



A Study of Meta Cognitive Skills Among Senior Secondary School Students in Relation to Their Emotional Intelligence

Ms. Manju Yadav

M.Ed. Student, Ch. Devi Lal College of Education,
Jagadhri, YNR.

&

Prof. (Dr.) Sushma Rani, Professor cum HOD (M.Ed.),

Ch. Devi Lal College of Education, Jagadhri, YNR

Abstract- The present study aims to examine the relationship between metacognitive skills and emotional intelligence among senior secondary school students. Metacognitive skills, which involve planning, monitoring, and evaluating one's own learning processes, play a significant role in improving academic performance and lifelong learning. Emotional intelligence, encompassing the ability to perceive, understand, manage, and regulate emotions, is equally important for students' personal, social, and academic development. The study adopts a quantitative survey method, selecting a representative sample of senior secondary school students through an appropriate sampling technique. Standardized instruments are used to assess students' metacognitive skills and emotional intelligence. Statistical techniques such as descriptive statistics, correlation, and inferential analysis are employed to analyze the data. The findings are expected to reveal a significant positive relationship between metacognitive skills and emotional intelligence, indicating that students with higher emotional intelligence tend to demonstrate better metacognitive abilities. The study also explores differences based on demographic variables such as gender and academic stream, where applicable. The findings are expected to contribute to educational psychology by highlighting the importance of fostering both metacognitive skills and emotional intelligence in school education. The study recommends that educators incorporate instructional strategies and emotional learning programs that enhance students' self-awareness, self-regulation, and reflective thinking to promote holistic development.

Keywords- Metacognitive Skills, Emotional Intelligence, Senior Secondary School Students, Self-Regulated Learning, Educational Psychology, Academic Achievement, Cognitive Development, Emotional Regulation.

I. Introduction

In India, there is a need to change the thinking of the students which they will use throughout their lives, rather than storing information. For this, good education plays a



vital role in students' life which teach them how to learn, how to remember, how to motivate themselves and how to control their emotions using some cognitive and emotional skills. In India, due to immense population contemporary Senior Secondary education faces major problems in quality education. Now major emphasis has been taken on mass awareness programs for quality education in Senior Secondary school students. Steps are being taken to improvise quality education on both scholastic and co-scholastic development of child for creating an overall performer. In this relation efforts are being made for imparting value education, strengthening emotional intelligence and enhancing meta-cognitive skills, etc. which will make a child capable of digging into the subject and develop accordingly.

Emotional intelligence is a key factor to develop decision making skills in a student and meta-cognitive skills helps them to plan their learning task process. These two determinants of education are needed to be explored for better schooling of children. In the present world these two areas have been taken care by schools for imparting value education in higher education. In recent times, Quality education has come to acquire increasing importance in educational discussion at all levels in our country. Merits and demerits are being considered in families across the country while choosing different education providers for better education of students because family and school play an important role in maintaining emotional balance of a child.

The Present times these two affective variables i.e. emotional intelligence and the cognitive variables tries to find out the relationship between the academic achievement and skills of meta-cognition. However, not a specific amount of research studies has been conducted among the Senior Secondary school students on their academic achievements in relation to meta-cognitive skills and emotional competence as professed in the present study.

II. Concept of Meta Cognitive Skills

It is often difficult to distinguish between 'Cognition' and 'Meta cognition'. Although they are closely related, the prime difference is that cognition helps improve our knowledge; and Meta cognition helps improve how we gain, process, and use that knowledge. For example, in a problem-solving exercise, our cognitive abilities help us remember things learned in the past that might help resolve the current situation. However, meta cognitive abilities help us understand how we perceive the problem and direct the solution with careful monitoring with an open mind to change and adapt. Over the years of my teaching experience and reading journals on meta cognition, The investigator strongly believe that the goal of teaching is not just giving knowledge of various subjects, but it is highly crucial to equip our students with the tools and techniques for self-monitoring their own learning. It's an extremely satisfying experience to train the children to create goals for themselves, become self-learners, feel confident to revise their plan of action if needed, look deeply into their shortcomings, and address the change. For example, in a reading assignment, students

can monitor their own comprehension by questioning the text and effectively taking notes. They can record what they know, what they want to know, what they've learned, what is their logical reasoning to understand the topic, and share that process with their peers. Such skills are extremely important for the growth of the child as a student, co-worker, entrepreneur, and above all as a human being. These students start taking initiatives to learn more and better, and they can self-direct their learning process. This, as a result, increases their skills and eagerness to adopt techniques of their own, which helps to achieve the best results and protect them from becoming complacent.

