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ORIGINAL ARTICLE

A Study Of Impact Of Government School Students Interest In Science, Study Habits And School Adjustment On Academic Achievement In Science.

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Abstract:

The purpose of the study was to analyse independent and combined effects of variables viz., Interest in science (higher and lower), Study habits (good and poor) and School Adjustment (high and low) on Academic achievement in Science. The sample of the present study includes 300 students selected randomly from IXth Standard studying science subject. The study revealed that, (i) The Government School students with higher Interest in science have more influence on Academic achievement in science than the Government School students with lower Interest in science; (ii) The Government School students with higher Interest in science and high School adjustment have more influence on Academic achievement in science than the Government School students with higher Interest in science and low School adjustment; (iii) The Government School students with good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with poor Study habits and low School adjustment.

KEYWORDS:

Government, Student, Interest, Science, Study, School.

INTRODUCTION

Science education occupies a very eminent place in curriculum both at school and university stages of education in India. Continuous advances in scientific and technological research have led to the growth and greater application of science in contemporary society. Accordingly science becomes a priority area in education, both at the compulsory education level as well as the level of specialization. Science education is supposed to perform a two-fold task. The prime objective, in individualistic perspective, is the cultivation of a scientific temper, which includes a spirit of enquiry, a disposition to reason logically and dispassionately, a habit of judging beliefs and opinions on available evidence, readiness to reject unfounded theories and principles, the courage to admit facts, howsoever, unsettling or disagreeable they might be, and finally, recognizing the limits of reasoning power itself. It is also expected of science education that it would give individuals a firm grasp of the concepts and processes of science and impart to them the ability to use the scientific method of problem solving and the techniques of observation and experimentation in handling problem of comprehension or life. At the societal level one of the major objectives of science education is to equip individuals to participate in the creation of a society which is free from poverty, hunger, disease and evils such as violence, exploitation, oppression, etc.

RATIONALE OF THE STUDY

i.Interest in Science

Deb, Madhu and et.al. (1990) Studied relationship between Study habits and Academic achievement of undergraduate home science final year students and revealed that; i) significant relationship between Study habits and Academic achievement was found; ii) Students habits and interest also influenced their academic achievement. Singh, Manju (1989) Studied achievement in English in relation to intelligence, interest, socio-economic status and facilities

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available for learning the language at high school stage and found that; English achievement of Boys and Girls was influenced by intelligence, interest, socio-economic status and facilities. Lalithamma, (1975) Studied some factors affecting achievement of secondary school pupils in mathematics and revealed that; The achievement in mathematics was positively related intelligence, interest in mathematics, Study habits and socio-economic status.

ii.Study Habits

Raj and Sreethi (2000) Studied Academic achievement as related to procrastination behavior and Study habits and found that; Procrastination behavior lead to improper Study habits which further leads to lower academic achievement. Sen, Barat Kalpana(1992) Studied an investigation into the personality make-up, intelligence and Study habits of high and low achievers and revealed that; Study habit-achievement and intelligence-achievement were positively correlated. Shivappa (1980) Studied factors affecting the Academic achievement of high school pupils revealed that; Study habits, emotional aspiration, socio-economic status and intelligence quotient were significant positive correlates.

iii.School Adjustment

Reddy (1978) studied that related Academic adjustment of scholastic achievement of secondary school pupils and found that, Academic adjustment was significantly related scholastic performance. Ramachandra(1990) in his study of relationship between performance and some of the psychological variables found that; Adjustment problems have been found to be negatively associated with achievement. Jyoti (2000) studied to explore the extent of relationship between scholastic achievement and Academic adjustment and found that Academic achievement was higher among those having higher Academic adjustment and Academic adjustment positively influenced Academic achievement.

OBJECTIVES

The present study was designed with the following objectives in view:

1)To study the effect of Government School students Interest in science on Academic achievement in science.
2)To study the effect of Government School students Study habits on Academic achievement in science.
3)To study the effect of Government School students School adjustment on Academic achievement in science.
4)To study the interaction effect of Government School students Interest in science and Study habits on Academic achievement in science.
5)To study the interaction effect of Government School students Interest in science and School adjustment on Academic achievement in science.
6)To study the interaction effect of Government School students Study habits and School adjustment on Academic achievement in science.
7)To study the interaction effect of Government School students Interest in science, Study habits and School adjustment on Academic achievement in science.

