ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS IN RELATION TO METACOGNITIVE ABILITY AND SOCIO-ECONOMIC STATUS

Paramjit Singh\(^1\) & Sukhwinder Singh\(^2\)
\(^1\)Assistant Professor, Khalsa college of education, Ranjit avenue, Amritsar
\(^2\)M.Ed Student, Khalsa college of education, Ranjit avenue, Amritsar

Abstract

Education helps the people to become more knowledgeable about the world, more sensitive and understanding of their relationship to it, and more eager to contribute to the civilising process. Besides other factors, socio-economic status is one of the most researched and debated factor among educational professionals that contribute towards the academic performance of students. Along with this, another important factor which influences the academic achievement is the metacognitive ability of students. The present study was undertaken to study academic achievement of secondary school students in relation to metacognitive ability and socio-economic status. A sample of 200 students was selected from 10+1 commerce grade from different schools of Amritsar district by using random sampling technique. The data was collected by using Metacognitive Ability Inventory (Govil, 2011), Socio- Economic Status (Upadhyay & Saxena, 2008) and marks of students in 10\(^{th}\) grade were taken as their academic achievement. A significant difference was found in the mean score of Academic Achievement, Metacognitive Ability and Socio-Economic Status with respect to gender wherein girls scored high on these variables than their counterparts. Also, a positive and significant relationship was found between Academic Achievement with Metacognitive ability as well as Socio-Economic Status of secondary school students. The results were used to suggest ways for improving academic achievement by using metacognitive ability.

Introduction

Education is the most important invention by man. Education makes a person rational, capable and responsible. Academic success or failure is the most important concern in each education system.

There are number of factors which affects the academic achievement. One of factors with direct relation to the academic achievement is cognitive and metacognitive skills. Meta cognitive skills play an important role in a variety of cognitive activities including verbal information exchange, verbal persuasion, understanding and comprehension, reading, writing, attention, perception, memory, language learning, problem – solving, social cognition, and various forms of self – learning and self – control.

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Metacognitive ability refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Metacognitive abilities are classified on the basis of its four dimensions which are depicted in the following flowchart:

![Flowchart of Metacognitive Abilities]

Children with high or who applies metacognitive ability learn more rapidly and learn more difficult material as that when they are placed with children of lower ability in the same room and with the same teacher. Another important factor which greatly influences the Academic Achievement of the individual is socio-economic status of individual.

**Emergence of the study**

The need of hour is to nurture creativity, encourage innovativeness and develop entrepreneurship skills among the commerce students. Voice of new generation is to make them able to use their day to day experiences and richness of their ideas in new learning situations. Along with that to provide opportunities for taking initiatives, thinking fresh, asking questions, rising doubts, evaluating and judging within and outside the classroom for students growing up in today’s society where knowledge is infinite. These are the important skills of the Metacognitive Ability which need to be inculcated in the commerce students for better academic achievement.

So, the present study was taken with a view to find out the significant potential role of metacognitive ability and Socio-economic Status of commerce students in achieving their desired academic results and also to suggest ways and means could be taken for improving the performance through metacognition strategies.

**Hypotheses of the study**

1. There exists no significant difference in Academic Achievement of secondary school boys and girls.
2. There exists no significant difference in the Metacognitive ability of secondary school boys and girls.

3. There exists no significant difference in the Socio-Economic Status of secondary school boys and girls.

4. There exists no significant relationship between Academic Achievement and Metacognitive ability of secondary school students.

5. There exists no significant relationship between Academic Achievement and Socio-Economic Status of secondary school students.

Research design of the study
In the view of the approach followed the present study falls in the domain of descriptive research completed with correlation approach.

Selection of sample
Data was collected from randomly selected sample of 200 students studying in 10+1 commerce stream of different schools of Amritsar district.

Tools used
1. Metacognition inventory Revised (MCI) (Govil, 2011)
2. Socio- Economic Status (SES) (Upadhyay and Saxena, 2008)

Analysis of Data
Hypothesis 1-
“There exists no significant difference in Academic Achievement of secondary school boys and girls”.

In order to test this hypothesis, mean and S.D of Academic achievement among girls and boys of secondary schools belonging to 10+1 commerce stream was calculated. The scores of girls and boys have been described in terms of mean, S.D and t-value in the table (1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Mean</th>
<th>S.D.</th>
<th>SE_D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic achievement</td>
<td>Boys</td>
<td>63.93</td>
<td>5.039</td>
<td>0.761</td>
<td>5.03</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>67.75</td>
<td>5.699</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meta cognitive</td>
<td>Boys</td>
<td>90.17</td>
<td>13.874</td>
<td>1.795</td>
<td>2.91</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
abilities
Girls 94.10 11.388
Boys 52.26 8.861
Girls 57.73 7.283

(Critical value 1.96 at 0.05 level and 2.58 at 0.01 level, df = 198)

The table 1 reveals that the mean score and S.D of boys is 63.93 and 5.04 respectively and mean score and S.D of girls is 67.75 and 5.699 respectively. The t-value comes out to be 5.028 which is significant at both 0.01 and 0.05 level of significance. Hence, the hypothesis no.1,"There exists no significant difference in metacognition among girls and boys of secondary schools belonging to Commerce stream" is rejected as the results are in favour of girls, who possess better metacognition abilities as compared to boys.