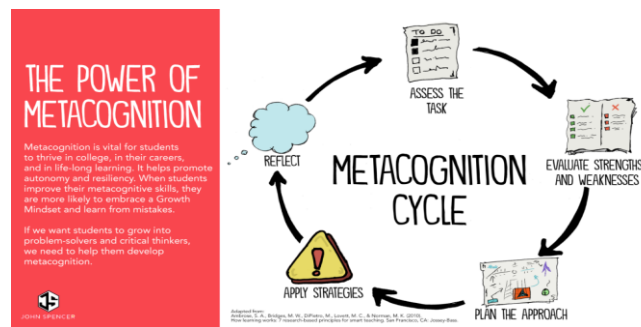


Fig. No. 1: Metacognition Cycle

According to Bransford, Brown, and Cocking (2000) metacognition and self-modify are important elements for developing effective learning and training. As Flavell (1976) pointed out metacognitive skills can be developed through instruction and learning. Among these researchers, Turner (1989) indicated that the reason why students fail to become active and independent students is sometimes they lack metacognitive awareness and strategies.

Azevedo (2005) argued that students' metacognitive skills can be nurtured through proper arrangement of instructions. Taraban, Ryneearson, and Kerr (2000) explored the relationship between metacognitive skills and learning outcomes among university freshmen. They investigated the metacognitive strategies commonly used by the students and which strategies were helpful for their academic performance. Their findings revealed that metacognitive strategies for reading comprehension could improve college students' academic performance.

According to Charles G. Morris (1979) Emotion is a complex affective experience that involves diffuse physiological changes and can be expressed overtly in characteristic behavior patterns.

According to Crow & Crow (1973) Emotion is an affective experience that accompanies generalized linear adjustment and mental and physiological stirred-up states in the individual and that shows itself in his overt behavior.



Thus, whatever may be the terminology used by all these different writers and psychologists, their definitions tend to describe emotions as some sort of feeling or affective experiences which are characterized by some physiological changes that generally lead them to perform some or the other types of behavioural acts.

Objectives of the Study

- To find out the metacognitive skills among Senior Secondary school students.
- To study the concept of Emotional Intelligence.
- To study the significant difference of meta cognitive skills among Senior Secondary school students to their gender.
- To study the significant difference of metacognitive skills among Senior Secondary school students with respect to their residential background.
- To study the significant difference of emotional intelligence among Senior Secondary school students with respect to their gender.
- To study the significant difference of emotional intelligence among Senior Secondary school students with respect to their residential background.

Hypotheses of the Study

Null Hypothesis

- There exists no significant relationship between metacognitive skills and emotional intelligence among Senior Secondary school students.
- There exists no significant difference in metacognitive skills among Senior Secondary school students with respect to their gender.
- There exists no significant difference in emotional intelligence among Senior Secondary school students with respect to their gender.
- There exists no significant difference in metacognitive skills among Senior Secondary school students with respect to their residential background.
- There exists no significant difference in emotional intelligence among Senior Secondary school students with respect to their residential background.

III. Research Methodology

1. Population

A sample is a smaller representation of a large whole. In the present study, Students studying in the CBSE schools of Yamuna Nagar district of Haryana were selected as population.

2. Sample

In the present study, a sample of 120 Senior Secondary school students of class 11th from four Senior Secondary schools of district Yamuna Nagar were selected by random sampling techniques



3. Tools Used

For present study, researcher used Meta Cognitive Skill scale developed and standardized by Prof. (Dr.) Madhu Gupta & Ms. Suman & Emotional Intelligence scale developed and standardized by Anukool Hyde & Sanjyot Pethe.

IV. Statistical Techniques Used

The following statistical techniques were used by the investigator:

- Descriptive Statistics
- Co-efficient of Correlation (r)
- t- Test

V. Analysis and Interpretation Based on Descriptive Statistics

In order to calculate the values of the measure of central tendency (mean), standard deviation and frequency distribution of emotional intelligence and meta cognitive skills scores of the total sample descriptive statistics was used. The detail analysis and interpretation have been given in tables.

