

Multiple Factors Affecting on the Memory and Forgetting Process: Its Effects on Academic Performance of Children

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Abstract

Memory is an important cognitive function that plays a significant role in students' academic achievement. It is not a simple process but consists of learning, retaining, recalling and recognizing ability of the children. It refers to the remembering that a child has previously acquired or learnt and assists a child in forcing the previous knowledge to come out into a conscious state in the form of image and ideas etc. Memory involves three major processes: encoding, storage, and retrieval. Good memory indicates good academic performance, because students can utilize their maximum abilities in their studies that will lead them near to bright success. So, it indicates that there is a positive correlation between memory and academic performance. The aim of the present endeavour is to be familiar with terms of memory as well as forgetting, and also to find out those factors which are considered responsible to boost up good memory and also those factors which are considered responsible for the forgetting process.

Introduction

When students have sound memory, it indicates a greater possibility for greater academic performance because student having good memory will be able to absorb and recall the information what they learnt. It is known fact that the ability to retain information in the memory is a cognitive ability which is thought to be necessary for academic performance/achievement. Good memory helps in the retention and manipulation of information during problem solving. There is an extensive literature demonstrating developmental change in the ways that children approach memory tasks (Brown, Bransford, Ferrara, & Campione, 1983; Kail & Hagen, 1977; Moely, 1977) and differential effects of training on strategy maintenance and generalization as a function of the child's developmental level (Brown, Campione, & Barclay, 1979; Moely, Olson, Halwes, & Flavell, 1969). Some studies say that age, sleep quality, and physical activity can affect working memory capacity (Bartsch et al., 2019; Kavanagh & Hourihan, 2020; Tse et al., 2019; van Beers et al., 2021).

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Some research also suggests that working memory capacity can be affected by environmental factors, such as music listening habits (Mussoi, 2021; Ribeiro et al., 2022; Sukmawati et al., 2023).

Objectives

- O₁. To study the concept of Memory
- O₂To study the concept of Forgetting
- O₃To mention the factors affecting to Remembering
- O₄To pinpoint the factors affecting Forgetting
- O₅The role of a teacher in minimizing the forgetting

The Concept of Memory

Memory is the faculty of the mind by which information is encoded, stored, and retrieved whenever needed. The process of memory works as follows-

Learning-----Retention-----Recall-----Recognition

Guilford has rightly marked, for an efficient memory learning is more than half the battle.

Stages of Memory

Encoding ---- Storage -----Retrieval



Types of Memory

Habit memory, true memory, immediate memory, delayed memory, personal memory, impersonal memory, logical memory, rote memory, associated memory, sensory memory, short term memory and long term memory

Short term memory- the temporary working memory for a few seconds. The process of maintaining an information in short term memory by repetition is called rehearsal. Rehearsal is important in learning because longer an information remains in short term memory, the more chance that it will be transferred to long term memory.

Long term memory-permanent store house of information, LTM seems to be practically limitless and can contain large enough information as we can put into it.

Short term and Long term memory

Type of Memory	Input	Capacity	Maintenance	Retrieval
Short-term	Very fast	Limited	Very brief	immediate
Long-term	Relatively slow	Practically unlimited	Practically unlimited	Depends on organization

Symptom of Good Memory- rapidity, accuracy, length of time, promptness, serviceableness

Methods of memorizing

Rote memorization, part memorizing, massed practices, relearning, rhyming, chain method, initial-letter strategies and active method etc

The concept of Forgetting

Forgetting refers to a liability, whereas memory as an asset. Forgetting is a big problem of students' life, because they forget in the examination room. The losing ability to recall or recognize the required information is known as forgetting. Major causes of forgetting are as follows: 1. disuse of activity 2. laps of time, 3. Lack of interest, 4. No time of rest after serious activity, 5. Fatigue 6. Emotional disturbance,

Factors Affecting Memory and Forgetting

- Age of the children
- Will to learn
- Interest and attention
- Intelligence
- Rest and sleep
- Nutrient deficiencies
- Medication
- Psychological problems
- Meaningfulness of learning material
- Amount of material to be learnt
- Amount of distractions available
- Medical condition- Blood pressure problem
- Head injury

Factors Improving Remembering Process

There are some general principles for improving remembering and minimizing the forgetting-

- Principle of understanding
- Principle of motivation
- Principle of attention
- Principle of adequate repetition
- Principle of freshness
- Principle of good health
- Principle of association
- Principle of spaced learning
- Principle of evaluation
- Principle of dynamic methods
- Principle of whole and parts

- Principle of incentives
- Principle of learning by doing
- Principle of vividness

Ways to Memorizing Longer

Following are the ways for children to learn more and longer-

- To develop motivation for remembering
- The physical, emotional and mental health of the learner
- To have proper rest, no fatigue
- Familiar with the goals and aims of the activities
- To be confident about one's ability to remember
- To have focus on what he wants to remember
- Repetition and continuous practice
- To make connection between new material and already stored in the long term memory
- More emphasis on understanding, not on rote learning
- Use the diagrams to remember longer
- To organize information properly in the memory
- To utilize as many as memory senses as possible
- Rewards or punishment at appropriate time
- Close attention and avoid distractions
- To observe the progress cognitively
- To use mnemonic strategies
- Be good time planner

Role of A Good Teacher

A teacher with the help of teaching methods, balanced curriculum, class room healthy environment, one to one interaction may help the students in boosting memory and minimizing the forgetting tendency. Teacher should not promote rote learning, but promote to understanding.

Conclusion

The conclusion of the paper shows a positive relationship students' memory, forgetting and academic performance. Students with good memory and less forgetting, there are better possibility to comprehend and retain the information for longer. The conclusion suggests the teachers, policy makers and parents to provide the favorable conditions to the children.

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