

**A STUDY OF RELATIONSHIP BETWEEN INTELLIGENCE AND
ACADEMIC ACHIEVEMENT IN SCIENCE OF IX STANDARD STUDENTS**

Dr.RAMACHANDRA C G

Dr.WINSTON DUNN

Abstract

The main aim of the present study was to investigate the relationship between intelligence and academic achievement in science of IX standard students. The sample of 100 students was taken from Hanagal Taluka of Haveri district. Non-verbal Group intelligence Test was developed by Imtisingba Ao (2002) was administered. Achievement test in science was constructed by the investigator. The test was constituted on biology contents of 9th standard. For the analysis of the data simple correlation technique was adopted. Achievement scores have been collected by administering achievement test constructed by the investigator. For this purpose descriptive survey method was used and intelligence is independent variable and academic achievement is dependent variable. The findings of the study shows that there is a positive and significant relationship between Academic Achievement and Intelligence of boys, girls, rural and urban students.

* Assistant Professor,
Sri Kumareswar college of Education Hanagal- 581104 Haveri District Karnatak State

** Former Professor and Chairman Department of Education, Karnatak University,
Dharwad-580001 Karnataka State .

Introduction: IQ refers to the academic intelligence, learning ability and mental development, in theory, the accumulation of theoretical knowledge and information in various fields. 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.

Objectives of the Study

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

* Assistant Professor,

Sri Kumareswar college of Education Hanagal- 581104 Haveri District Karnatak State

** Former Professor and Chairman Department of Education, Karnatak University, Dharwad-580001 Karnataka State

Hypotheses:

In pursuance of the objectives 1-4 the following null hypotheses were setup.

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

Design of the study**a) Method of the Study:**

Investigator was used normative survey method. Normative survey method could be the appropriate one to study the effect of intelligence on academic achievement in Science.

b) Sample:

In the present study the total number of 100 School students were selected from Hanagal taluka of Haveri district. The investigator was selected the sample by using random sampling technique.

c) Variables of the study

- I. Independent variable: Intelligence
- II. Dependent variable: Academic Achievement in Science
- III. Moderator variables: Gender(Boys and Girls) Location(Rural and Urban)

d) Tools:

1. Non-verbal Group intelligence Test was developed by Imtisungba Ao(2002) was administered.
2. Achievement test for IXth standard was constructed by the investigator for the science subject.

e) Statistical Technique Used

To know the effect of intelligence on academic achievement of IX standard students the simple correlation statistical techniques was used for the present study

Table–1: Correlation of Mean, SD and ‘t’ Value between Academic Achievement and intelligence of Boys.

| Variables | Mean | Std. Dv. | Correlation Coefficient | t-value | p-value | Signi. |
|----------------------|----------|----------|-------------------------|---------|---------|--------|
| Intelligence | 172.2500 | 14.6110 | 0.4186 | 4.6862 | <0.01 | S |
| Academic Achievement | 317.5600 | 30.1301 | | | | |

*S=Significant at 0.01 level

The above table shows that there is a positive and significant relationship between intelligence and the academic achievement of boys in science subject. When the intelligence level increases the academic achievement will also be increased. Further, we can say that in this study the mean scores of academic achievement more than the intelligence in case of boys.

Table–2: Correlation of Mean, SD and ‘t’ Value between Academic Achievement and intelligence of Girls.

| Variables | Mean | Std. Dv. | Correlation Coefficient | t-value | p-value | Signi. |
|----------------------|----------|----------|-------------------------|---------|---------|--------|
| Intelligence | 169.4000 | 16.3931 | 0.4850 | 3.9368 | <0.01 | S |
| Academic Achievement | 313.5800 | 28.3607 | | | | |

*S=Significant at 0.01 level

The above table reveals that there is a positive and significant relationship between intelligence and the academic achievement of girls in science subject. When the intelligence level increases the academic achievement will also be increased. Further, we can say that in this study the mean scores of academic achievement more than the intelligence in case of girls.

Table–3: Correlation of Mean, SD and ‘t’ Value between Academic Achievement and intelligence of Rural students.

| Variables | Mean | Std. Dv. | Correlation Coefficient | t-value | p-value | Signi. |
|----------------------|----------|----------|-------------------------|---------|---------|--------|
| Intelligence | 171.9394 | 13.1452 | - 0.3090 | 2.5980 | <0.05 | S |
| Academic Achievement | 319.6515 | 30.6837 | | | | |

*S=Significant at 0.05 level

The above table indicates that there is a positive and significant relationship between intelligence and the academic achievement of rural students in science subject. When the intelligence level increases the academic achievement will also be increased.

Further, we can say that in this study the mean scores of academic achievement more than the intelligence in case of rural students.

Table–4: Correlation of Mean, SD and ‘t’ Value between Academic Achievement and intelligence of Urban students.

| Variables | Mean | Std. Dv. | Correlation Coefficient | t-value | p-value | Signi. |
|----------------------|----------|----------|-------------------------|---------|---------|--------|
| Intelligence | 172.8529 | 17.3067 | 0.6445 | 4.7818 | <0.01 | S |
| Academic Achievement | 313.5000 | 20.0394 | | | | |

Significant at 0.01 level.

The above table indicates that there is a positive and significant relationship between intelligence and the academic achievement of urban students in science subject. When the intelligence level increases the academic achievement will also be increased. Further, we can say that in this study the mean scores of academic achievement more than the intelligence in case of urban students.

Major findings of the table 1:

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

Conclusions:

On the basis of the findings of the present study the following conclusions could be drawn Richardson, Rita Coombs (2000). Buckley, Maureen; Storino, Meri; Saarni, Carolyn (2003), Bernard, Michael (2006), Craig R. (2007), Emma Kingston (2008), Danielle M. Hessler and Lynn Fainsilber Katz (2009), Geeta S. Pastey and Dr. R. John Louis Manoharan & Dr. I. Christie Doss(2007). Have supported for the present study. Therefore, the achievement of any subject depends on how students have their level of intelligence. It said that the level of intelligence increases the achievement will be high in the same the level 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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