Learning Styles Among Higher Secondary Students in Biological Science

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LEARNING STYLES AMONG HIGHER SECONDARY STUDENTS IN BIOLOGICAL SCIENCE
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(Received 05th August 2015, Revised 10th August 2015, Accepted 15th August 2015)

Abstract
The present study was aimed to learning styles among higher secondary students in biological science. For that the researcher selected 840 samples on the basis of stratified random sampling technique. The data were collected using statistical tools and it was analyzed by ‘t’ and ‘F’ test were used. There is no significant difference between learning styles in higher secondary students on the basis of school location. There is no significant difference between learning styles in higher secondary students on the basis of management.

Key Words: Learning styles, Biological Science and Higher Secondary Students.

Introduction
According to the “Compact Oxford Reference Dictionary (2001)”, learning means “knowledge or skills gained through study or by being taught”. “Learning is the process of progressive behavior adaptations” – Skinner. Learning is defined as the more or less permanent modification of an individuals’ activity in a given situation due to practice in attempts to achieve some goal. Learning is a great deal more than acquiring knowledge and developing skills. If learners do not develop the capability of directing their own learning and acting on the world around them, they will be only partially educated, and limited in what they can do. Moreover, learning is facilitated when the process is initiated and owned by the learner. The learners have to become more independent, responsible and effective for their own learning.

Learning Styles
Learning style is a hypothetical contract that has been developed to explain the process of mediation between stimuli and response. Learning style as on integral concept that bridges the personality cognitive dimensions of the individuals. The learning styles are synonymous. He defines learning styles as the course of learning. Laycock (1978) describes learning styles as an individual characteristic way of responding to certain variable in the instructional environment. In simplest terms, a students learning style is the peculiar way with which he learns best. In western world a host of researchers have found learning styles and academic achievement closely related, but in India no effort has been made to ascertain the relationship between learning styles and academic performance. Therefore, the investigators thought it worthwhile undertake a study on this aspect.

Concept of Learning Style
Until recently most people took learning styles for granted and left them to instinct. Realization that studying how to learning should come before everything else is spreading in the world of education skill in this field can multiply efficiency. The use of higher level work skills can bring improvement in almost all fields. Improvement in athletic field and industrial productivity have been achieved in the way. Everyone is familiar with the difference in output of a self-taught typist who uses one finger of each hand and an expert who was taught the tough system. Other experiments has shown that the level of performance on such

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tasks as card sorting, pitch discrimination and puzzle solving is affected by the method employed and the limit to performance might be improved if better work was used.

**Research Design**

Research is a part of scientific investigation. "Cliffer Woody" defines research as comprising to defining and redefining problems formulating hypothesis or suggested solutions, collecting, organizing and reaching conclusion.

Research design is purely and simply the frame working plan for a study that guides the collection and analysis of data. The function of a research design is to ensure that the required data are collected accurately and economically. Research design is the logical and systematic plan to carry out research. It is a flexible one, minor alterations may be made depending upon the need. Always a good research study is the result of a better research design.

Research design has the important aspects of plan structure and strategy. It is the summary of all activities of the research from the stage of formulating the problem to the final analysis of data.

**Significance of the Study**

Learning style is on integral concept that bridges the personality cognitive dimensions of the individuals. Laycock (1978) describes learning styles as an individual characteristic way of responding to certain variable in the instructional environment. In western world a host of researchers have found learning styles and academic achievement closely related, but in India no effort has been made to ascertain the relationship between learning styles and academic performance. Therefore, the investigators thought in worthwhile undertake a study on this aspect.

**Objectives of the Study**

1. To evaluate the significant difference in learning styles of higher secondary students in biological science with respect to their demographic variables.

**Hypotheses of the Study**

1. There is no significant difference between learning styles in higher secondary students on the basis of school location.
2. There is no significant difference between learning styles in higher secondary students on the basis of management.

**Sample of the Study**

In the present study, samples of 840 higher secondary school students were selected through purposive random sampling technique.

**Tools Used for the Study**

The following is the list of tools used by the investigator for the collection of the data pertaining to this study.

a. Learning styles (Solomon and Felder (2004))

**Analysis and Interpretation**

**Hypothesis-1:** There is no significant difference between learning styles in higher secondary students on the basis of school location.

<table>
<thead>
<tr>
<th>School Location</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Significance at 0.05 Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>345</td>
<td>72.18</td>
<td>25.11</td>
<td>1.31</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Rural</td>
<td>495</td>
<td>76.35</td>
<td>25.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the above result that the obtained t-value is not significant at 0.05 level. So the null hypothesis is accepted and alternative hypothesis is rejected. Therefore it is concluded there is a no significant difference between learning styles of higher secondary students on the basis of school location.

Hypothesis-2: There is no significant difference between learning styles in higher secondary students on the basis of management.

<table>
<thead>
<tr>
<th>Type of Management</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F-value</th>
<th>Significance at 0.05 Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between group</td>
<td>628.757</td>
<td>2</td>
<td>3314.379</td>
<td>5.35</td>
<td>Significant</td>
</tr>
<tr>
<td>Within group</td>
<td>184050.24</td>
<td>837</td>
<td>619.698</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>190679.00</td>
<td>839</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the above result that the obtained F-value is significant at 0.05 level. So the null hypothesis is rejected and alternative hypothesis is accepted. Therefore it is concluded there is a significant difference between learning style of higher secondary students on the basis of type of management.

Findings of the Study
1. There is a no significant difference between learning styles of higher secondary students on the basis of school location.
2. It is inferred there is a significant difference between learning styles of higher secondary students on the basis of type of management.

Conclusion
On the completion of this present study the investigator has been prompted to conclude that the independent variable and the background variables included in the present study are not influential enough to alter the difficulties. Therefore the investigator feels that on the completion of the proposed topics of research given here, valid information with regard to difficulties may be obtained. Random sampling techniques was used to select the sample. To test the hypotheses, standard statistical tools such as t-test. The result concluded that there is a significant influence between students demographic variables.

Reference