



Gender Differences in Meta-Cognitive Awareness Among University Students

¹Abhipsa Priyadarshini, ²Sankar Sahu

¹M.Ed Student, Central University Of Gujarat, Gandhinagar

²Sankar Sahu , Independent Researcher , Berhampur

Email - ¹avipsapari@gmail.com, ²Sahusankar.edu@gmail.com

Abstract: *Meta-cognition is helpful for students to identify their own potentialities and help them to regulate their own thinking benefits students of all ages and abilities. Meta-cognition helps students to transmit their knowledge and understanding across tasks and context. This study investigates the impact of gender differences in meta-cognitive awareness among university students. For data collection, a sample of 60 university students consisting of 30 male and 30 female were selected. Standardized Meta-cognitive Awareness Inventory developed by Academic Support Centre, Rowan College of South Jersey adopted by the researcher. To analyse the data descriptive statistical method t-test was employed. Analysis showed that there is gender difference among meta-cognitive awareness among university students.*

Key Words: *Meta-Cognitive Awareness , t-test , University Students.*

1. INTRODUCTION:

Meta cognition is the process of thinking about one's own thinking and learning. It is a concept of cognition of cognition It makes a learner aware of its own learning. It enables them to understand their strength and weakness in learning. Metacognition is a higher order thinking ability. Thinking process is actively controlled by metacognition. It involves activities such as planning, monitoring and evaluation for the completion of the task. Meta cognitive awareness are important for both student and teacher. Bloom classified meta cognitive awareness into 5 levels known as Bloom's Taxonomy. The levels of meta cognitive awareness are remembered, understand, apply, analyse, evaluate, create. For higher education students' meta cognitive awareness are very much important. Successful learners typically use meta cognitive strategies whenever they learn. But they may fail to use the best strategy for each type of learning situation. Here are some meta cognitive awareness that each student may follow

- Knowing your limits - Being aware of your limitations entails determining how much memory you have for a certain task and setting up a system for outside assistance.
- Self-monitoring – self-monitoring one's learning technique, such as idea mapping, and making necessary adjustments if the technique becomes ineffective.
- Modify – assessing one's comprehension of the material they have just read and making necessary adjustments if necessary.
- Skimming – deciding to quickly scan subheadings of irrelevant content in order to find the information they need.
- Rehearsing – practicing a skill frequently in order to become proficient
- Self-test – taking regular assessments of your own learning to gauge your progress.

In higher education students are need to be efficient learners and to become efficient learners' meta cognition plays a significant role. Because it optimists their basic cognitive process, including memory, attention, activation of prior knowledge and being able to solve or complete a task. It makes them learn more efficiently and more effectively and so they are able to make more progress. Meta cognitive awareness is useful across all subjects because it made them aware of their learning. So, there must be meta cognitive awareness among the higher education students.



2. LITERATURE REVIEW:

Amine Amzil (2013) find that Through meta cognitive intervention achievement of both and low learners is increased. Ishak Kozikoglu (2019) from his research find that Meta cognition is beyond the knowledge and regulation of cognition. It is a specific skill that are used in order to attain higher order thinking such as critical thinking.

Manoli pifarre,Rvtt cobos (2010) noted that Meta metacognitive awareness affected by peer interaction and collaboration learning. Baris cetria(2021) find that university students with high travels of metacognition ,academic, motivation and self-regulated learning will have a higher academic success. Metacognition strategies encourages students to observe the concepts carefully and help them to understand newly learned concept. It will help students to learn the theory and apply the newly learned theory simultaneously. (Rajkumar , S 2010). John, David and will (2017) state that metacognition is inherit ant human character which allows to solve problems in different context and particular usefulness in classroom. It enables the learners to be successful learners. Damien, S fleur, Wouter (2016) find that offline metacognition is more plastic and may therefore benefit learning more than online metacognition. Teacher need to help children develop metacognitive awareness from the early childhood. La Misu and La Masi (2017) found that Metacognitive awareness among female students is better than male students. There is slight difference in metacognitive awareness among male and female Ismi Nurul Qomariyah , Mistianah. (2020) Considering the inconsistent findings on gender difference on metacognitive awareness, the present study aims to identify the links between metacognition regulation and gender in a sample of university students of Central University of Gujarat.

