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RESEARCH ARTICLE

LEARNING STYLE AND ACADEMIC ACHEIVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS

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ABSTRACT

Learning is defined as modification of behavior through experience. It is also defined as the acquisition of a desirable behavioral pattern. In other words learning is the modification and co-ordination of the response of the organisms. Thus learning is essentially an active process and not a passive observation of knowledge. It is not the mere reading of books or listening to lectures is an enrichment of experiences. This study focuses on the important psychological variables like learning style and academic achievement. Normative survey method was used for the research. Sample includes secondary students. Stratified sampling technique was used. The statistical technique used was correlation and t test. The hypotheses state that. 1) There will be significant correlation between learning style and academic achievement of secondary students. 2) There will not be significant difference between male and female students in their Learning style. 3) There will not be significant difference between male and female students in their Academic achievement.

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INTRODUCTION

Learning is defined as modification of behavior through experience. It is also defined as the acquisition of a desirable behavioral pattern. In other words learning is the modification and co-ordination of the response of the organisms. Thus learning is essentially an active process and not a passive observation of knowledge. It is not the mere reading of books or listening to lectures is an enrichment of experiences. Learning occupies an important place in the school, without leaning all efforts of pupils as well as teachers are bound to become purposeless. Learning essentially consists of modification of reactions due to experience or practice. This study focuses on the important psychological variables like learning style and academic achievement.

Need and significance of the study

Some psychologist has found ethnic group differences in student's cognitive style. Students learn in many ways, like hearing and experiencing things first hand. But for most students one of their methods stands out. For example, students who are visual learners sometimes found struggling during essay exams "because" they can't recall test materials that well "heard" in lecture, visual learners are those who learn enough seeing things. Auditory learners are those who learn best through listening to things. Kinesthetic learners are those who learn through experience. Academic achievement is considered as key to judge one's potentialities and capabilities. This study focuses on the important psychological variables like learning style and academic achievement. Thus learning style and academic achievement is in need of special consideration and the investigator felt that the study is needed and it is significant in the contempory educational practice.

Statement of the problem

The present study is entitled as:

Learning style and academic Acheivement in Biology of secondary school students

Operational definitions of key terms

Learning Style

Learning style of person in the preferred way through which he or she process information while learning (operational definition)

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Academic achievement

The term academic achievement refers to "performance in school in a standardized series of educational test" (Good 1974)

Objectives of the study

- To find out whether there is any relation between learning style and academic achievement of secondary school students
- To find out whether there was any difference between boys and girls in their learning style.
- To find out whether there was any difference between boys and girls in their academic achievement.

Hypotheses of the study

- There will be significant correlation between learning style and academic achievement of secondary school students
- There will not be any significant difference between boys and girls in their learning style There will not be any significant difference between boys and girls in their academic achievement.

MATERIALS AND METHODS

Normative survey method (Sindhu, 1996) was adopted in the study.

Population

The population for the investigation consisted of all secondary school students in Kerala following Kerala state syllabus.

Sample

Sample of the present study consisted of 300 secondary school students.

Variables

The variables of the present study include learning style and academic achievement

Tools

The following standardized tools are used for the investigation.

- Learning style scale (Constructed and Standardised by the investigator)
- Academic achievement will be measured on the basis of the marks scored for the first terminal examination.
- Personal information schedule.

Procedure for data collection

The investigator visited five selected schools from where the permission was taken in advance Investigator personally administered learning style scale to students. The data collected from the students were analyzed statistically using appropriate statistical methods.

Statistical techniques adopted

1. Karl Pearson's product-moment method of correlation
2. Test of significance of difference between means of large independent sample (t test)

Scope of the study

Knowledge about the learning styles of students to different grades cab be utilized for designing the course and the curriculum. The biological science course design and curriculum should be in accordance with the various learning style. The educational program should comprise the opportunities for the students to attain a growth and development in all their areas of life. The curriculum and syllabus should therefore be framed according to the interest, abilities, attitudes, needs and desires of individuals. It is expected that the findings of the study would help the authorities to plan curricular and activities for secondary school students.

ANALYSIS AND DISCUSSION

Measures of relationship between the variables

Table 1 show that correlation between learning style and academic achievement of secondary school students was 0.74 which was significant 0.01 levels. This indicated that there existed a significant high correlation between two variables. Therefore the relationship between learning style and academic achievement is high.

Table 1. Correlation coefficient (r) between Learning Style and Academic achievement

Variables correlated	N	r	Level of significance	Verbal interpretation
Learning Style and Academic achievement	300	0.74	0.01	High correlation

Test of Tenability of Hypothesis 1

The hypothesis 1 entitled "There will be significant correlation between learning style and academic achievement of secondary school students "was accepted.

Test of significance of difference between means (t test)

Learning style and Academic achievement of secondary school students-analysis based on sex.

Comparison of boys and girls in their Learning Style

The comparison of male and female students under study was done by selecting 135boys and 165 girls for the variable learning style.

The data and results given in Table 2 represent that there is no significant difference between boys and girls with regard

to learning style. The t obtained by t test is 0.66 is found to be not significant. This shows that there is no significant difference between boys and girls in their learning style.

Table 2. Data and results of significance of difference between means of scores of boys and girls in their learning style

Category	N	Mean	Standard deviation	t	Level of significance
Male	135	59.08	18.85	0.66	Not significant
Female	165	57.69	17.80		

Table 3. Data and results of significance of difference between means of scores of boys and girls in their Academic Achievement

Category	N	Mean	Standard deviation	t	Level of significance
Male	135	52.26	16.15	1.36	Not significant
Female	165	54.68	14.67		

Test of Tenability of Hypothesis 2

The hypothesis 2 entitled "There will not be any significant difference between boys and girls in their learning style" was accepted.

Comparison of boys and girls in their Academic Achievement

The comparison of male and female students under study was done by selecting 135 boys and 165 girls for the variable Academic achievement. The data and results given in Table 3 represent that there is no significant difference between boys and girls with regard to academic achievement. The t obtained by t test is 1.36 is found to be not significant. This shows that there is no significant difference between boys and girls in their academic achievement.

Test of Tenability of Hypothesis 3

The hypothesis 3 entitled "There will not be any significant difference between boys and girls in their academic achievement" was accepted.

Conclusion

Each and every individual acquires some sort of education, even if he has never spent a day in a school, because all his acquired characteristics are the products of experiences and activities which are educational in nature. Education, thus, includes all influences in life. Learning style and academic achievement plays a significant role for cognitive affective and psycho motor development of children. The curriculum and syllabus should therefore be framed according to the interest, abilities, attitudes, needs and desires of individuals. It is expected that the findings of the study would help the authorities to plan curricular and activities for secondary school students.

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