Hypothesis 2-
"There exists no significant difference in the Metacognitive ability of secondary school boys and girls."

In order to test this hypothesis, mean and S.D of Metacognitive ability among girls and boys of secondary schools belonging to 10+1 commerce stream was calculated. The scores of girls and boys have been described in terms of mean, S.D and t-value in the table (1). The table reveals that the mean score and S.D of boys is 90.17 and 13.87 respectively and mean score and S.D of girls is 94.10 and 11.39 respectively. The t-value comes out to be 2.91 which is significant at both 0.01 and 0.05 level of significance.

Hence, the hypothesis no.2,"There exists no significant difference in metacognition among girls and boys of secondary schools belonging to Commerce stream" is rejected. Hence, it may be concluded that Female students are more competent in using their Metacognitive Ability. The probable reason may be that globalization and advancements in technology are driving changes in the females basic skills as well as capacity to read critically, write persuasively, think and reason logically, and solve complex problems.

HYPOTHESIS 3-
“There exists no significant difference in the Socio-Economic Status of secondary school boys and girls.”

In order to test this hypothesis, mean and S.D of Socio-Economic Status among girls and boys of secondary schools belonging to 10+1 commerce stream was calculated. The scores of girls and boys have been described in terms of mean, S.D and t-value in the table.
1. The table 1 reveals that the mean score and S.D of boys is 52.26 and 8.861 respectively and mean score and S.D of girls is 57.73 and 7.283 respectively. The t-value comes out to be 4.77 which is significant at both 0.01 and 0.05 level of significance. Hence, the hypothesis no.3, “There exists no significant difference in Socio-Economic Status among girls and boys of secondary schools belonging to Commerce stream is rejected.

Hypothesis 4-

“There exists significant relationship between Academic Achievement and Metacognitive ability of secondary school students.”

In order to test this hypothesis, coefficient of correlation of academic achievement and metacognition of secondary school students belonging to 10+1 commerce stream was calculated. The scores of coefficients of correlation of achievement and metacognition of secondary school students has been shown in the table (2).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Academic Achievement</th>
<th>Socio – Economic Status</th>
<th>Metacognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metacognition</td>
<td>0.87</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Achievement</td>
<td>---</td>
<td>0.59</td>
<td>0.87</td>
</tr>
<tr>
<td>Socio – Economic Status</td>
<td>0.59</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

The table 2 reveals that the achievement and metacognition of secondary school students have positive correlation hence, the hypothesis no 4” There exists significant relationship between achievement and metacognition of secondary school students belonging to medical stream” is not rejected. Thus, the result reveals that there is significant relationship in achievement and metacognition of secondary school students belonging to 10+1 commerce stream.

This result is quite in conformity with results of the studies conducted by Kaniel, Licht and Peled (2000), Basant (2000), Thomas and Barksdale-Ladd (2000), Desoete, Roeyers and Buysee (2001), Hall (2001), who also found significant positive relationship between Metacognitive Ability and Academic Achievement of higher secondary school students.
HYPOTHESIS 5-
“There exists no significant relationship between Academic Achievement and Socio-economic status of secondary school students.”

In order to test this hypothesis, coefficient of correlation of achievement and Socio-economic status of secondary school students belonging to 10+1 commerce stream was calculated. The scores of coefficients of correlation of achievement and Socio-economic status of secondary school students have been shown in the table (2).

The table 2 reveals that the achievement and Socio-economic status of secondary school students have positive correlation hence, the hypothesis no 5” There exists no relationship between achievement and metacognition of secondary school students belonging to medical stream” is not rejected. Thus, the result reveals that there is insignificant relationship in achievement and metacognition of secondary school students belonging to 10+1 commerce stream.

Findings of the study
1. There exists significant difference in Academic Achievement of secondary school boys and girls.
2. There existssignificant difference in the Metacognitive ability of secondary school boys and girls.
3. There exists significant difference in the Socio-Economic Status of secondary school boys and girls.
4. There exists significant relationship between Academic Achievement and Metacognitive ability of secondary school students.
5. There exists significant relationship between Academic Achievement and Socio-Economic Status of secondary school students.

Implications
1. Teacher should identify the students with low metacognitive ability and provide training to them to enhance their Metacognitive ability. It can be inculcated by providing adequate number of opportunities in classroom by creating suitable environment to practice their skills and strategies along with feedback to students.
2. The academic achievement of students, belonging to low socio-economic status, can be enhanced by providing them the access to free books, latest technologies - tabs, online apps, e-learning content and interactive media instruments.
REFERENCES


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