3. OBJECTIVE OF THE STUDY:

To compare mean scores of meta cognitive awareness of Male and Female university students.

HYPOTHESIS OF THE STUDY:

There is no significant difference between mean scores of meta cognitive awareness of male and female university students.

4. MATERIALS:

Meta cognitive Awareness Inventory developed by Academic Support Centre, Rowan College of South Jersey adopted by the researcher. The scale consisted of 52 items with two response. By administering the scale, students' metacognitive skill was rated by two options i.e. true and false. For every "true" answer 1 point was given and for every "false" answer 0 point was given.

5. METHOD AND PROCEDURE:

The study implemented quantitative research approach i.e. descriptive survey design to investigate the impact of metacognitive awareness on university students. Meta cognitive awareness is considered as dependant variable and gender is considered as independent variable. For testing hypothesis Metacognitive Awareness Inventory administered and collected data is analysed by descriptive statistical method.

SAMPLE:

Sample of the study comprised of 60 masters students (30 male and 30 female) of Central University, Gandhinagar, Gujarat, who were enrolled in two year masters. Stratified random sampling was employed for the selection of sample.

6. ANALYSIS:

For data analysis and interpretation of result descriptive statistical method i.e. independent t-test was used in the study.

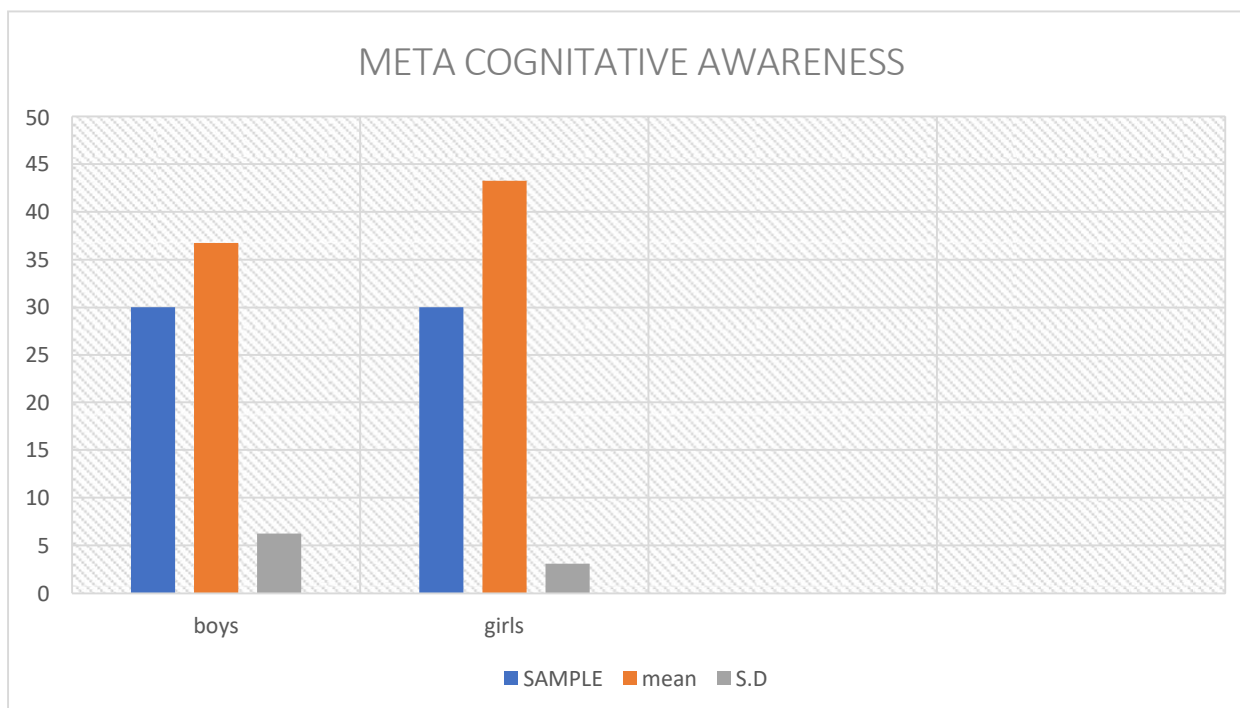
Objective-

To study the significant difference in metacognition of university students in relation to gender. In order to find out whether the metacognitive awareness of secondary school students vary with the gender, the mean and the standard deviation of the scores on the metacognitive awareness of university students – male and female were calculated. To know whether the two groups varied significantly in their scores on the metacognitive awareness, the independent t-test was administered. The values thus obtained are tabulated below.



| Variable | Male (N=30) | | Female(N=30) | | Df | t- value | Remarks |
|-------------------------|-------------|-------|--------------|-------|----|----------|-------------|
| | Mean | SD | Mean | SD | | | |
| metacognitive awareness | 36.73 | 6.247 | 43.27 | 3.084 | 58 | 5.136 | Significant |

Table 8.1-Summing of Independent ‘t’-test



Graph 8.1- Metacognitive awareness among boys and girls

The mean and standard deviation of metacognitive awareness of males are 36.73 & 6.247 and that of females are 43.27 & 3.084 respectively. When their differences in means were tested for significance of difference between means, we get $df = 58$ and a t - value of 5.136 which is greater than the values for .01 and .05 levels of significance. Hence it is inferred that there is significant difference in the metacognitive awareness of university students based on Gender.

7. FINDINGS : Result of the study indicates that there is variation in the metacognitive awareness of university students in relation to gender.

8. DISCUSSION:

