MEMORY HANDS WITH MATHEMATICS

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Abstract

Mathematics is the discovery of relationships in symbolic form. Objectivity, abstractness and symbolism are the nature of mathematics. Memory is the mental capacity to encode, store and retrieve information. Individuals might be asked to produce a series of actions they have seen before with the help of recognition memory or they may be asked to list the words they have heard before by their recall memory. Even though Mathematics is the science of discovery, meaningful memory makes learning of Mathematics easy. New facts, new information, new language and new methodology are introduced. Mathematics contains a lot of puzzles. Puzzles make Mathematics learning interesting. Thinking and reasoning are necessary. Memory is more important. Developing memory is essential to learn Mathematics. Disciplined life and healthy food develops memory. Memory goes hand in hand with Mathematics.

This paper analyses how memory plays its role in the learning of Mathematics.

Introduction

"Mathematics is a way to settle in the mind a habit of reasoning" - Locke.

Mathematics is the discovery of relationships in symbolic form-in words, in numbers by diagrams or by graphs (E.E.Biggs 1963). It is easy to learn Mathematics with the symbolic form.

Nature of Mathematics
Objectivity

Mathematics has a lot of information. The facts can be verified and it can be proved either true or false. There is no other way. In the same way Mathematics has the validity, reliability also. There are various rules and axioms not necessary to be proved.

Abstractness

Some Mathematical concepts are abstract. Obvious statements are stated often. Theorems and postulates are given in the Mathematics text book. Complicated problems are solved.

Symbolism

In Mathematics various symbols are used to illustrate certain functions. Addition, subtraction, multiplication, union, intersection, percentage are some of the functions mentioned by symbols.

Thinking & Reasoning

Mathematics needs thinking and reasoning. Each and every step of problems needs these to proceed. These are the two sides of the coin of Mathematics. One who has this easily deduces any derivations.

Mathematical concepts should be deduced rather than memorized. Mathematics is the only subject which can be learnt without large amount of memory power. If the facts taught in the classroom will be observed, it is enough to reproduce it.

Mostly Mathematics students will not like the descriptive essays. When compared with Mathematics, Literature needs more memory power. Mathematics students discover the facts only. It does not need memory power. If a student can reason-out he can derive the fact. It is unfortunate to hear the fact that the students who like Mathematics do not like to memorize any fact, even though learning of Mathematics need a pinch of memory.

What is memory?

Memory is our ability to encode, store, retain and subsequently recall information and past experiences in the human brain. It is a total of what we remember, and gives us the capability to learn and adapt from previous experiences as well as to build relationships. It is the ability to remember past experiences and the power or process of recalling to mind previously learned facts to our mind.

Memory refers to the processes that are used to acquire, store, retain and later retrieve information. There are three major processes involved in memory: encoding, storage and retrieval.

In psychology, memory is an ability of an organism's to store, retain, and recall information and experiences

Memory is the mental capacity to encode, store, and retrieve information.

It is the power of retaining and recalling past experience.

Memory, in psychology, is the storing of learned information, and the ability to recall that which has been stored. It has been hypothesized that three processes occur in remembering: perception and registering of a stimulus; temporary maintenance of the perception, or short-term memory; and lasting storage of the perception, or long-term memory.

Nature of memory

Bentely and his followers maintained that experience acquired by a person leaves impressions on the brain in the form of memory traces.

But Bartlett, Piron, Gibson and some other psychologists have attempted to show that memory is a mental activity independent of memory trances.

Researchers distinguish between recognition and recall memory. Recognition memory tasks require individuals to indicate whether they have encountered a stimulus (such as a picture or a word) before. Recall memory tasks require participants to retrieve previously learned information. For example, individuals might be asked to produce a series of actions they have seen before or to say a list of words they have heard before.

What is the role of memory in Mathematics?

In Mathematics, definitions and axioms are important, to prove any fact. Even though Mathematics is the science of discovery, meaningful memory makes learning of Mathematics easy.

If there is a lack of memory in the middle of the steps the further procedures would be spoiled. Meaningful memory makes mathematics learning satisfactorily. Simply it is not enough to by heart. If the steps and concepts would be learnt by reasoning out, it can be retained for a long time. So a little bit of memory is enough to learn a lot.

How can the memory be provoked?

In spite of minimum usage of memory it is not given much importance in teaching learning process of Mathematics. Techniques may be applied to retain the facts in the mind.

Technologies also can be applied. Nowadays a lot of electronic instruments and media are used. In our traditional class many techniques can be adapted.

Some facts can be learnt by drawing concentric circles and name the circles from inner circles as N, W, Z, Q, R, C. Then it can be retained in our life. Factorizations can be learnt by combining all the types.

Mathematics contains a lot of puzzles. Puzzles make Mathematics learning interesting. If we solve a lot of puzzles, our mind will be refreshed. A lot of facts have to be derived. In the same way Mathematics contain a lot of symbols. Mathematics facts can be written precisely by using symbols. Thinking takes the vital role in learning Mathematics. Thinking and reasoning reduce the importance of memory in learning Mathematics.

Moreover modern Mathematics is taught now. New facts, new information, new language and new methodology are introduced. Nowadays in schools active learning methods are applied. If the students are taught through this valuable method, memory power is given less importance. Method of Learning by doing makes the fact very clear. In those days children were used for teaching learning

addition, subtraction and other basic operations. Now, more complicated topics are also taught through children. The students are provided with some materials and are asked to derive the fact. If the facts are derived by themselves they need not memorize it.

So, memory is not a physiological tool but a psychological tool. A lot of students selected Mathematics as main subject in their higher education due to the minimum usage of memory. Thinking, logical reasoning and understanding are some primary factors while memory is the secondary factor in the process of learning Mathematics. While learning Mathematics if the primary factors are applied, the secondary factors occur automatically. Though memory is secondary it influences the Mathematics learners' achievement. It is enough to promote not only primary factors but also secondary factors for the achievement of Mathematics.

Even we use a pinch of salt, the absence of it shows its importance. Similarly minimum   amount of memory is also enough to develop learning.

Tactics to raise memory

Learning in early morning promotes memory power. Quite atmosphere keeps the mind fresh. Difficult formulae would be learnt in that cool atmosphere. Our routine works must be regularized to get up early in the morning. Taking bath in the early morning also increases the freshness of our mind. Food habits inculcate peaceful mind which leads to powerful memory. Eating green leaves and vegetables develop large memory. Yoga and meditation canalize the waving mind. Comparing two persons is not good but comparing two topics make clear the content. Complicated applications should be followed only easy applications.Then only lessons learnt will be retained.

Conclusion

Application of Mathematical principle is important to learn all the other subjects. Memory is important to learn Mathematics. Thinking and reasoning are the primary factors. Memory is the secondary factor. Developing knowledge of primary factors increases the development of secondary factor. Even though the need of memory is low, it hands with Mathematics.

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