

A Comparative Study on Rote Learning: Academic Performance of the Rote Learner and Non-Rote Learner

Chander Shekhar

M.A. Gold Medalist IGNOU, M.Phil, HPU, (Psychology)
Email- sidhia.shekhar57@gmail.com

Abstract: In the present comparative study, the investigator accumulated the academic performance data from High School level students of 10th class (Theog, Shimla, HP, India). These students were categorized by their teachers, into the rote learner and non-rote learner on the basis of their study pattern used in the classroom environment. The total number of sample students was 60 (included, males and females) with the ages range from 15-17 (years). The researcher tried to compare the two groups of students with their academic performance of students (in 9th Class, obtained marks in the previous year). A statistical calculation tool, a t-test was used ($p=0.01$ level) to check the significant difference in academic performance. This research study also opens the door for new researchers to discover the new, effective and sustainable study pattern.

Key Words: Rote Learning, Academic Performance, Rote Learner, Non-Rote Learner.

1. INTRODUCTION:

One of the amazing and significant functions of the brain is the memorizing of the phenomenon, information, and interactions. Our collective knowledge of our environment determines our behavior and experiences.

Forgetting

The experimental psychology was found by Hermann Ebbinghaus in 1850-1909. He discovered “forgetting curve”-the loss of learned information. He proposed the rehearsal importance within immediately after class, 24 hours, one week or sooner, and one month or sooner to maintain the memorized work (John Wittman). Before understanding the rote learning, it is significant to know what the memory is and it types with models?

Memory and Types

The Merriam-Webster gives the memory definition as a power or process, storage, commemorative, fact or condition, act, the image of the impression and memorizing the experiences.

Luke Mastin, depicted the memory through his diagram (The Human Memory):

1. Sensory Memory (<1 Second).
2. Short-Term Memory (< 1 Minute, ± 7 or 5-9 items).
3. Long-Term Memory (Lifetime).
 - I) Explicit Memory (Conscious)
 - Declarative Memory (Facts, Events)
 - i) Episodic Memory (Events, Experiences)
 - ii) Semantic Memory (Facts, Concepts)
 - II) Implicit Memory (Unconscious)
 - Procedural Memory (Skills, Tasks)

Students' Learning Status and Memory Models

During learning period, the student is in the ambiguous state to use the method of memorizing the coursework. On the one hand, there is test anxiety and another limited memory capacity, attention, and comprehension. The student faces the problems of limited conversion of sensory and short-term memory into long-term memory. They use trial-error method and heuristic methods without prior scientific knowledge of problem-solving steps (appropriate for the situation). All the scientific methodological steps can accelerate their academic performance.

The psychologists had propagated, memory models like the Atkinson-Shiffrin Model (three storage systems; Sensory, Short-term and long-term memory), The Levels-of Processing Approach (focus on deeper levels of processing results better withholding than low levels, Craik & Lockhart, 1972), Tulving's Model (focus on the nature of material stored) and The Parallel Distributed Processing Approach (information processing at cognitive level). These models of memory reveal the information processing in the brain (Fred Fidura)

According to English Oxford Dictionary, “A person or institution that prepares pupils for an examination intensively over a short period of time”.

The students in India try to get the maximum output from their examination with maximum obtained marks. The cut-throat competition is forcing students to use shortcut methods, specific study strategy, proper counseling and appropriate management. Due to higher expectancy from students, they are getting severe physical and psychological

disorders like anxiety, depression and even suicidal tendency. The parents of students are also helping their children to get optimum marks.

Today, the most parents are focusing on the education of their children to live on the optimum level. They expect the higher level standard of living from their new generation. In India, parents are managing the expenses with so many difficulties. This is also the fact that the Government is trying to facilitate Govt. schools with free education, food, dresses, books and other required facilities. The government is focusing to provide basic nutrients through food. Even then there is lack of quality education. Nevertheless, the efforts are moving towards the quality education and professional skill development proficiency.

2. LITERATURE REVIEW:

The rote learning is considered a consolidated method for learned material. The problem exists when the rote learning is out of student's comprehension. Rapid memorizing through rote learning results in rapid loss of learned material.

According to Oxford Learning (2010):-

Rote learning (favor), "A quick way to review material and re-familiarize yourself with concepts to get a decent-even awesome – mark on a test".

Rote learning (against), "Reviewed material leaves your head as quickly as it's stuffed in there".

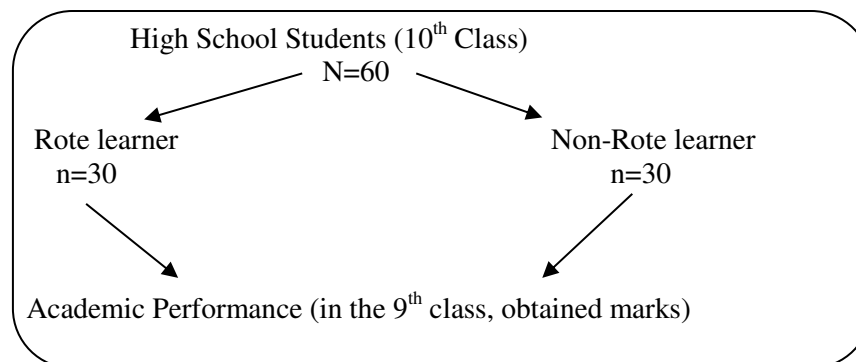
Rudyard Kepling studied 1354 volunteers to memorize 32 trivial facts. Some of them were suggested to rote the study material and finding revealed the significance of "spacing effect" in study pattern (Laura Allen, 2008). The fairness, reliability, and validity are significant characteristics that exam needs (Memon, Jough & Memon, 2010).

