

**AN INVESTIGATION OF THE RELATIONSHIP BETWEEN LEARNING ENVIRONMENT AND INSTRUCTIONAL STRATEGIES IN BIOLOGY OF SECONDARY SCHOOL STUDENTS OF KERALA, INDIA**

T. S. Sanjayan\*

*School of pedagogical sciences, Mahatma Gandhi University, Kottayam, Kerala, India*

**INTRODUCTION**

Waves of change caused by knowledge explosions are influencing every field of education. As per the demands of the society, education has to direct and mould the existing changes by improving its quality and standard. These changes have shown the necessity for emphasis on the instructional strategies.

Recent research shows that, instructional strategies are a paramount process among many factors that affect student's learning. There were many typical factors like psychological, biological, and sociological factors that influence classroom environment. Learning environment and instructional strategies are apt yard sticks for the enhancement of teaching learning process in a meticulous manner. The process of instructional strategy and learning environment are considered as in a broad platform. But still modern educators think that emphasis should be given to the overall quality of students. Keeping this aim in mind, so many studies are conducted to find out the factors that influence learning and how peak performance is ensured using these factors.

Everybody agrees that science is both a body of knowledge and the process of acquiring it. Biology like other branches of sciences, which is plays a vital role in human life. We employ numerous instructional methods for teaching Biology like observation, experiment *etc.* A true biology teacher presents the problem in a meticulous way in front of the students. The method or strategies adopted by the teacher in disseminating exact idea to the students is usually through accurate instructional strategies.

**OBJECTIVES OF THE STUDY**

- 1) To find out the extent of relationship between the learning environment and instructional strategies.
- 2) To find out the influence of learning environment on instructional strategies.
- 3) To find out the mean scores of learning environment and instructional strategies (component wise and total score) for the group.
  - (a) Boys and girls
  - (b) Government and aided schools
  - (c) Rural and Urban Schools
  - (d) Male and Female teachers

**HYPOTHESES OF STUDY**

- 1) There will be no significant relationship between instructional strategies and learning environment.
- 2) There will be no significant influence of learning environment on instructional strategies.

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\* Mobile: +919745314200, e-mail: sanjayants@gmail.com

- 3) To find out the relationship between mean scores of learning environment and instructional strategies (component wise and total score) for the group.
  - (a) Boys and girls
  - (b) Government and Aided schools
  - (c) Rural and Urban Schools
  - (d) Male and Female teachers

## METHODOLOGY

This study was conducted using the correlation method. Correlation research method is the ability to prove a positive or negative correlation between two subjects (Dellavar, 2007). The statistical population consists of 600 students and 60 teachers from the secondary education. The sample was selected by stratified sampling techniques giving due representation to the factors like sex of students and teachers, locality and management category of the schools. In Kerala, VIII<sup>th</sup> standard is the beginning of using more innovative instructional strategies in teaching Biology. The tools for gathering data was researcher adopted inventories for learning environment with 60 items and researcher made instruction strategies inventory with 20 items. The researcher has conducted preliminary analysis to see whether the dependent and independent variable are normally distributed. For this the important statistical characteristics mean, median, mode, standard deviation, skew ness and kurtosis were calculated. Carl Pearson product movement correlation was used in major analysis. There were done by using SPSS statistical software.

## RESULTS AND DISCUSSION

Variable – learning Environment	Co-efficient of correlation (r)	Fisher’s T Test Value	Confidence Interval		Share Variance	Level of Significance
Total – 600	0.203	4.613	0.115	0.26	4.12	0.01
Instructional Strategy	0.213	4.210	0.210	0.219	4.53	0.01

Table 1 : Relationship between learning environment and instructional strategies for the total sample

From the Table 1 we can see that the correlation co-efficient “r” for total sample is 0.203, which is positive. The “t” value calculated as 4.613 which is greater than the value required to be significant at 0.01 level. Thus it can be interpreted that there exists a significant positive relationship between the variables learning environment and instructional strategies in teaching for biology for the total sample at 0.01 level.

The important finding presented in the following heads;

### **Relationship between learning Environment and Instructional Strategies for the Total Sample and Sub Samples.**

The coefficient of correlation between learning environment and instructional strategies for the total sample is 0.203. This shows a significant relationship between learning environment and instructional strategies in teaching of Biology. The coefficient of correlation between learning environment and instructional strategies for boys is 0.1913. This shows a negligible relationship between learning environment and instructional strategies.

### **Comparison of the variable learning environment in the teaching of Biology with respect to sex, locale, and management.**

While comparing learning environment in the teaching of Biology of boys and girls the critical ratio obtained was 2.951 which is significant at 0.01 levels. This indicates that there exists a significant sex difference in the variable learning environment in the teaching of biology. The

Arithmetic mean for boys is 107; Arithmetic mean for girls is 97.753. Hence boys are more influenced by learning environment of the classroom than girls.

**Comparison of the variable Instructional Strategies with respect to sex of the student's locale and type of management and male and female teachers.**

While comparing the effects of instructional strategies on sex of the students the critical ratio obtained was 3.24, which is significant at 0.01 levels. This indicates that there exists a significant sex difference in the effect of variable instructional strategies on students. While comparing instructional strategies of rural and urban teachers, the critical ratio obtained was 3.25 which is significant at 0.05 levels. This indicates that there exists a significant locale difference in the variable instructional strategies. Arithmetic mean of rural sample is 86.15 and that of urban sample is 86.63. Hence urban teachers are employing innovative instructional strategies.

**CONCLUSIONS/RECOMMENDATIONS**

The study under consideration investigated the relationship between learning environment and instructional strategies. On the basis of the study it may be stated that there is a significant correlation between learning environment and instructional strategies. Some of the recommendations of the study as follow.

- (a) Identifiable patterns of classroom environment could contribute to the development of a child's ability and potential.
- (b) Children benefit from apt instructional strategies of teacher for gaining invaluable input.
- (c) Teachers should employ innovative instructional strategies to ebb out maximum inherent potentials from children.
- (d) Congenial environment definitely accelerate the talents of children.
- (e) Teachers should bear in mind that amalgam of instructional strategies and appropriate learning environment are a part and parcel of education.
- (f) Teachers should try to devote more time and take efforts to develop the potential for learning through innovative instructional strategies and evaluate them accurately.

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