

AN INTERACTION EFFECT OF INTRINSIC MOTIVATION ON SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN SCIENCE

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ABSTRACT

In the present study an attempt has been made to find out effect of Intrinsic Motivation on secondary school students achievement in science. In order to ensure wider applicability of findings, the total sample of 831 students (408 boys and 423 girls) of IX class was drawn from government, private as well as private unaided managed 39 secondary schools of Tumakur district. Intrinsic Motivation in science scale and Achievement test in science were the tools developed by researcher and Dr. Haseen Taj for the study. The findings shows that 1. There is a significant difference in the Achievement in science of students belong to joint and nuclear families, urban and rural, English and kannada medium, private aided and private unaided, private aided and government and also boys and girls of secondary school. 2. There is significant correlation between intrinsic motivation and achievement in science of secondary school students.

KEYWORDS: *Intrinsic Motivation, Type of families, Type of School management, Achievement in Science*

INTRODUCTION

Education is the touchstone of civilization and reflects the culture and magnanimity of the country. The process of a country can be gauged from its achievement in education and thus quality of education determines quality of a nation. Education is the development of individual according to his needs and demands the society of which he is an integral part.

We are living in a society, which is completely drawn into the scientific environment. Science has become an integral part of our life and living. We cannot think a world without science. The wonderful achievement of science have glorified the modern world and transformed the modern civilizations into a scientific civilization. In the world where science and application of science play important role in society, as they do today. So science education plays an important role in life of an individual and also nation.

The success of any education lies in motivating children to learn, because learner has to be motivated. Motivation is an internal state that arouses learner's interest, steers them in a particular direction and keep them engaged in certain activities. Motivation often determines whether and to what extent students actually learn a challenging task, especially if the cognitive and behavioral processes necessary for learning are voluntary and under their control.

Intrinsic motivation is striving inwardly to be competent at something and to reward yourself inwardly. It is an energizing of behavior that comes from within an individual, out of will and interest for the activity at hand. It comes from within, driving you to succeed based on inner goals and ambitions. No external rewards are required to incite the intrinsically motivated person into action.

There is a relation between motivation and achievement of the child. It sets a goal. The success of teaching and learning lies in motivating children. The motivation prompts the learning, followed by pleasure, then pursue, finally excellence and perfection. A study conducted by P.B.Kavya Kishore, Suresha Ksheerasagar (2014) on Achievement in science of secondary school students in relation to Achievement motivation effect on achievement in science. The students belongs to high group of achievement motivation performed better in science than the students belonging to moderated and low group of achievement motivation.

Need for the Study:

Intrinsic motivation is striving inwardly to be competent at something and to reward oneself inwardly. It is an energizing of behavior that comes from within an individual. It develops will and interest for the activity. It comes from within, during children to succeed based on inner goals and ambition. No external rewards are required to incite the intrinsically motivated person into action. Schools are of particular place of interest when it comes to intrinsic verses extrinsic motivation, particularly because of the different outcomes that researches have shown to result from intrinsic motivation, mere interest, excitement, confidence, enhanced performance, creativity, self esteem and general well being. Apart from intellectual capacities motivation affects the functioning of the child in school.

“Intrinsic motivation occurs when we act without any obvious external rewards. We simply enjoy an activity or see it as an opportunity to explore, learn and actualize our potentials”- Coon and Mitterer, 2010

“Intrinsic motivation refers to the reason why we perform certain activities for inherent satisfaction or pleasure; you might say performing one of these activities is reinforcing in-and-of itself”- Brown, 2007.

Above definitions tells us about the importance of internal motivation in education.

The scientific policy resolution of government of India, 1958 stated, ‘the dominating feature of the contemporary world is the intense cultivation of science on a large scale, and its application to meet the country’s requirement’. So science is a cumulative and endless series of empirical observations which results in the formation of concepts and theories. This needs physical drives which are the basis of more complex motives produced as tissue needs of the organism. This can developed within the organism in the form of intrinsic motivation. To acquire this capability motivation is very important, in that intrinsic motivation is very essential. So many researches were done to show this, but no research was done on intrinsic motivation. So researcher decided to conduct research to show interaction effect of Intrinsic Motivation on secondary school students Achievement in science.

In the present study attempt has been made to know the effect of intrinsic motivation for learning of science of secondary students. Study of Dr.K.Indira (2011) found that of motivational variables have significant effect on achievement in physics of secondary school pupils. Naveen Devarbhavi (2015) reported that the students having high and moderate achievement motivation in science were significantly better in their achievement in science. P.B.Kavya Kishor and Suresha Ksheerasagara (2014) found that the students belonging to high group of achievement motivation performed better in science than the students belong to moderate and low group of achievement motivation. The science education of students. Psychologists like Coon, Mitterer, Brown, Malone and Leprer, Harlow explains the importance on intrinsic motivation for learning of science.

Many researchers have shown the significant relationship between motivation and achievement in science. But intrinsic motivation play a decisive role in education. Researcher found that no research has been done on intrinsic motivation. So the researcher decided to attempt this research to show the effect of intrinsic motivation on secondary school students' achievement in science.

