

# Long-Term Memory of Higher Secondary School Students



## Education

**KEYWORDS :** Principal Muna College of Education, Parangipettai, and Cuddalore District.

**Dr.S.Jaikumar**

Principal, Muna College of Education, Parangipettai, Cuddalore (Dt), Tamilnadu, India, 608502.

### ABSTRACT

*In the present study long-term memory of higher secondary school students was investigated. Agra psychological Research cell (1978) long-term memory inventory have been administered to a random sample of 600 higher secondary school students. It is found that there is a significant difference between government and private school students on their long-term memory. There is no significant difference between male and female students and joint family and nuclear family students on their long-term memory.*

### Introduction

Permanent store at knowledge. It is memory that can last as little as a few days or as long as decades. The limits of long-term memories capacity are unknown. Most long-term memory is either stores as “visual images or verbal units or both”. For students to remember something long-term, textbooks are good to use since they “explain the idea with words and represent them in a figure” (Wooltolk, 2001, P. 251).

It differs from working memory or short-term memory, which stores items for only around 30 seconds. However, “short-term memory is a temporary potentiation of neural connection that can become long-term memory through the process of rehearsal and meaningful association. The proposed mechanism by which short-term memory moves into long-term memory (LTM) storage is via long-term potentiation, which leads to a physical change in the structure of neurons (Wikipedia).

### Review of Related Literature

Wan, Ming Wai (2007), studies on Long-term memory and school performance following cognitive transition at five to seven years. A longitudinal study tested the hypothesis that rapid cognitive improvement adversely affects young children’s long-term memories encoded prior to cognitive transition. Seventy-one year on (five to six year old) children were assessed for recall for event and educationally – relevant information and cognitive ability (in operational reasoning) at four points to year three. Contrary to the hypothesis, recent cognitive transition appeared to slightly improve not worsen-recall for educational material taught prior to cognitive transition. Earlier cognitive transition was associated with slightly better educational recall, significantly better event recall for actions (but not objects), and significantly better reading, writing, spelling and mathematics examination performance.

Sakai, et al (2012), studies on fan – shaped body neurons are involved in period, dependent regulation of Long-Term courtship memory in drosophila. In addition to its established function in the regulation of circadian rhythms, the “Drosophila” gene “period” (“per”) also plays an important role in processing long-term memory (LTM). Here, we used courtship conditioning as a learning paradigm and revealed that (1) over expression and knocking down of “per” in subsets of brain neurons enhance and suppress LTM, respectively, and (2) suppression of synaptic transmission during memory retrieval in the same neuronal subsets leads to defective LTM. Further analysis strongly suggests that the brain region critical for “per”-dependent LTM regulation is the fan-shaped body, which is involved in sleep-induced enhancement of courtship LTM.

### Objectives of the study

The following were the objectives.

1. To find out the levels of the long-term memory of the following higher secondary school students.
  - a. Total higher secondary school students
  - b. Male students
  - c. Female students
  - d. Government school students

- e. Private school students
- f. Students from joint family
- g. Students from nuclear family
2. To find out the significant difference between the following groups of higher secondary school students on their long-term memory.
  - a. Gender (Male / Female)
  - b. Management (Government / Private)
  - c. Family type (Joint / Nuclear)

### Hypotheses

#### Following hypotheses were tested

1. Long-term memory of following higher secondary school students is high
  - a. Total higher secondary school students
  - b. Male students
  - c. Female students
  - d. Government school students
  - e. Private school students
  - f. Students from joint family
  - g. Students from nuclear family
  2. There is significant difference between the following groups of students on their long-term memory.
    - a. Gender (Male / Female)
    - b. Management (Government / Private)
    - c. Family type (Joint / Nuclear)

### Method of study

The present study aims at finding out the long-term memory of higher secondary school students. Therefore, the normative survey method has been used in the study.

### Tools Used

Long-term memory tool standardized by Agra psychological research cell (1978) was used in the present study.

### Sample of the study

The random sampling technique was used by the investigators for the selection of 600 higher secondary school students in Salem District of Tamil Nadu, India.

### Statistical Technique used

Descriptive analysis and Differential analysis were used in the present study to test the hypotheses and interpret the data.

### Statistical analysis and interpretation of Data

#### (i) Descriptive analysis – Long-term memory

**Table-1**

**Long-term Memory of Higher Secondary School Students on the basis of Gender, Management of Family Type**

S. No.	Sub-samples	N	Mean Max. 16	S.D	Average level	Level of Authoritarian leaderships	
	Entire- sample	600	12.64	2.02	10.62 to 14.66	Average	
1.	Gender	Male	300	12.55	1.98	10.62 to 14.66	Average
		Female	300	12.74	2.05	10.62 to 14.66	Average

2.	Management	Government	300	12.93	1.85	10.62 to 14.66	Average
		Private	300	12.36	2.14	10.62 to 14.66	Average
3.	Family type	Joint	113	12.51	2.05	10.62 to 14.66	Average
		Nuclear	487	12.67	2.01	10.62 to 14.66	Average

The investigators divided the students into three groups namely high, average and low based on long-term memory by applying normal curve technique. In this study, based on normal curve students secured scores in between 10.62 to 14.66 (-1σ to +1σ) is classified as student with average long-term memory. Table-1 reveals the mean and standard deviation values. The calculated mean values are less than 14.66 and more than 10.62. Therefore, it is found that higher secondary school students in irrespective of their gender, management and family type have average long-term memory.

**iii) Differential analysis – Long-term memory.**

**Table-2**  
**Long-term Memory of Higher Secondary School Students on the basis of Gender, Management on Family Type**

S. No.	Sub-samples	N	Mean	S.D	't' value	Level of significant	
	Entire- sample	600	12.64	2.02			
1.	Gender	Male	300	12.55	1.98	1.13	Not significant at 0.05 level
		Female	300	12.74	2.05		
2.	Management	Government	300	12.93	1.85	3.47	Significant at 0.01 level
		Private	300	12.36	2.14		
3.	Family type	Joint	113	12.51	2.05	0.76	Not significant at 0.05 level
		Nuclear	487	12.67	2.01		

Table-2 shows the mean standard deviation and't' values for the long-term memory scores of the higher secondary school students based on their gender, management and family type. The't' value calculated for the male and female students is 1.13

which is lower than the table value 1.96 to be significant at 0.05 level of significance. Therefore, it is found that the male and female higher secondary school students do not differ significantly in the long-term memory, although their long-term memory is at average level.

Table-2 further reveals that 't' value calculated for the government and private school students is 3.47 which is higher than the table value of 2.58 to be significant at 0.01 level of significance. Therefore, it is found that the government and private higher secondary school students differ significantly in the long-term memory, although their long-term memory is at average level.

't' value calculated for the students from join family and nuclear family is 0.76, (Table-2) which is lower than the table value of 1.96 to be significant at 0.05 level of significance. Therefore, it is found that the joint family and nuclear family higher secondary school students do not differ significantly in the long-term memory, although their long-term memory is at average level.

**Findings**

The following are the main findings of the study

1. Long-term memory of higher secondary school student's average irrespective of their gender, management and family type.
2. The male and female students of long-term memory do not differ significantly on their long-term memory.
3. The government and private school students differ significantly in their long-term memory.
4. The students belonging to joint and nuclear family do not differ significantly in their long-term memory.

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