

Academic Motivation and Mathematical Attitude of Secondary School Students

Abstract

The purpose of the study was to study the Academic Motivation and Mathematical Attitude of secondary school students. The Academic Motivation and Mathematical Attitude scales were administered on 800 (Government 431 and Private 369) secondary school students of grade IX. Mean and standard deviation was found under descriptive statistics. Among the two groups significant differences were found in Academic Motivation but no significant difference was found in Mathematical Attitude.

Keywords: Academic Motivation, Mathematical Attitude.

Introduction

Many people know motivation as the driving force behind an action. There is no one thing that motivates people to perform certain actions. People are different, so it follows that their motivations have to be different. Children with high expectation for success on a task usually persist at it longer and perform better than children with low expectations Eccles, 1983; Eccles et.al. 1998).

Review of Literature

Academic Motivation is defined as a student's desire, as reflected in approach, persistence and level of interest regarding academic subjects when the students competence is judged against a standard performance (DiPerna and Elliot, 1999; McClelland, 1961; Wigfield and Eccles, 2002)

Mathematical competence has been identified by the European Parliament and the Council of the European Union as one of the key competences necessary for personal fulfillment, active Attitude towards mathematics is important because there is a reciprocal relationship between attitudes towards mathematics and achievement in mathematics. (Akein 1970, 1974, 1976). Attitude is the positive or negative degree of effect associated with a certain subject. This positive of suggests that the attitude towards mathematics is just a positive or a negative emotional disposition towards mathematics (McLeod, 1992).

Motivation is a tool to change attitude towards mathematics learning (Singh et al., 2002 and Oca & Yamac, 2013) There is a positive relation between academic motivation and academic achievement (Bandopadhyay and Ghosh, 2000; Broussard, 2002; Tella 2007; Chaturvedi, 2009; walter and hart, 2009; Ayodele et al. 2013 and Gasco and Villarroel, 2014, Chakraborty, 2016, Ulyiye et. al 2018). There is a significant relationship between attitude and mathematics learning (Maat, Zakaria & Vaughan, 2010 and Mohamed & Waheed, 2011). Attitude towards mathematics or mathematical attitude is significantly related with academic achievement in mathematics (Nicolaidou and Philippou, 2003; Saha, 2007; Tahar et al. 2010; Kumar and Singh, 2011; Lipnevich et al. 2011; Mahanta and Islam, 2012 and Pilli and Aksu, 2013, Kaba and Sengul 2015, Napitupulu et. al 2016, Wilson and Grigorian 2019).

Objectives of the Study

1. To find out the Academic Motivation of secondary school students.
2. To find out the Mathematical Attitude of secondary school students.

Method and Procedure

The present study was conducted through descriptive method of research. Students studying at the secondary school stage in Punjab comprised the universe of the study. All the students of IX class who were studying in schools affiliated to C.B.S.E are the target population of the study. Multistage sampling was employed to select the sample for the study.

Tirath Singh

Principal,
Secret Heart College of Education,
Barnala, Punjab, India.

Gagandeep Tiwana

Research Scholar,
Deptt. of Education,
Punjabi University,
Patiala, Punjab, India

Tools Used

1. Academic Motivation Scale (AMS-HS 28) (2016), adapted from AMS-College version, Echelle de Motivation en Education (EME) developed by Vallerand et al. (1992).
2. How I Feel About Mathematics by Mann (2005) based on Mathematical Attitude Scale (MAS) developed by Fennema-Sherman (1976).

Sample

Data was collected from the schools situated in different districts of Punjab. The researcher personally visited the school. A sample of 800 (Government 431 and Private 369) secondary school students of grade IX was collected.

Data Analysis

The mean, standard deviation, and t-value of Academic Motivation and Mathematical Attitude of grade IX School students with respect to type of school i.e. government and private provided in table 1 and table 2 respectively.

Table 1

Frequency Distribution of Scores of Grade IX School Students on Academic Motivation with Respect to Type of the School (N=800)

Type of School	N	Mean	SD	t-value
Government	431	162.20	15.76	4.22**
Private	369	157.14	17.84	

**Significant at 0.01 level.

Table 2

Frequency Distribution of Scores Grade IX School Students on Mathematical Attitude Scale with Respect to Type of School (N=800)

Type of School	N	Mean	SD	t-value
Government	431	166.74	23.11	0.40
Private	369	166.11	21.58	

The table 1 shows that the mean of academic motivation scores of IX government school students and private school students comes out to be 162.20 and 157.14 along with SD's 15.76 and 17.84. The t-value of the gender comes out to be 4.22 which is significant at 0.05 level of significance. As a result there is a significant difference between government and private school students' on academic motivation.

The table 2 shows that the mean of mathematical attitude scores of IX grade government school students and private school students come out to be 166.74 and 166.11 along with SD's 23.11 and 21.58. The t-value of the gender comes out to be 0.40 which is insignificant at 0.05 level of significance. Therefore, there is insignificant difference between mathematical attitude of government and private school students'.

Main Findings and Conclusions

1. There is a significant difference between the Academic Motivation of Government and Private secondary school students. Students of government schools are academically more motivated than the students of private schools.
2. There is no significant difference between the Mathematical Attitude of Government and Private secondary school students. Mathematical Attitude of both types of students comes out almost equal.

Suggestions

1. There should be motivational lectures in the schools so that students will motivate towards studies.
2. Schools should organize different competitions, so that students interest towards the studies should be aroused,
3. Teacher should use innovative techniques so that student's attitude towards mathematics is made more favorable.

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