Table 1: Coefficient of Correlation Between Emotional Intelligence and Meta Cognitive Skills

Variables	DF	Coefficient of relation 'r'	Level of significance
Emotional Intelligence	118	0.712	Significant
Meta cognitive skills			

Table 1 revealed that the calculated 'r' value (0.712) between attitude towards Emotional Intelligence and Meta cognitive skills is significant at 0.05 level of significance. The table value at 0.05 level is 0.174 and at 0.01 levels is 0.227. This shows that obtain value (0.712) is high than the table value, thus we can say that there is significant positive relationship between the emotional intelligence and Meta cognitive skills. Hence, the null hypothesis No.1 which is stated earlier that there is no significant relationship between emotional intelligence and Meta cognitive skills of senior secondary school student is rejected.

Table 2: Significance Difference in the Mean Score of Male and Female Senior Secondary Students' Meta Cognitive Skills

Gender	N	Mean	S.D	t- ratio	Significant level
Male	58	130.72	18.61	0.63	Not significant
Female	62	128.37	22.41		



Above table 2 shows that the Mean scores of the male & female senior secondary students are 130.72, 128.37 and SD scores are 18.61 & 22.41 respectively. The calculated t-ratio of male & female senior secondary students' meta cognitive skills is 0.63. The table value level at 0.01 level is 2.58 and we have obtained value of t-ratio is 0.63. It shows that the calculated value is less than the table value so we can say that there is no significant difference between the meta cognitive skills of male and female senior secondary students. Therefore, the null hypothesis which is stated earlier that there exists no significant difference between meta cognitive skills of senior secondary students in relation to their gender is accepted.

Table 3: Significance Difference in the Mean Score of Rural and Urban Senior Secondary Students' Meta Cognitive Skills

Locality	N	Mean	S.D.	t- ratio	Significant level
Rural	61	120.8	14.31	1.09	Not Significant
Urban	59	123.41	11.81		

Above table 3 shows the Mean scores of the rural & urban senior secondary students' meta cognitive skills are 120.8 & 123.41 and SD scores are 14.31 & 11.81 respectively. The calculated t-ratio of rural & urban senior secondary students' meta cognitive skills is 0.212. The table value at 0.05 level is 1.96. It shows that the calculated value is less than the table value and there is no significant difference between the meta cognitive skills of rural and urban senior secondary students. So, the hypothesis which is stated earlier that there exists no significant difference between meta cognitive skills of senior secondary students in relation to their residential background is accepted.

Table 4: Significance Difference in the Mean Score of Male and Female Students' Emotional Intelligence

Gender	N	Mean	SD	t- ratio	Significant level
Male	58	124.91	14.23	1.56	Not significant
Female	62	120.61	16.03		

Above table 4 shows that the Mean scores of the male & female senior secondary students are 124.91 & 120.61 and SD scores are 14.23 & 16.03 respectively. The calculated t-ratio of male & female students is 0.093. The table value at 0.01 level is 2.58. It shows that the calculated value of t-test is less than the table value and there is no significant difference between the mean scores of male and female students' emotional intelligence. So, the hypothesis which is stated earlier that there exists no significant difference in emotional intelligence of senior secondary students in relation to their gender is accepted.



Table 5: Significance Difference in the Mean Score of Rural and Urban Senior Secondary Students' Emotional Intelligence

Locality	N	Mean	S.D	t- ratio	Significant level
Rural	61	157.31	21.40	0.54	Not significant
Urban	59	159.26	17.18		

Above table shows that the Mean scores of the rural & urban senior secondary students' emotional intelligence are 157.31 & 159.26 and scores SD scores are 21.40 & 17.18 respectively. The calculated t-ratio of rural & urban senior secondary students is 0.062. The table value at 0.01 levels is 2.58. It shows that the calculated value is less than the table value and there is no significant difference between emotional intelligence among senior secondary students in relation to their residential background. So, the hypothesis which is stated earlier that there exists no significant difference between emotional intelligence of senior secondary students in relation to their residential background is accepted.

