RELATIONSHIP BETWEEN INTELLIGENCE AND ACADEMIC ACHIEVEMENT IN MATHEMATICS OF IX STANDARD STUDENTS

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Abstract

The purpose of the present study was to investigate the relationship between intelligence and academic achievement in mathematics in particular Quadrilaterals of IX standard students. The sample of 100 students was taken from Rajrajeshwari High School Mattikere Bangaluru. Non-verbal Group intelligence Test was developed by Imtisungba A. (2002) was administered. Achievement test in mathematics was constructed by the investigator. The test was constituted on Quadrilaterals contents of IX standard. For the analysis of the data simple correlation technique was adopted. Achievement test in Quadrilaterals was prepared to collect the achievement scores. Findings of the study are: there is a positive and significant relationship between Academic Achievement and Intelligence of boys, girls, rural and urban students.

Key Words: Academic achievement, intelligence, mathematics., reviews, objectives, hypotheses, method, results, conclusion**.**

Introduction: Intelligence can be defined as the ability to solve complex problems or make decisions with outcomes benefiting the actor, and has evolved in life forms to adapt to diverse environments for their survival and reproduction. IQ measurement plays a relatively effective role in the level of person's intelligence, still experts believe that in

this assessment, intervention and measuring represent a different type of intelligence. Since the early studies of intelligence, researchers have developed a series of intelligence tests by which one can measure the level of IQ. The IQ test is the most popular and widely used as a measure of overall level of mental intelligence, which can put a certain imprint on someone. IQ tests include a scale from 70 to 140, which is divided into categories.

Teaching Mathematics is aimed at developing proper abilities, right appreciation and correct attitude. The right characteristics of mathematics teaching should not be Mathematical instruction, but a systematic training in reasoning. The fundamental principle of Mathematical teaching as we have found out can be summed like; Mathematics is primarily fought on account of the mental training it affords, and only secondarily on account of the knowledge of facts it imparts. The true end of mathematical teaching is power and not knowledge. One should study mathematics because it is only through mathematics that nature can be converted in harmonious form.

Reviews: Some of the previous studies have supported for the present study such as Sadaf Naz(2021) studied on Intelligence and academic achievement in Mathematics at university level: A study of students beliefs and found that A significant relationship was found between students' beliefs in 'incremental' intelligence and their academic achievement. Applications of the study: The study has important implications for teachers and academics in the subjects of science and mathematics. Ayebela et al:,(2020) conducted a study on “Factors affecting students’ achievement in mathematics in secondary schools in developing countries: A rapid systematic

review" and found that Student achievement at secondary level determines whether they will opt to or qualify to study statistics at university. Nitulgogoi and Soni, (2020) compared the academic achievement and intelligence of class X students and found that the students of JNV and KV differ significantly on both intelligence and academic achievement. Chandra, R and Sheikh, A. (2019) conducted study on influence of intelligence and gender on academic achievement of secondary school students and the result of the study shows that the high IQ child will score better than the low IQ child.

Objectives of the Study

1. To investigate the relationship between intelligence and academic achievement of boys in Mathematics.
2. To investigate the relationship between intelligence and academic achievement of girls in Mathematics.
3. To investigate the relationship between intelligence and academic achievement of rural students in Mathematics.
4. To investigate the relationship between intelligence and academic achievement of urban students in Mathematics.

Hypotheses of the study:

1. There is no significant relationship between intelligence and academic achievement of boys in Mathematics.
2. There is no significant relationship between intelligence and academic achievement of girls in Mathematics.
3. There is no significant relationship between intelligence and academic achievement of rural students in Mathematics.

4. There is no significant relationship between intelligence and academic achievement of urban students in Mathematics.

Design of the study

Method used:

The investigator used normative survey method. Normative survey method could be the appropriate one to study the relationship between intelligence and academic achievement in mathematics of IX standard students.

Sample:

In the present study the total number of 100 students from IX standard were selected from Rajrajeshwari High School Mattikere Bangaluru. The investigator was selected the sample by using purposive sampling technique.

Tools:

1. Non-verbal Group intelligence Test was developed by Imtisungba A. (2002) was administered.
2. Achievement test in Mathematics Quadrilaterals subject for IX standard was constructed by the investigator and administered the same to the students.

Statistical Techniques Used

To investigate the relationship between intelligence and academic achievement of IX standard students in Mathematics Quadrilaterals subject the simple correlation statistical techniques was adopted for analysis of the study.

Table–1: Correlation of Mean, SD and 't' Value between Academic Achievement in Mathematics and intelligence of Boys.

Variables	Mean	Std. Dv.	Correlation Coefficient	t-value	p-value	Signi.
Academic Achievement	172.2500	14.6110	0.4186	4.5860	<0.01	S
Intelligence	317.5600	30.1301				

Significant at 0.01 level.

The above table shows that there is a positive and significant relationship between intelligence and academic achievement in mathematics of boys studying in IX standard . t-value is (4.5860) at 0.01 level of significance. Further it shows that higher the intelligence will be the higher academic achievement of boys students.

Table–2: Correlation of Mean, SD and 't' Value between Academic Achievement in Mathematics and intelligence of Girls.

Academic Achievement	169.4000	16.3931	0.4850	3.9379	<0.01	S
Intelligence	313.5800	28.3607				

Significant at 0.01 level.

The above table reveals that there is a positive and significant relationship between intelligence and academic achievement in mathematics of girls studying in IX standard . t-value is (3.9379) at 0.01 level of significance. Further it shows that higher the intelligence will be the higher academic achievement of girls students

Table: 3 Correlation of Mean, SD and 't' Value between Academic Achievement in Mathematics and Intelligence of Rural Students.						
Academic Achievement	171.9394	13.1452	- 0.3090	2.5972	<0.01	S
Intelligence	319.6515	30.6837				

Significant at 0.01 level.

The above table indicates that there is a positive and significant relationship between intelligence and academic achievement in mathematics of rural students studying in IX standard . t-value is (2.5972) at 0.01 level of significance. Further it shows that higher the intelligence will be the higher academic achievement of rural students.

Table: 4. Correlation of Mean, SD and't' Value between Academic Achievement in Mathematics and Intelligence of Urban Students.						
Academic Achievement	172.8529	17.3067	0.6445	4.789	<0.01	S
Intelligence	313.5000	20.0394				

Significant at 0.01 level.

The above table shows that there is a positive and significant relationship between intelligence and academic achievement in mathematics of urban students studying in IX standard . t-value is (4.789) at 0.01 level of significance. Further it shows that higher the intelligence will be the higher academic achievement of urban students

Results of the table 1-4:

1. There is a positive and significant relationship between Academic Achievement and Intelligence of boys in Mathematics.
2. There is a positive and significant relationship between Academic Achievement and Intelligence of girls in Mathematics.
3. There is a positive and significant relationship between Academic Achievement and Intelligence of rural students in Mathematics.
4. There is a positive and significant relationship between Academic Achievement and Intelligence of urban students in Mathematics.

Conclusions:

On the basis of the findings of the present study the following conclusions could be drawn the achievement of any subject depends on how students have their level of intelligence. It said that if the level of intelligence increases the achievement will be higher in the same way if the level of intelligence is low naturally the achievement will be low. On the basis of the present findings the following conclusion may be drawn. There is a positive and significant relationship between Academic Achievement and Intelligence of boys, girls, rural and urban students.

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