Findings of the study confirmed that there is gender difference in metacognitive awareness among male and female students. Female students are found to have more metacognitive awareness than male students. Metacognitive awareness is a process which make the students aware about themselves and also facilitate their learning. The study shows that gender influences the metacognitive awareness among students. So teachers should understand individual differences in the level of metacognitive awareness. By taking into consideration their individual differences effective instruction may be execute in the class so that their metacognitive ability may enhance well.

RECOMMENDATIONS:

Metacognitive awareness refers to a person’s conscious monitoring of his/her own cognitive strategies during the process of applying them. It entails thinking back on our personal experiences, learning preferences, mental routines, daydreams, and other aspects of our regular conscious and subconscious thought processes. When a student has a good understanding of his/her own metacognition then it will helpful for enhancing their learning process. In order to increase the metacognitive awareness among the students of university both student and teacher’s contribution is required.



FOR STUDENTS-

Students in University level are mostly self-directed learners. They need to have a good metacognitive awareness. For these students should identify what they know and what they do not know at the beginning of any new topics learnt and this can be done via self-asking approach at the beginning of any classes. The purpose is so that the students can make conscious decision about their role as a learner, in particular for the purpose of that specific topic/course and as well as, about their existing knowledge on the topic/course they are currently undergoing things such as what they already know, and what they want to learn about from that class. This session is important because it acts as the first step to develop metacognition skills in our students.

FOR TEACHERS-

Teachers in University level should accept individual differences of metacognitive development and need to work towards it's development. Professors can greatly assist with this by having students write reflections on the day's lessons, including the parts they understood and did not grasp.

FOR CURRICULUM –

Proper planning, regulation, evaluation must be ensured in universities to develop metacognitive awareness among it's students. Along the way, they should always push and encourage their students. University should Emphasize the value of having a growth mindset and how important it is for the development of cognition.

9. CONCLUSION:

Considering the foregoing finding and discussion students should be encouraged to realise there cognition process. Activities related to encouragement of reflection should be carried out in the classroom. When teachers make aspects of learning and problem-solving visible, and help students identify their own strengths and strategies, they can have a lasting impact on how their students learn once they leave their classrooms. A metacognitive awareness enables better learning among the students hence it must be given importance in the university level.

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