HYPOTHESES

In pursuance of the objectives 1 to 7 the following null hypotheses were set up:

1)Effect of higher and lower Interest in science of Government School students differ significantly in terms of their influence on Academic achievement in science.
2)Effects of good and Poor Study habits of Government School students differ significantly in terms of their influence on Academic achievement in science.
3)Effects of high and low School adjustment of Government School students differ significantly in terms of their influence on Academic achievement in science.
4)Interaction effects of Interest in science X Study habits of Government School students differ significantly in terms of their influence on Academic achievement in science.
5)Interaction effects of Interest in science X School adjustment of Government School students differ significantly in terms of their influence on Academic achievement in science.
6)Interaction effects of Study habits X School adjustment of Government School students differ significantly in terms of their influence on Academic achievement in science.
7)Interaction effects of Interest in science X Study habits X School adjustment of Government School students differ significantly in terms of their influence on Academic achievement in science.

RESEARCH DESIGN OF THE STUDY

The present study is the descriptive study where a survey will be undertaken to measure the scores on Interest in science, Study habits and School adjustment of students of IXth Standard studying science subject with regard to their interaction effect on Academic achievement in science.

METHODOLOGY

Sample

In the selection of sample from IXth standard, the method of random sampling technique was used. 300 Government School students studying science subject belonging to Bijapur District-constituted the sample for the study.

Tools

1)Science Interest Test(SIT) developed by L. N. Dubey and Archana Dubey (2002).
2)Study Habit Inventory (SHI) Constructed by M. Mukhopadhyay and D. N. Sansanwal (1983).
3)Adjustment Inventory for School Students (AISS) developed by A.K.P. Sinha and R.P.Singh (2007).
4)Academic achievement in Science.

Academic achievement in science developed and standardized by the investigator. The co-efficient of reliability was found to be 0.8817 which is significant at 0.05 level and consistency of reliability was found to be 0.8665 which is significant at 0.05 level.

Procedure

Data pertaining to students Interest in science, Study habits and School adjustment and Academic achievement in science were collected by administering the above tools to the 600 students studying in IXth standard of Bijapur district.

Results

The data were analyzed using 3-way ANOVA technique with a view to identify independent and combined effect of selected variables on Academic achievement. The results of the analysis are given in Table-1 and 2.

Analysis of Data Pertaining to 'Government School students'

Table 1.
Summary table of ANOVA with respect to 'Government School students'

Source variation	DF	SS	MSS	F-value	P-value	Signi.
Main effects						
Interest in Science (A)	1	1648.5649	1648.5649	230.4739	<0.01	S
Study Habits (B)	1	1132.1083	1132.1083	158.2719	<0.01	S
School adjustment (C)	1	179.3341	179.3341	25.0714	<0.01	S
2way interactions						
I. Science x S. Habits (A x B)	1	45.1804	45.1804	6.3163	<0.01	S
I. Science x S. Adjustment (A x C)	1	7.8685	7.8685	1.1000	>0.05	NS
S. Habits x S. Adjustment (B x C)	1	171.4877	171.4877	23.9745	<0.01	S
3way interactions						
I.Sc x S. Habit X S.Adjust (A x B x C)	1	55.1732	55.1732	7.7134	<0.01	S
Error	172	1230.3048	7.1529			
Total	179	4470.0219				

NS-Not significant

FINDINGS.

1.The Government School students with higher interest in science have more influence on Academic achievement in science than the Government School students with lower Interest in science.
2.The Government School students with good Study habits have more influence on Academic achievement in science than the Government School students with poor Study habits.
3.The Government School students with high School adjustment have more influence on Academic achievement in science than the Government School students with low School adjustment.
4.There is a significant difference between the interaction effects of Government School students with higher/lower Interest in science and good/poor Study habits in terms of their influence on Academic achievement in science.
5.There is no significant difference between the interaction effects of Government School students higher/lower Interest in science and high/low School adjustment in terms of their influence on Academic achievement in science.
6.There is a significant difference between the interaction effects of Government School students good/poor Study habits and high/low School adjustment in terms of their influence on Academic achievement in science.
7.There is a significant difference between the interaction effects of Government School students higher/lower Interest in science, good/poor Study habits and high/low School adjustment in terms of their influence on Academic achievement in science.