Main Findings

The present study is aimed to study of meta cognitive skills among senior secondary school students in relation to their Emotional Intelligence. For clear view, presentation of findings is made as follows:

- A positive and significant correlation was found between variables Emotional intelligence and Meta cognitive skills. Hence emotional intelligence strongly affects meta cognitive skills.
- No significant difference in meta cognitive skills of male and female senior secondary students was found . Hence the gender does not influence the meta cognitive skills of senior secondary school students.
- No significant difference in meta cognitive skills of senior secondary students was found in relation to their residential background. Hence the residential background does not influence the meta cognitive skills of senior secondary school students.
- No significant difference in the emotional intelligence of male and female senior secondary school students was found. Hence gender does not influence emotional intelligence of senior secondary students.
- No significant difference in emotional intelligence of senior secondary students was found in relation to their residential background. Hence the residential background does not influence the meta cognitive skills of senior secondary school students.

VI. Conclusion

The present study concludes that metacognitive skills and emotional intelligence are closely associated among senior secondary school students. Students with higher levels of emotional intelligence tend to exhibit stronger metacognitive abilities, including



effective planning, monitoring, and evaluation of their learning processes. These skills enable learners to regulate their thoughts, emotions, and academic behavior more efficiently, leading to improved learning outcomes and overall personal development.

The findings also emphasize that fostering emotional intelligence can positively influence students' metacognitive development by enhancing self-awareness, self-control, motivation, empathy, and interpersonal relationships. Where demographic variables such as gender or academic stream are considered, the results may indicate similarities or differences that provide further insight into students' learning characteristics.

Overall, the study highlights the importance of integrating metacognitive strategy instruction and emotional intelligence development into the school curriculum. Teachers, parents, and educational institutions should create supportive learning environments that encourage reflective thinking, problem-solving, emotional regulation, and self-directed learning. Such initiatives will not only improve students' academic achievement but also contribute to their social, emotional, and lifelong learning competencies. Future research may include larger and more diverse samples, longitudinal designs, and additional psychological or educational variables to gain a broader understanding of the relationship between metacognitive skills and emotional intelligence.

References

1. Brown, A. (1987). Metacognition, executive control, self-regulation and other mysterious mechanisms. In E. Weinert & R. Kluwe (Eds.), *Metacognition, motivation and understanding* (65 – 116). Hillsdale, NJ: Erlbaum.
2. Casey, L., & Liang, R. P. (2014). *Stress and wellbeing in Australia survey 2014*. Melbourne, Australia: Australian Psychology Society.
3. • Coutinho, S., Wiemer-Hastings, K., Skowronski, J & Britt, A. (2005). Metacognition, need for cognition and use of explanations during ongoing learning and problem solving. *Learning and Individual Differences*, 15, 321 – 337.
4. Efklides, A. (2006). Metacognition and affect: what can metacognitive experiences tell us about the learning process? *Educational Research Review*, 1, 3 – 14.
5. Jansiewicz, E.M. (2008). *The relationship between executive functions and metacognitive strategy learning and application*. Dissertation, Georgia State University.
6. Keyes, C. L. (Ed.). (2012). *Mental Emotional Intelligence: International contributions to the study of positive mental health*. Springer Science & Business Media.
7. Larkin, S. (2009). *Metacognition in young children*. London, UK: Routledge.
8. • Mevarech, Z. and B. Kramarski (2014), *Critical Maths for Innovative IO Societies: The Role of Metacognitive Pedagogies*, OECD Publishing.



9. Ryan, R., & Deci, E. (2001). ON HAPPINESS AND HUMAN POTENTIALS: A Review of Research on Hedonic and Eudemonic Emotional Intelligence. *Annual Review of Psychology*, 52: 141-66.
10. Seligman, M. (2011). *Flourish: A visionary new understanding of happiness and Emotional Intelligence*. New York: Free Press.
11. Shah, H., & Marks, N. (2004). *An Emotional Intelligence manifesto for a flourishing society*. London: The New Economics Foundation.
12. Van Dierendonck, D., Haynes, C., Borrill, C., & Stride, C. (2004). Leadership Behavior and Subordinate Emotional Intelligence. *Journal of Occupational Health Psychology*, Vol 9(2), 165-175.