A Study on Meta Cognition and Academic Achievement among Prospective Teachers

S. Santhi, Ph.D, Research Scholar, Alagappa University College of Education, Karaikudi.
abhi75122@gmail.com

Dr. G. Sivakumar, Assistant professor, Alagappa University College of Education, Karaikudi.
sivamannai@gmail.com

Abstract

The present paper examines the Meta cognition and achievement among prospective teachers. Meta cognition is defined as "cognition about cognition", or "knowing about knowing." There are commonly two segments of Meta cognizance: information about comprehension, and guideline of discernment. Meta memory, characterized as thinking about memory and mental aide techniques, is a particularly significant type of Meta cognizance. The present investigation led on Meta cognition and learning styles increased an underlying comprehension of learning style inclination and Meta cognition and its effect on scholarly accomplishment. The improvement of Meta cognitive mindfulness or Meta cognitive aptitudes is basic in the arrangement of students for positive commitment in their deep rooted learning.

Key words: Meta cognition, Academic achievement, Prospective Teachers.

INTRODUCTION

Meta cognition

Meta cognition is defined as "cognition about cognition", or "knowing about knowing." It can take numerous structures; it incorporates information about when and how to utilize specific methodologies for learning or for critical thinking. There are commonly two segments of Meta cognizance: information about comprehension, and guideline of discernment. Meta memory, characterized as thinking about memory and mental aide techniques, is a particularly significant type of Meta cognizance. Contrasts in Meta cognitive preparing across societies have not been generally examined, however could give better results in culturally diverse learning among educators and understudies. Some transformative therapists theorize that Meta perception is utilized as an endurance instrument, which would make Meta insight the equivalent across societies.

COMPONENTS OF METACOGNITION

Meta cognition is characterized into three segments:

1. Meta cognitive information (likewise called Meta cognitive mindfulness) is the thing that people think about themselves as well as other people as psychological processors.
2. Meta cognitive guideline is the guideline of comprehension and learning encounters through a lot of exercises that assist individuals with controlling their learning.
3. Meta cognitive encounters are those encounters that have something to do with the current, on-going subjective undertaking.

Meta cognition refers to a level of thinking that involves active control over the process of thinking that is used in learning situations. Planning the way to approach a learning task, monitoring comprehension, and evaluating the progress towards the completion of a task: these are aptitudes that are met psychological in their temperament. Meta cognition incorporates in any event three distinct kinds of met subjective mindfulness while thinking about Meta cognitive information: Explanatory Information: alludes to information about oneself as a student and about what elements can impact one's presentation. Explanatory information can likewise be alluded to as "world information". Procedural Information: alludes to information about getting things done. This kind
of information is shown as heuristics and methodologies. A high level of procedural information can enable people to perform undertakings all the more consequentially. This is accomplished through a huge assortment of methodologies that can get to all the more effectively.

META COGNITIVE SKILLS

Meta cognition refers to learners' automatic awareness of their own knowledge and their ability to understand, control, and manipulates their own cognitive processes. Meta cognitive skills are important not only in school, but throughout life. For example, Mumford (1986) says that it is essential that an effective manager be a person who has learned to learn. He describes this person as one who knows the stages in the process of learning and understands his or her own preferred approaches to it - a person who can identify and overcome blocks to learning and can bring learning from off-the-job learning to on-the-job situations.

NEED FOR THE STUDY

Meta cognition is thinking about thinking, knowing “what we know” and “what we don't know.” The basic Meta cognitive strategies are: Connecting new information to former knowledge, selecting thinking strategies deliberately and Planning, monitoring, and evaluating thinking processes. Meta cognitive strategies are rarely taught explicitly to students. We expect pupils to learn the material from the curriculum that we present to them, but we do not always invest the same time in teaching them how to learn. Factual information fades fairly quickly once a pupil leaves school – over 60% of it disappears within 2-3 years if it is not in constant use. However, throughout any further education or working career, an individual will constantly be faced with new problems to solve, new information to make sense of and new tasks to complete. In equipping pupils with the knowledge of how to learn we can set them up for these future challenges.