Students of various tests face the different questioning and answering problems (multiple choice, essay, short answer and so on). They have to attempt within a given period of time. The oral system of the test is considered flexible and easily adaptable. Oral answering determines the learning efficiency of a student in the course (Asklund & Bendix, 2003). The predetermined answers create the problem of reliability and validity of the mentor (Davis & Karunathilake, 2005). In India, students rote orally and are confined with examination result.

The students are more confidential in written work of their memorized coursework without caring reading, writing, and grammar (Rushton & Eggett, 2003).

3. RESEARCH METHODOLOGY:

The investigation was conducted to assess the academic performance of students (rote learners and non-rote learners) of High school. The research followed the following procedure:-



Assessment Method for Sample: Observation (rote learner and non-rote learner), of High School Teacher.

Statistical Analysis tools: independent t-test to check the significance of the difference between means of academic performance of the rote learner and non-rote learner (students).

Aims and Objectives

- To know the study pattern of students whether rote learning or non-rote learning.
- To compare the academic performance of the student (among the rote learner and non-rote learner).
- To understand the factors responsible these study pattern.
- To know comprehension significance.
- To know the motive of the student whether to pass the only exam or to get knowledge for throughout life.
- To provide an idea for the researchers to study the rote learning, comprehensive education system, and the need for quality education system.

4. RESULT:

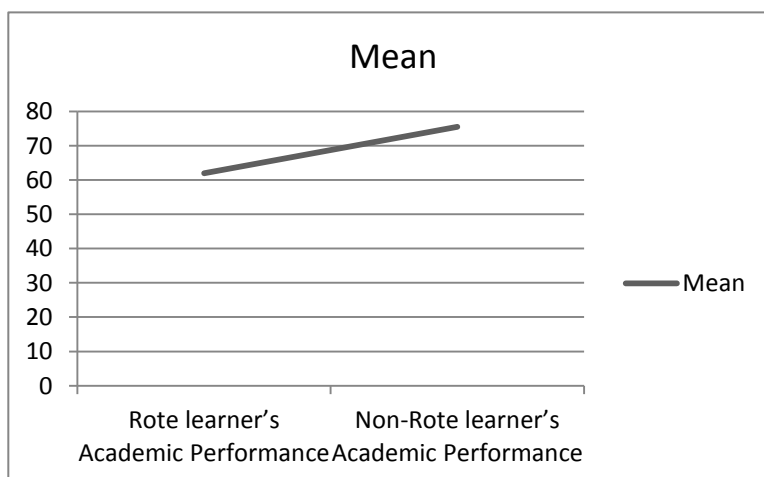
The present study investigated the effect of rote learning/non-rote learning study pattern of the students (10th Class, of High School Theog, Shimla, HP, India) on the academic performance. The interview method with the teacher was used for rote learner/non-rote learner (students) identification. The independent sample t-test is computed to find out the academic performance difference in the rote learner (n=30) and non-rote learner (n=30).

Table1. Total Independent t-test for Academic Performance of Students (Rote learner/Non-Rote learner).

	Mean	SD	t (N=60)
Rote learner's Academic Performance	62.00	11.01	4.5217
Non-Rote learner's Academic Performance	75.53	12.14	

The table shows the significant impact of study pattern (Rote learning) on the academic performance of High School Students. As the t value has turned down to be significant at $\alpha=0.01$ level ($t=4.5217$, $pc .01$). This reveals that there is a sharp decrement in the academic performance of rote learners ($\bar{x}=62$) than the academic performance of non-rote learners ($\bar{x}=75.53$)

Line Chart 1. Line Chart for the Academic Performance of Rote learner and Non-Rote learner



5. CONCLUSION:

In the present investigation, the researcher found out an extremely significant difference between the rote learner and non-rote learner (students of High School, HP). The study pattern reveals the fact of the comprehension value. If the student memorizes his topic with deep understanding, appropriate time gap, rehearsal and native application study pattern, then the academic performance will be definitely augmented. In rote learning, the student can only memorize the course material for short-term memory that is temporarily stored. After the student had passed his exam, there is the huge loss of information from his brain and this incident will not help him in future related challenges for which he was preparing himself.

The research covers the objective of this paper. In fact, the student uses mixed study pattern (rote learning/non-rote learning). In the study method, the students use in between the option of two ends of rote learning and non-rote learning, means there is the variation of study method. It is seen, in this investigation that the non-rote learner students had higher academic performance than of rote learner. It has not only immediate effect but also long-term memorization. The factors responsible for non-appropriate methods (teaching-learning) in India are a financial problem, overpopulation, diversified languages, teacher-student relationship and unskilled teacher. The quality education exists only when the society is non-partial. India is also facing such sort of problems like reservation system that results in non-efficient officers at wrong administration. The school period of the student is to accumulate required efficiency/skill. With the help of collected knowledge, skill and efficiency the student will be capable to cope with adverse circumstances in future life. The wrong or falsified knowledge can harm the life severely.

This study suggests the new researchers accelerate the sample data and to apply this study at very large scale. It will also help the student to get the better preference of study pattern. The government can improve teaching, learning the skill of teachers and students respectively. The future of any country depends on the children. The well-qualified children are responsible highly cognitive decisions with world level peace exertions.

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