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INNOVATIONS IN EDUCATION

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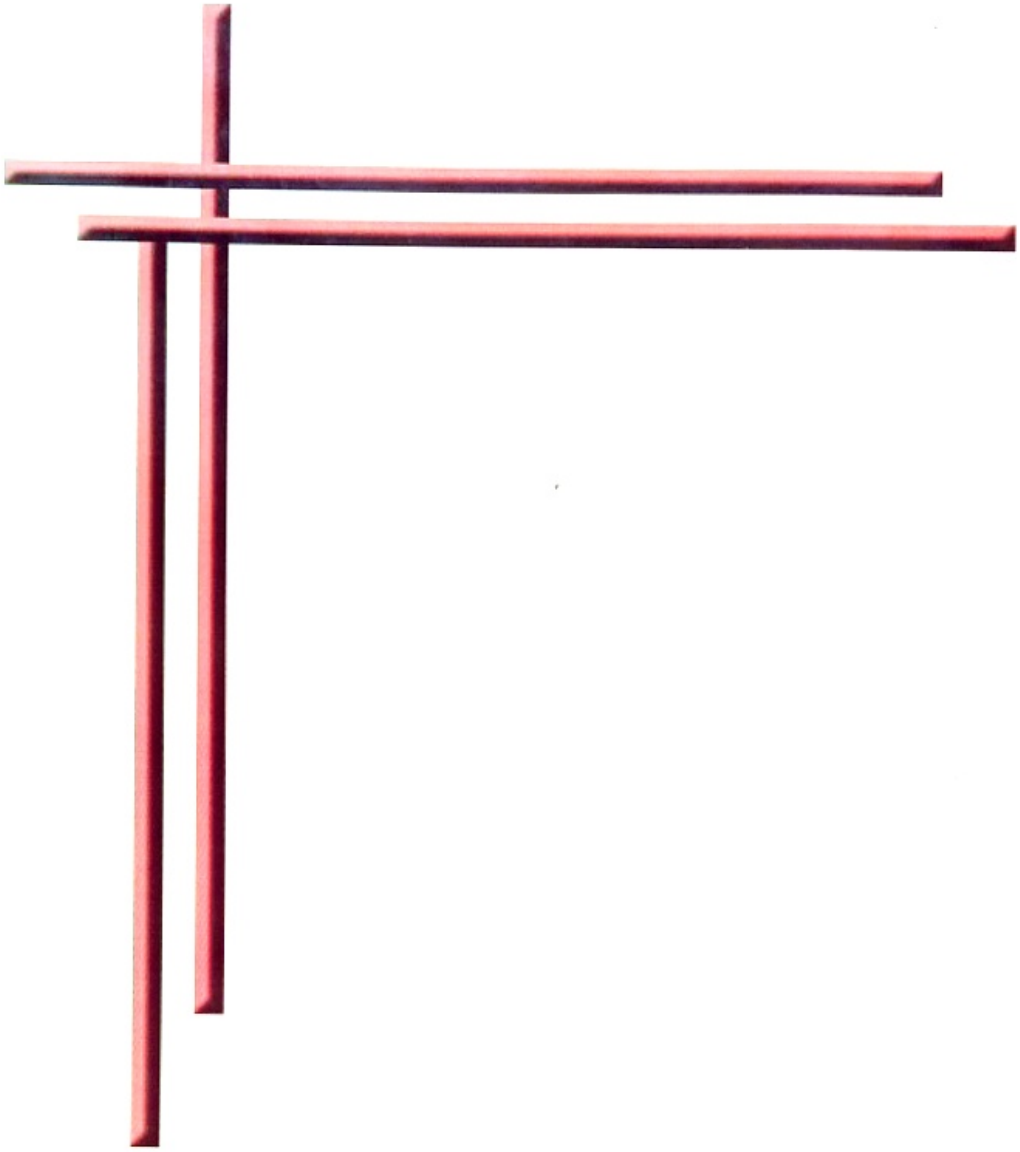

