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A COMPARATIVE STUDY OF CURIOSITY AND ACADEMIC ACHIEVEMENT OF SECONDARY LEVEL STUDENTS

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Abstract

In the present study an attempt was made to find out whether there is a relationship between curiosity and academic achievement of secondary level students and whether there is significant difference between male and female students in their curiosity and academic achievement. The sample consisted of 150 students (75male and 75 female) of class VII and VIII having age ranges 9 to 14 years from two schools of North East Delhi. Children Curiosity Scale developed by Dr. Rajeev Kumar was used to assess the curiosity level of the students. For academic achievement last examination result were taken. The result revealed positive correlation between curiosity and academic achievement of school students. Male and female students not differed significantly in their curiosity and academic achievement. There is a need to researcher and educationist to give more attention on curiosity to link with student's learning outcomes, and some studies could be done with variables like- emotional intelligence, values, culture, achievement motivation ,creativity etc. This paper will provide researchers, educationists, policy-makers, school administrators, teachers and counsellors a better view about the relationship of curiosity and academic achievement of students and its consequences.

Key words: curiosity, academic achievement, secondary level

Introduction

"The whole art of teaching is only the art of awakening the natural curiosity of young minds for the purpose of satisfying it afterwards"

Anatole France (1932.p238)

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Intelligence is an important to academic performance, but it is not the whole story. Curiosity is a big part of academic performance. Personality traits like curiosity seem to be as important as intelligence in determining how well students do in school. Curiosity is basically a hunger of exploration. A curious person who likes to read books, travel the world and go to museums may also enjoy and engage in learning new tasks on the job (**Von Stumm et.al., 2011**).

The brain is essentially curious, and it must be survived. It constantly seeks connections between the new and the known (**Pal Wolfe and Ron Brandf 1998**).Learning is a process of active construction by the learner. Curiosity is one of the permanent and certain characteristics of a vigorous mind (**Samuel Johnson 2009**).

Curiosity

Curiosity plays a vital role in determining academic achievement of the students. Curiosity is defined as the intrinsic desire to know, to see or to experience something. Which nitrates information seeking behaviour (**Zelick,2007**).Acquiring knowledge out of Curiosity is considered to be intrinsically rewarding and highly pleasurable, since it eliminate states of ignorance and uncertainty.(**Litman,2005**).

Curiosity has been discussed as an important attribute and influencing factor with respect to human learning. Curious youngsters probably achieve better than students with lower curiosity levels because of their exploration of events and objects for longer periods of time and their use of many more senses. Curious youngsters will recall experiences longer, comprehend them better, and achieve a more complete concept learning (**Koran and Longino,1982**).

Curiosity has been consistently recognized as a critical motivates that influences human behaviour, in both positive and negative ways at all stages of the life cycle. It has been identified as a drive force in a child development has identified as a drive force in a child development (**Stren 1973,Wohlwill,1987**), and as one of the most important spurts to educational attainment (**Day, 1982**). The pedagogical literature encourages teachers to stimulate curiosity(**McNay, 1985**),Provides practical guidelines for doing so(**Tomkins and**

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Tway,1985,Vidler,1974) and decries the educational system's tendency to quell it(**Torrence,1965**).

Being curious and open to a variety of thoughts, perspectives and ideas facilitates learning and better academic performance (**Lent et.al. ,1994**), that cannot be attributed to intellectual ability (**Alberti and Witreyol,1994, Reiss and (Reiss,2004**).Curious students should proper in school that value and cultivate theirs intense desire to acquire novel and challenging information and experiences (**Kashdan and Stger, 2007**).

When people feel curious, they are more attentive process information at a deeper level, better retain information, and more likely to persist on task until goals are met (**Ainley et.al.2002, Sansone and Smith 2000,Schiefele,1999**).The immediate function of curiosity is to learn, explore, and immerse oneself in initially interesting events. Curiosity functions to build knowledge and skills (**Tracey,2002**).

Curiosity has an appraisal pattern involving the frequent recognition of novelty and challenge and beliefs that one can competently cope with these events (**Silvia,2006**).In a classroom where curiosity is valued most highly and where explorations of new territories like- the world wide web will be commonplace, there need be some changes in our behaviour-we will need to communicate our valuing of curiosity through

- Setting high expectations
- Using teacher modelling
- Sharing our stories
- Developing positive scripts
- Creating questions and responses
- Offering assignments and assessments and
- Raising the quality of peer interaction

By considering there elements and reinforcing what we already do, we can create within any classroom a culture of curiosity such that students will be expected to pose meaningful questions and search for good answers whenever they may be found(**John Barell, 2013**).

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Academic Achievement

Academic achievement is the outcomes of education –the extent to which a student, teacher and institution has achieve their educational goals. It refers to the extent to which learners acquire the knowledge, skills and proficiencies that the instructor seeks to teach or assign (**Salvia et.al.2000**). Academic achievement can be referred here as academic intelligence. It is the students' ability to express his or her personality and to enjoy rich and complex social relations depends largely on his or her mastery of academic matters (**Nabeel et al. 2003**). Academic achievement is commonly measured by examination or continuous assessment.

