present study is conducted on higher secondary school students of Gandhinagar District.
2. The present study is conducted on higher secondary school students of English Medium only.

## **7. Research Method**

The primary goal of the research was to examine higher secondary school students in Gandhinagar District's Learning difficulties in Biology Subject. The researcher created and standardised the Biology Content Inventory for higher secondary school students in order to gather the data. The higher secondary school students were chosen at random by the researcher from a variety of schools across Gandhinagar Districts, and an approach for data collection was done. As a result, information on Learning Difficulties in Biology Subject from a large sample was completed as a data collection technique. The researcher needed to gather data from a sizable sample. So, in this study, the survey method was employed.

## **8. Sample of the Study**

The researcher selected 1200 higher secondary school students those who have taken Biology subject from Gandhinagar District. Out of these, 600 higher secondary school students of Rural Area schools were selected and 600 higher secondary school students of Urban Area schools were selected for present study.

## **9. Research Tool**

The researcher constructed a tool on Biology Content Inventory for higher secondary school students of Gandhinagar district. There were 60 items in Biology Content Inventory. Biology Content Inventory items were distributed in four different factors.

## **10. Data Collection**

The primary objective of the present study was the collection of data. 1200 higher secondary school students who have taken Biology subject in Std XI and XII as one of their subject and studying in GSEB or CBSE schools were selected for the purpose of the research. The researcher visited various schools to ask for

prior permission for collection of data. For the purpose of obtaining permission, the researcher interacted with several school principals. As a result, the time and date for data collection were set. The researcher visited numerous schools again at a predetermined time and day. The Biology Content Inventory were provided to the students who were present in schools and have selected one of the subject as Biology for Board exams in order to get their responses. The researcher went over every detail of how to respond to each statements. The researcher collected inventories who have completed and then assembled them for analysis.

## 11. Data Analysis and Results

The researcher constructed hypotheses as mentioned above. These hypotheses is checked using t-tests. The results of t-tests were obtained as below.

**Ho1** There is no significant difference between mean score of higher secondary school students of Urban Area and Rural Area with respect to learning difficulties in biology subject.

**Table 1**

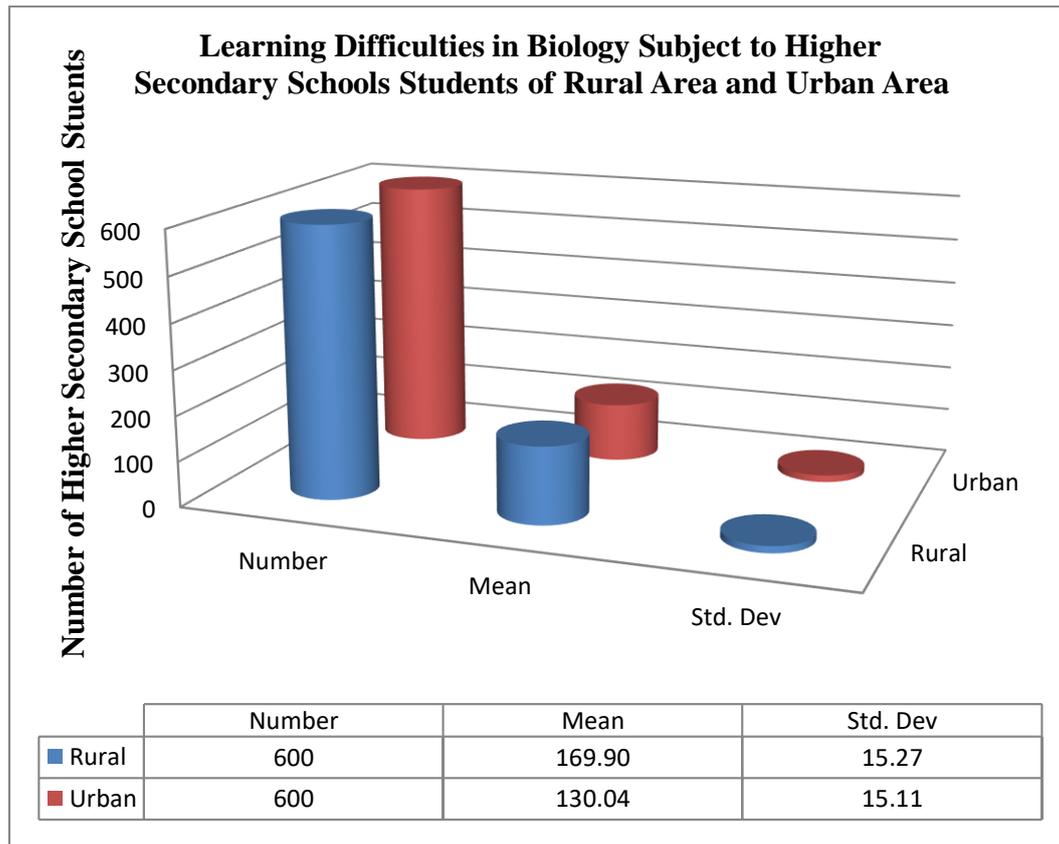
**Result of Analysis for Learning Difficulties in Biology Subject with respect to Area of Higher Secondary School Students**