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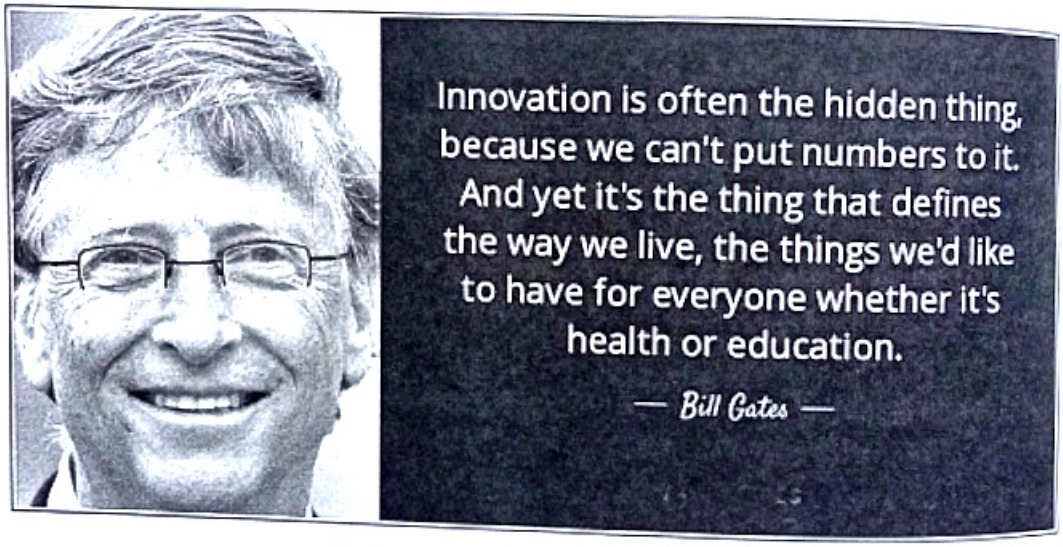
Innovation is often the hidden thing, because we can't put numbers to it. And yet it's the thing that defines the way we live, the things we'd like to have for everyone whether it's health or education.
— Bill Gates —

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Preface

This book "**Innovations in Education**" is a collaborative initiative by Sreekrishnapuram V.T. Bhattathiripad College, University of Calicut. This aims to comprise the research perspectives of E-teaching and E-Content development. Researchers are from different educational backgrounds and they all are here to express their innovative ideas. Now, there is a lot of researches going on in this area of E-teaching and E-Content development. This book aims at motivating beginners in E-teaching by introducing new methodologies, going through discussions about the impact of digital teaching in the higher education area, and also provides new insights about E-teaching and E-learning. It is the need of the present day scenario. We extend our sincere gratitude to all who stood along with us in this great venture. We congratulate all the authors for their contributions to this volume.

This book suggests some approaches that they can adopt to manage this sudden shift of teaching and learning from physical classrooms to digital classrooms. Even though the internet and all the E-teaching technologies are around us for a long time, we were hesitant of implementing these into our Teaching-Learning process. This book aims to walk along with the teachers and guides them to a new era of E-teaching.

We must thank our publisher Mr. Suresh Chandra Sharma, Managing Director of Neelkamal Publications Pvt. Ltd., New Delhi-Hyderabad, who has taken a lot of interest in this book. His efforts to bring out the Book in the excellent form will always be remembered.

We feel happy to entertain any suggestions and additions for refinements of this book and all such modifications will be taken care of in the next issue of the book.

Editors

Dr. Jayan Erancheri Illam
Dr. Saritha Namboodiri
Bhavya P.V.

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Thanks to everyone on our publishing team and our publishing partner Neelkamal Publications Pvt. Ltd., for their sincere cooperation.

The technical support given by EMMRC, University of Calicut for our teachers and contributors to the book in related to educational technology is highly appreciated. We express our sincere gratitude to the team EMMRC for this successful endeavour.

We are extending our gratitude to all the contributors of the book.

Thank all those who contributed to the success of the physical creation to completion of this book.

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INNOVATIONS IN EDUCATION

Contents

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CHAPTER

13

Memory Techniques for Students

– Vidya K.*

ABSTRACT

Memory is the mental capacity ease of the brain from which data or information is encoded, stored and retrieved when needed. It is the preservation of information over time with the purpose of influencing future actions. If past events could not be remembered, it would be impossible for language, relationships or personal identity, etc. Memory is the ability to store, retain and retrieve information. We know that those who are blessed with good memory usually get a good score on exams. This is because any learning or exam process involves applying memory, although the extent to which it may depend on the type of exam. If memory goes well, it would easily remember the information that had once learned. Trying to recall an idea frequently will make it firm in our memory.

13.1 Introduction

Memory is essential for life. Without a memory of the past, we cannot operate in the present or think about the future. We couldn't remember what we did yesterday, what we did today, or what we're going to do tomorrow. Without memory, we couldn't learn anything. Memory is involved in processing large amounts of information. This information takes many different forms, such as images, sounds, or meanings. Memory is the means by which we draw our past experiences to use this information in the present.

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13.2 Definition

Cognitive psychologist Margaret W. Matlin described memory as the "process of storing information over time. Others have defined it as the ability to use our past experiences to determine our future path.