Academic achievement has been defined as the level of attainment of proficiency in academic work as evaluated by teacher or through standardized achievement tests (**Caplin,s Dictionary of Psychology, 1965**).

From the above definitions of the term Academic achievement given by different educationists can be summerazied as an ability of knowledge attainment or skill development in school subjects usually determined by test scores or by marks assigned by teachers.

Objectives of the Study

1. To investigate the relationship between curiosity and academic achievement of secondary level students.
2. To compare the curiosity levels of male and female secondary level students.
3. To compare the academic achievement of male and female secondary level students.

Research Hypotheses

The following null hypotheses were tested in the study

1. There exists no significant relationship between curiosity and academic achievement of secondary level students on total sample.

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2. There exists no significant relationship between curiosity and academic achievement of secondary level boys.
3. There exists no significant relationship between curiosity and academic achievement of secondary level girls.
4. There exists no significant difference in the curiosity level of secondary level students.
5. There exists no significant difference in the academic achievement of secondary level students.

Sample

To comply with the objectives of the study, 150 secondary level students were selected from two schools of North East Delhi. The stratified random sampling technique was employed in selecting the sample. Students were stratified based on gender such equal number of participants represents each of the two genders.

Tools

Children Curiosity Scale designed and developed by Dr. Rajeev Kumar (2003) was used in this study to assess the level of curiosity in the individuals forming sample. The scale consisted 44 items having four alternatives "Never", Sometimes", Often" and "Always". In case of positive items the scores were given 0, 1, 2 and 3 to responses and scores 3,2,1 and 0 respectively to these responses in case of negative items. Reliability of the scale was found 0.83 by Pearson product Moment method and 0.87 from Spearman Brown method. The Constructed Validity of the scale ranged from 0.21 to 0.27.The annual examination marks of the participants of their previous class obtained from their academic record were taken as academic achievement scores.

Statistical Treatment

For analysis and interpretation of the data mean, SD and 't' test and Pearson' Product Moment correlation were used by the investigator as statistical techniques.

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Results

Table 1

Correlation Coefficient of Curiosity and Academic achievement

Variables	N	Coefficient of Correlation
Curiosity and Academic achievement	150(Total sample)	0.189
	75 (Male)	0.831
	75(Female)	0.296

Table 1 shows the correlation coefficient of curiosity and academic achievement of secondary level students. It is clear from the table 1 that curiosity and academic achievement of boys was positively and significantly related while total sample as well as level of girls also correlated positively. Hence, the null hypothesis stated above is rejected in favour of alternative hypothesis. This means that there exists a significant positive relationship between curiosity and academic achievement of secondary level students on total sample. There exists a significant highly positive relationship between curiosity and academic achievement of secondary level boys. There exists a significant positive relationship between curiosity and academic achievement of secondary level boys.

Table 2

Gender Difference in Participants' Curiosity

Group	N	Mean	SD	df	't' value	Level of Significance
Male	75	94.36	12.74	148	0.74	Not Significant*
Female	75	92.72	14.48			

*Not Significant at 0.05 levels

Table 2 depicts no significant gender difference in participants curiosity level as't'- value (0.74) is not significant at 0.05 level. Thus the postulated null hypothesis is retained. This means that curiosity is not gender sensitive.

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Table 3
Gender Difference in Participants' Academic Achievement

Group	N	Mean	SD	df	't' value	Level of Significance
Male	75	821.53	185.39	148	1.59	Not Significant*
Female	75	868.46	174.87			

*Not Significant at 0.05 levels

Table 3 depicts no significant gender difference in participants academic achievement level as 't'- value (1.59) is not significant at 0.05 level. Thus the postulated null hypothesis is retained. This means that academic achievement is not gender sensitive.

Discussion and Conclusion

The findings of the present study revealed that there is a positive relationship between curiosity and academic achievement. This result of the present study is corroborated with the findings of the study conducted by Kashdan and Steger(2007). The next finding of the present study reports no significant gender differences in curiosity and academic achievement. The findings of the present study is in congruence with finding of the study conducted by Gupta and Panwar(2014) where they reported an insignificant gender difference in the curiosity level and academic achievement of secondary school students. This suggests that whether one is male or female, the way the individual is think is important.

Educational Implications

The findings of investigation may provide help to the school personal, educational planners, policy—makers, parents, teachers, students, researchers, counsellors, and guidance workers to develop suitable method of teaching and instruction among the secondary level students a contributing factor for developing curiosity which is essential for high academic achievement. Parents

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should motivate their children to read newspapers, magazines in order to utilize their energy and more curious tendency. Guidance services should be provide to develop scientific attitude and curious ability among students for better judgement in classroom family and society, to use their potential and talents which would help to achieve success in their life.

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