The self-administrative aptitudes of arranging, checking and assessing are urgent for the understudy on the off chance that they are to encounter learning in the comprehensive way planned in the learning cycle. Meta cognitive aptitudes are additionally significant for the student as they support self-reflection. Preparing in abilities, shared reflection on work that includes more that only a solitary evaluation score, and practice at posing and noting inquiries that animate higher-request believing are on the whole exercises that may move understudies past this powerlessness to consider themselves to be specialists in their very own learning. Evaluation is the way toward get-together, recording, deciphering, utilizing, and revealing data after some time about a kid's advancement and accomplishment in creating information, abilities and dispositions. Figuring out how to get the hang of, building up a collection of reasoning procedures which can be applied to take care of issues, is a significant objective of training. The school library media focus, as the centre point of the school, is a perfect spot to coordinate these sorts of aptitudes into branches of knowledge or understudies' very own zones of intrigue. At the point when life presents circumstances that can't be understood by learned reactions, Meta cognitive conduct is brought into play. Meta cognitive skills are needed when habitual responses are not successful. Guidance in recognizing, and practice in applying, Meta cognitive strategies, will help students successfully solve problems throughout their lives. Hence the researcher wants to know the relationship between the Meta cognition and achievement among prospective teachers. Hence the conduct of the current study.

STATEMENT OF THE PROBLEM

The problem selected for the present study is entitled as “A STUDY ON META COGNITION AND ACADEMIC ACHIEVEMENT AMONG PROSPECTIVE TEACHERS”

OPERATIONAL DEFINITIONS

The investigator has adopted the following definitions for the terms used in this title.

Meta cognition- refers to the process of planning, assessing and monitoring one’s own thinking; the pinnacle of mental functioning.

Academic Achievement

The phrase ‘achieves’ signifies the stage of educational development of an individual as determined by the score of an achievement test designed to measure the knowledge or ability in theoretical study acquired by normal education. Achievement means the extent to which the learner has learnt in the subject over a period of study. The achievement motive comes from needs to pursue excellence, accomplish lofty goals, or succeed on difficult takes. If the satisfaction of personal potentialities is emphasized the achievement motive may be clarified as a good motive.
VARIABLES OF THE STUDY

The variables involved in this study are as follows:

**Dependent Variables:**
1. Meta cognition
2. Academic Achievement

**Independent Variables:**
1. Gender: Male / Female
2. Locality of students: Urban / Rural

METHODOLOGY - IN - BRIEF

- **Design:** Descriptive
- **Method:** Normative
- **Technique:** Survey

**Tools used**
1. Personal Information Schedule

POPULATION FOR THE STUDY

Sindhu K.S. (1984) says, 'A populace is any gathering of people that share at least one qualities for all intents and purpose that are important to the specialist'. The population for the present study consists of prospective teachers in Sivagangai District.

SAMPLE FOR THE STUDY

An example is a little extent of a populace chose for perception and investigation. By watching and breaking down the example, an exploration specialist makes certain derivations about the attributes of the populace from which it is drawn (Aggarwal, 2002). Totally the example comprised of 110 prospective teachers.

OBJECTIVES OF THE STUDY

The following are the objectives of the present study

1. To find out whether there is no significant difference in the Meta cognition among prospective teachers in terms of Sex.
2. To find out whether there is no significant difference in the academic achievement among prospective teachers in terms of sex.
3. To find out whether there is no significant difference in the Meta cognition among prospective teachers in terms of locality.
4. To find out whether there is no significant difference in the academic achievement among prospective teachers in terms of locality.

HYPOTHESIS OF THE STUDY

The following are the hypotheses of this study based on the objectives framed.

1. There is no significant difference in the Meta cognition among prospective teachers in terms of Sex.
2. There is no significant difference in the academic achievement among prospective teachers in terms of sex.
3. There is no significant difference in the Meta cognition among prospective teachers in terms of locality.
4. There is no significant difference in the academic achievement among prospective teachers in terms of locality.

METACOGNITION AND SEX

Hypothesis: 1
There is significant difference in the Meta cognition among prospective teachers in terms of Sex. The statistical measures and the results of test of significance of difference between the mean scores of Meta cognition among students in terms of Sex is presented in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sub-variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>‘t’ - value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>32</td>
<td>107.78</td>
<td>15.08</td>
<td>1.99</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>78</td>
<td>113.37</td>
<td>13.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(At 5% level of significance the table value of “t” is 1.96)

The obtained ‘t’ value 1.99 is greater than the table value 1.96 at 0.05 level of significance. This shows that there is significant difference in Meta cognition among male and female students in the possession of Meta cognition. Female (M=107.78) are better than male (M=113.37) in their Meta cognition. It is further noted that female students possess more Meta cognition, Meta emotions than male students.