Medium of Instruction	N	Mean	Standard Deviation	t-value	Level of Significance
Rural Area	600	169.90	15.27	45.45	Significant
Urban Area	600	130.04	15.11		
df	0.05	0.01			
1200	1.96	2.58			

The table 1 state that the t-value is 45.45 which is greater than t-value at  $t_{0.01}$  level of significance. Thus, null hypothesis i.e. "There is no significant difference between mean score of higher secondary school students of Urban area and Rural area with respect to learning difficulties in biology subject" is rejected. This indicates that there is significant difference between the higher secondary school students of Urban area and Rural area with respect of learning difficulties in biology subject. Mean scores of Rural area higher secondary schools students is higher than Urban area higher secondary school students which indicates Rural area higher secondary school students have more learning difficulties in biology subject compare to Urban area higher secondary school students.

Graph 1

Plotted graph for Learning Difficulties in Biology Subject with respect to Area of Higher Secondary School Students



**Ho2** There is no significant difference between mean score of Boys of higher secondary school students of Urban Area and Boys of higher secondary school students of Rural Area with respect to learning difficulties in biology subject.

Table 2

Result of Analysis for Learning Difficulties in Biology Subject of Boys of Higher Secondary School Students with respect to Area

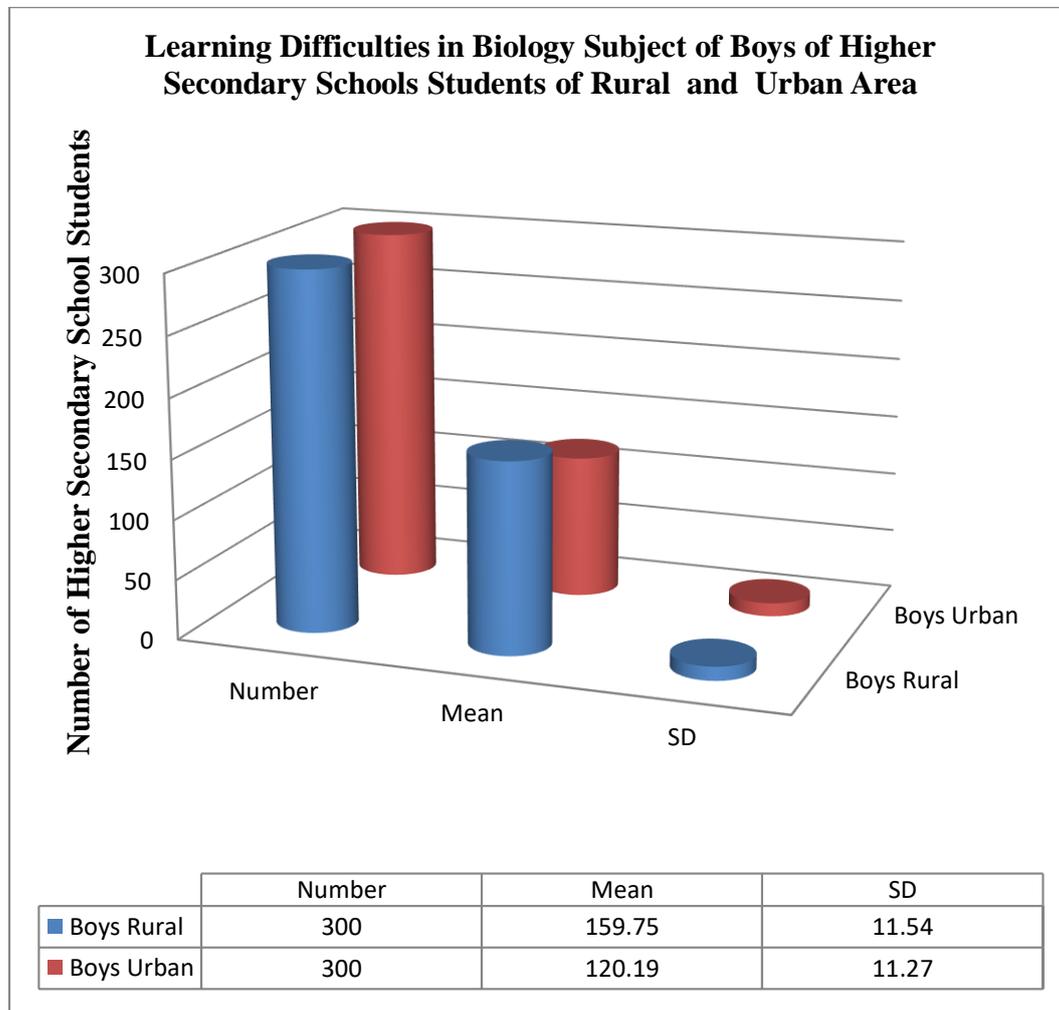
Medium of Instruction	N	Mean	Standard Deviation	t-value	Level of Significance