Multiple Comparisons of Means – 'Government School students'

Scheffe's simultaneous confidence intervals for all possible treatment groups pertaining to the Government School students are given below

Table 2
Comparison of Means of Treatment Groups on Academic achievement of Government School students-Scheffe's Simultaneous Confidence Intervals

Sl. No.	Comparison of treatment groups		Corresponding means		Simultaneous Confidence Intervals		P-value	Significance
1	a_1c_1	a_1c_2	58.22	53.80	3.40	5.44	<0.05	S
2	a_1c_1	a_2c_1	58.22	52.66	4.47	6.66	<0.05	S
3	a_1c_1	a_2c_2	58.22	46.03	11.02	13.37	<0.05	S
4	b_1c_1	b_1c_2	57.62	53.27	3.34	5.36	<0.05	S
5	b_1c_1	b_2c_1	57.62	49.94	6.60	8.75	<0.05	S
6	b_1c_2	b_2c_1	53.27	49.94	2.18	4.48	<0.05	S
7	b_1c_2	b_2c_2	53.27	49.89	2.13	4.62	<0.05	S
8	$a_1b_1c_1$	$a_1b_1c_2$	60.02	56.43	2.35	4.83	<0.05	S
9	$a_1b_1c_1$	$a_1b_2c_1$	60.02	54.67	4.05	6.65	<0.05	S
10	$a_1b_1c_1$	$a_2b_1c_1$	60.02	55.21	3.22	6.39	<0.05	S
11	$a_1b_1c_1$	$a_2b_2c_1$	60.02	45.21	13.22	16.39	<0.05	S
12	$a_1b_1c_1$	$a_2b_2c_2$	60.02	46.85	11.54	14.81	<0.05	S
13	$a_1b_1c_2$	$a_1b_2c_2$	56.43	52.94	1.84	5.14	<0.05	S
14	$a_1b_1c_2$	$a_2b_2c_1$	56.43	45.21	9.49	12.94	<0.05	S
15	$a_1b_2c_1$	$a_2b_1c_2$	54.67	50.11	2.94	6.18	<0.05	S
16	$a_1b_2c_2$	$a_2b_2c_2$	52.94	46.85	4.12	8.06	<0.05	S
17	$a_2b_1c_1$	$a_2b_1c_2$	55.21	50.11	3.25	6.97	<0.05	S
18	$a_2b_1c_2$	$a_2b_2c_2$	50.11	46.85	1.36	5.16	<0.05	S

NOTE:

1)Comparisons of other treatment groups of Government School students were found to be not significant.
2)Higher the mean scores indicates higher influence of independent variable on dependent variable

The above table reveals the following:

1.The Government School students with higher Interest in science and high School adjustment have more influence on Academic achievement in science than the Government School students with higher Interest in science and low School adjustment.
2.The Government School students with higher Interest in science and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science and high School adjustment.
3.The Government School students with higher Interest in science and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science and low School adjustment.
4.The Government School students with good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with good Study habits and low School adjustment.
5.The Government School students with good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with poor Study habits and high School adjustment.
6.The Government School students with good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with poor Study habits and high School adjustment.
7.The Government School students with good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with poor Study habits and low School adjustment.
8.The Government School students with higher Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with higher Interest in science, good Study habits and low School adjustment.
9.The Government School students with higher Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with higher Interest in science, poor Study habits and high School adjustment.
10.The Government School students with higher Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, good Study habits and high School adjustment.
11.The Government School students with higher Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, poor Study habits and high School adjustment.
12.The Government School students with higher Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, poor Study habits and low School adjustment.
13.The Government School students with higher Interest in science, good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with higher Interest in science, poor Study habits and low School adjustment.
14.The Government School students with higher Interest in science, good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, poor Study habits and high School adjustment.
15.The Government School students with higher Interest in science, poor Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, good Study habits and low School adjustment.
16.The Government School students with higher Interest in science, poor Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, poor Study habits and low School adjustment.
17.The Government School students with lower Interest in science, good Study habits and high School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, good Study habits and low School adjustment.
18.The Government School students with lower Interest in science, good Study habits and low School adjustment have more influence on Academic achievement in science than the Government School students with lower Interest in science, poor Study habits and low School adjustment.

EDUCATIONAL IMPLICATIONS

i.Teaching science with using scientific aids available in school or improvised by the teacher will help in better

understanding and development of scientific and skills.
ii.Programmes for the improvement of study skills be developed by practicing teachers at school, researchers and psychologists.
iii.Study habits training programme should be preventive, it should not merely aim at helping only those who need remedial help Curriculum should be according to level, interest and aptitude of the students.

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