OBJECTIVES OF THE STUDY:

- To find out the effect of intrinsic motivation on secondary school students achievement in science of Tumakuru District.
- To find out the relationship between intrinsic motivation and achievement in science of the students
- To find out, whether the differences in moderate variables as Sex, Type of the school, Locality, Medium of instruction.
- Type of Family of secondary school students would account for significant differences in their Achievement in Science.

Sample:

The sample of the study consisted of 831 higher secondary (IX standard) students of Tumakuru District. Out of which a sample size of 423 girls and 408 boys were drawn giving representation to (sex and type of school management government, private aided and private unaided schools).

Tools used in the Study:

- Intrinsic motivation in science scale. (by Sujatha and Prof. Haseen Taj, 2015),
- Achievement test in science. (By Sujatha and Prof. Haseen Taj, 2015).

Statistical Techniques used:

The statistical techniques such as Mean, Standard Deviation, t-test and Pearson's product moment correlation were computed.

Analysis and Interpretation:

In order to present the result systematically the hypothesis wise interpretation has been given in table 1

Table 1: Shows the Co-Efficient of Correlation between Intrinsic Motivation and Achievement in Science of Secondary School Students

SI No	Variables	No of	df (N-2)	'r'	Level of Significance
1	Achievement in science	831	829	0.210	Significant at 0.01
2	intrinsic motivation	831	829		

The above table 1 shows that the obtained 'r' value 0.210 between intrinsic motivation and Achievement in science of secondary school is found to be higher than the table value at 0.01 level of confidence and Hence the null hypothesis is rejected. The rejection of the null hypothesis reveals that there is significant positive correlation between Intrinsic Motivation and achievement in science of secondary school students.

Table 2: Results of 't'-Test for Moderator Variables with Achievement in Science of Secondary School Students

SI No	Variables	Type	No	Mean	S D	S E M	't'	Level of Significance
1	Sex	Boys	411	22.81	6.542	.323	6.076	0.01
		Girls	420	26.16	9.158	.447		
2	Family	Joint	180	22.39	6.934	.517	4.417	.01
		Nuclear	651	25.09	8.350	.327		
3	School	Private Aided	283	23.48	5.301	.315	8.897	0.01
		Govt	324	19.78	5.046	.280		
		Private Aided	283	23.48	5.301	.315	14.902	0.01
		Private Unaided	224	32.69	8.524	.570		
4	Medium	Kannada	324	22.10	5.850	.325	7.851	0.01
		English	507	26.04	8.981	.399		
5	Locality	Rural	495	29.73	8.452	.380	10.645	0.01

The above table 2 shows the obtained 't' values are significant at 0.01 level for all the variables namely Sex, Type of Family, Type of the school, Medium of instruction, Locality and the null hypothesis is rejected and alternative hypothesis are accepted that there is a significant difference of achievement in science of secondary school students belonging to different categories.

MAJOR FINDINGS AND DISCUSSIONS OF RESULTS

- There is a significant difference in the Achievement in science of students belong to joint and nuclear families, urban and rural, English and kannada medium, private aided and private unaided, private aided and government and also boys and girls of secondary school.
- There is significant correlation between intrinsic motivation and achievement in science of secondary school students.

Present study reveals that person's intrinsic motivation significantly affects achievement in science of secondary schools students. It was found that students who belong to joint family have significant difference with the students of nuclear family. A.Daisy, A.Edward William Benjamin and A,Gracy shows that there is significant correlation between family adjustment and achievement in science. There is also significant difference between rural and urban students achievement in science. At the Same time there is a significant difference in achievement in science of the English and kannada medium students. The result of the study reveals that there is a sex difference in achievement in science. There is also significant difference among private aided, private unaided and government secondary school students' achievement in science. English medium, rural students, girls and private unaided school students have the higher achievement in science than their counter parts.

Educational Implications

Intrinsic motivation is an important trait in the educational life of students. This creates the interest, attitude, concentration, zeal, enthusiasm towards the achievement in science. So teachers should help in developing a good study habits and it will help them to improve scientific attitudes which leads to good achievement in science.

Teacher should adopt different techniques of intrinsic motivation like interactive technique, cooperative learning etc. and instruction of different study approaches of achievement in science to suit the demands of the day need to be adopted.

Teacher should make teaching learning process more rewarding and less tedious at the same time ensuring the active participation and interest of the children.

Intrinsic motivation in achievement in science makes it essential for the teacher to foster a hope for success among students.

Teacher should teach the importance of science in the present world which results in the development of intrinsic motivation among the students in achieving better in science.

Teachers and instructional designers should develop learning environments that are intrinsically rewarding.

When students find learning boring they must be extrinsically engaged into educational activities.

Teacher should use the words fun, interesting, captivating, enjoyable and intrinsically motivating.

Teachers should help students to pursue goals that have personal meaning relate to their self-esteem which leads to intrinsic motivation.

Physical Situation created for learning helps to grab the individual's attention (sensory curiosity) and stimulate 'want to learn more' (cognitive curiosity). Conducive environment should be created by the institution to help to perceive the Importance of science learning by the students. Harmonious and conducive environment should favor learning of science.

CONCLUSIONS

The findings of the study shows there is a significant relationship between intrinsic motivation and achievement in science of secondary school students. Also there is significant difference in achievement in science of secondary school students in terms of locality, sex, medium of instruction, type of the family and type of the school. So proper interest and care should be taken to minimize these differences

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