**ACADEMIC ACHIEVEMENT AND SEX**

Hypothesis: 2

There is no significant difference in the academic achievement among prospective teachers in terms of sex.

The statistical measures and the results of test of significance of difference between the mean scores of academic achievement among students in terms of sex are presented in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sub-variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>‘t’ - value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>sex</td>
<td>Male</td>
<td>32</td>
<td>50.28</td>
<td>10.34</td>
<td>5.06</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>78</td>
<td>64.09</td>
<td>13.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(At 5% level of significance the table value of “t” is 1.96)
The obtained 't' value 5.069 is higher than the table value 1.96 at 0.05 level of significance. This shows that there is significant difference in academic achievement among male and female students in the possession of academic achievement. Female (M=64.09) higher score than male (M=50.28) in their academic achievement.

**META COGNITION AND LOCALITY**

Hypothesis: 3

There is no significant difference in the Meta cognition among prospective teachers in terms of locality.

The statistical measures and the results of test of significance of difference between the mean scores of Meta cognition among students in terms of locality is presented in Table 3.

**TABLE 3:**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sub Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>'t' - value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locality</td>
<td>Rural</td>
<td>58</td>
<td>112.41</td>
<td>14.24</td>
<td>0.528</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>52</td>
<td>111.00</td>
<td>13.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(At 5% level of significance the table value of "t" is 1.96)

The obtained 't' value 0.528 is lesser than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference in Meta cognition among rural and urban students in the possession of Meta cognition.
ACADEMIC ACHIEVEMENT AND LOCALITY

Hypothesis: 4

There is no significant difference in the academic achievement among prospective teachers in terms of locality.

The statistical measures and the results of test of significance of difference between the mean scores of academic achievement among students in terms of locality are presented in Table 4.

TABLE 4:

STATISTICAL MEASURES AND RESULTS OF TEST OF SIGNIFICANCE FOR DIFFERENCE BETWEEN THE MEANS OF ACADEMIC ACHIEVEMENT: LOCALITY–WISE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sub Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>‘t’ - value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locality</td>
<td>Rural</td>
<td>58</td>
<td>59.79</td>
<td>13.95</td>
<td>0.215</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>52</td>
<td>60.38</td>
<td>14.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(At 5% level of significance the table value of “t” is 1.96)

The obtained ‘t’ value 0.215 is lesser than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference in academic achievement among rural and urban students.

FINDINGS

1. There is significant difference in Meta cognition among male and female students in the possession of Meta cognition. Female (M=107.78) are better than male (M=113.37) in their Meta cognition. It is further noted that female students possess more Meta cognition, Meta emotions than male students.

2. There is significant difference in the academic achievement among prospective teachers in terms of sex. Female (M=64.09) higher score than male (M=50.28) in their academic achievement.
3. There is no significant difference in Meta cognition among rural and urban students in the possession of Meta cognition.
4. There is no significant difference in academic achievement among rural and urban students.

DISCUSSION AND INTERPRETATION

1. The findings of the present study show there is significant difference in Meta cognition among male and female students in the possession of Meta cognition. This finding is supported by the finding Tachie, Simon A.; Molepo, Jacob M.(2019). A review of the previous studies indicated that these results agree with the results of Zhao, Ningning (2019).
2. The finding of the present study Points out that there is significant difference in the academic achievement among prospective teachers in terms of sex. This finding is supported by the finding of Suratno and Komaria. A review of the previous studies indicated that these results agree with the results of Perry, John (2019). However this finding is contradictory with the finding of Pelton, Julie A. (2019).

CONCLUSION

The present investigation led on Meta cognition and learning styles increased an underlying comprehension of learning style inclination and Meta cognition and its effect on scholarly accomplishment. The improvement of Meta cognitive mindfulness or Meta cognitive aptitudes is basic in the arrangement of students for positive commitment in their deep rooted learning. Comprehension of the learning style inclination of the understudies will assist instructors with selecting the suitable technique which thusly improves the scholarly accomplishment of the understudies. The discoveries of the investigation gives us a superior comprehension of meta cognitive mindfulness and learning style inclination, and besides will help in the advancement of instructive intercessions that encourage the kind of meta cognitive aptitudes and learning style inclination that empower the students to create in to program within true learning settings.

REFERENCES