Rural Area	600	159.75	11.54	42.48	Significant
Urban Area	600	120.19	11.27		
<b>df</b>	<b>0.05</b>	<b>0.01</b>			
<b>1200</b>	1.96	2.58			

The table 2 state that the t-value is 42.48 which is greater than t-value at  $t_{0.01}$  level of significance. Thus, null hypothesis i.e. "There is no significant difference between mean score of boys of higher secondary school students of Urban area and boys of higher secondary school students of Rural area with respect to learning difficulties in biology subject" is rejected. This indicates that there is significant difference between the boys of higher secondary school students of urban area and boys of higher secondary school students of rural area with

respect of learning difficulties in biology subject. Mean scores of boys of higher secondary school students of rural area is higher than boys of higher secondary school students of urban area which indicates boys of higher secondary school students of rural area have more learning difficulties in biology subject compare to boys of higher secondary school students of urban area.

**Graph 2**

**Plotted graph for Learning Difficulties in Biology Subject of Boys of Higher Secondary School Students with respect to Area**



**Ho3** There is no significant difference between mean score of girls of higher secondary school students of Urban area and girls of higher secondary school students of Rural area with respect to learning difficulties in biology subject.

**Table 3**

**Result of Analysis for Learning Difficulties in Biology Subject of Girls of Higher Secondary School Students with respect to Area**

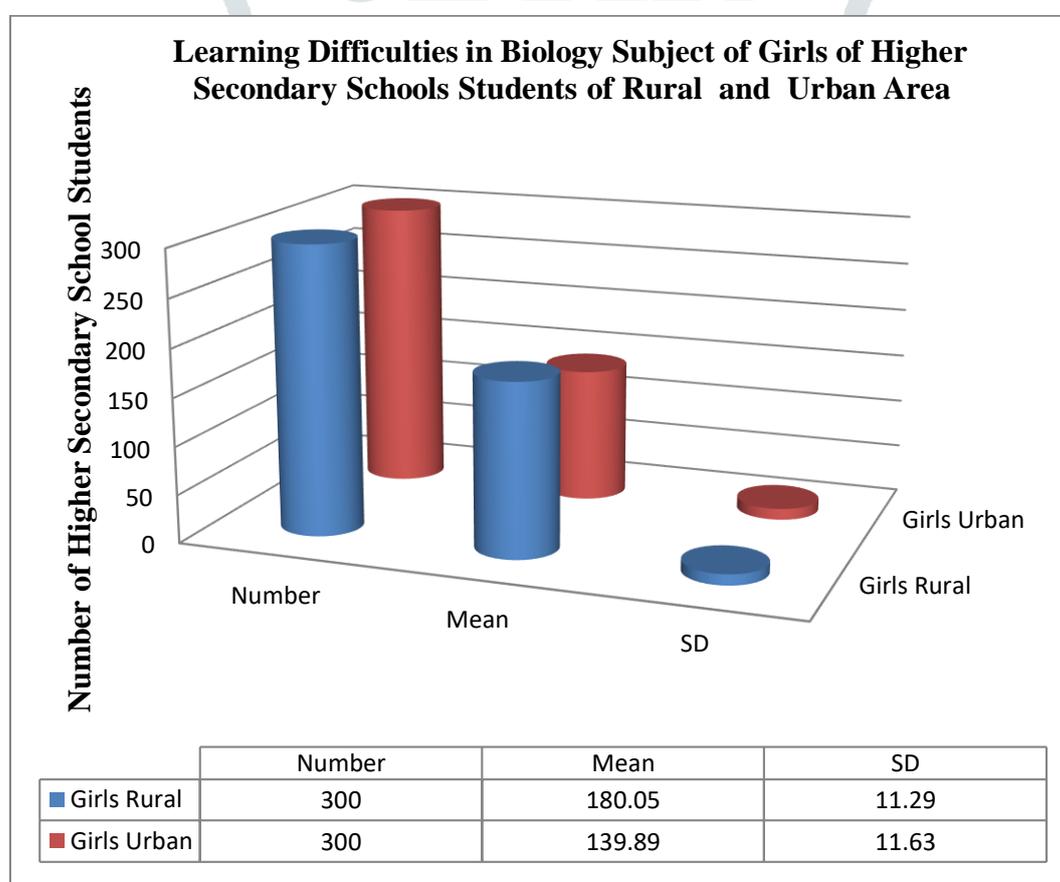
Medium of Instruction	N	Mean	Standard Deviation	t-value	Level of Significance
Rural Area	600	180.05	11.29	42.92	Significant
Urban Area	600	139.89	11.63		

df	0.05	0.01
1200	1.96	2.58

The table 3 state that the t-value is 42.92 which is greater than t-value at  $t_{0.01}$  level of significance. Thus, null hypothesis i.e. "There is no significant difference between mean score of girls of higher secondary school students of Urban area and higher secondary school students of Rural area with respect to learning difficulties in biology subject" is rejected. This indicates that there is significant difference between the girls of higher secondary school students of urban area and girls of higher secondary school students of rural area with respect of learning difficulties in biology subject. Mean scores of girls of higher secondary school students of rural area is higher than girls of higher secondary school students of urban area which indicates girls of higher secondary school students learning rural area have more learning difficulties in biology subject compare to girls of higher secondary school students of urban area.

**Graph 3**

**Plotted graph for Learning Difficulties in Biology Subject of Girls of Higher Secondary School Students with respect to Area**



## 12. Findings

Major findings of present study are as follow,

1. The higher secondary school students of Rural area have more learning difficulties in biology subject compare to Urban area.
2. The Boys and Girls of higher secondary school learning Biology in Rural area have more learning difficulties compare to Boys and Girls of Urban area.

### 13. Conclusion

The researcher studied the learning difficulties in biology subject of higher secondary schools students of Gandhinagar District. After research, it has been revealed that Rural area students have more difficulties in learning biology compare to students of Urban area.

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