13.3 Memory Types

Short-term Memory

If the information is stored in our memory for a short period of time, it is called short-term memory. The information can only be stored for a short duration in STM (0-30 seconds).

Long term Memory

If the information retain for long durations, either consciously or unconsciously, it is called long term memory. Long Term Memory can last a lifetime.

Implicit Memory

Implicit memory is sometimes referred to as unconscious memory or automatic memory. Implicit memory uses past experiences to remember things without thinking about it. It is said that professional musicians and athletes have a superior ability to form procedural memories.

Procedural Memory

Procedural memory, which is a subset of implicit memory, is a part of the long-term memory responsible for knowing how to do things, also known as motor skills. No need to dig deep into your memory to remember how to walk every time you take a step.

Some Examples of Procedural Memory

Playing the piano, Ice skating, Playing tennis, Swimming, Climbing stairs

Explicit Memory

Although implicit memory requires little or no effort to remember, explicit memory, sometimes called declarative memory, requires a more concerted effort to bring the surface. Declarative memory involves both semantic memory and episodic memory.

While most people can mark the days of the week from the time they are in elementary school, which is implicit memory, explicit memory is needed to remember that your mother's birthday is next Thursday.

Semantic Memory

Semantic memory is not related to personal experience. Semantic memory includes things that are common knowledge, such as state names, letter sounds, country capitals and other basic facts that are not in question. Examples of semantic memory include:

Aware that the sky is blue, Know how to use a knife and forketc

Episodic Memory

Episodic memory is a person's unique memory of a specific event or episode. People are often able to associate particular details with an episodic memory, such as how they felt, time and place, and other details. It is not clear why some memories of events in our lives are engaged in memory, while others are not recorded, but researchers believe that emotions play a critical role in what we remember.

Some Examples of Episodic Memory

Your first day in a new job, the first time you've been on a plane.

13.4 How We Form Memories

The process of encoding a memory begins when we are born and occurs continuously. For something to become a memory, it must first be picked up by one or more of our senses. A memory begins in the short term. Once we have the process down, it enters our long-term memory and we can do it without consciously thinking about the steps involved.

For psychologists, the term memory covers three important aspects of information processing:

1. Memory Encoding

When information enters our memory system (from sensory input), it must be changed into a form that the system can cope with, so that it can be stored.

Think of this as similar to changing your money to a different currency when traveling from one country to another. For example, a word displayed (in a book) can be stored by modifying (encoding) a sound or meaning (that is, semantic processing).

There are three main ways in which information can be encoded (modified):

1. Visual (image)
2. Acoustics (sound)
3. Semantics (meanings)

For example, how do you remember a phone number searched for in the address book? If you can see it, then you're using visual coding, but if you're repeating it yourself you're using acoustic coding (by sound).

Evidence suggests that this is the main encoding system in short-term memory (STM) is acoustic encoding. When a person is presented with a list of numbers and letters, they will try to keep them in STM by trying them (verbally).

The essay is a verbal process regardless of whether the list of items is presented acoustically (someone reads them) or visually (on a piece of paper).

The main long-term memory encoding system (LTM) seems to be semantic coding (for meaning). However, the information in LTM can also be encoded both visually and acoustically.

2. Storage Memory

This refers to the nature of memory stores, that is, where information is stored, how long memory lasts (duration), how long it can be stored at any time (capacity), and what type of information is maintained.

How we store information affects how we retrieve it. There has been a significant amount of research regarding differences between short-term memory (STM) and long-term memory (LTM).

Most adults can store between 5 and 9 items in their short-term memory. Miller (1956) introduced this idea and called it magic number 7. However, that short-term memory capacity was 7 (more or less 2) elements because it had only a certain number of "slots" where the elements could be stored.

However, Miller did not specify how much information can be stored in each slot. In fact, if we can "reconstitute" the information together, we can store much more information in our short-term memory. On the contrary, LTM capacity is believed to be unlimited.

The information can only be stored for a short duration in STM (0-30 seconds), but LTM can last a lifetime.

3. Memory Retrieval

It's about getting storage information. If we can't remember something, it could be because we can't get it back. When we are asked to recover something from memory, the differences between STM and LTM become very clear.

STM is stored and retrieved sequentially. For example, if a group of participants are given a list of words to remember and then asked to remember the fourth word in the list, participants go through the list in the order they listened to it to retrieve the information.

LTM is stored and retrieved by association. That's why you can remember why you went up if you went back to the room where you first thought about it.

13.5 Ways to Better Remember Our Lessons

Total Concentration

Focus on the content of the lesson as you learn. Don't let your mind wander. Focus on names and numbers. Try to remember deliberately. Your approach shouldn't be random. Review shortly after learning, otherwise the memory should fade.

Logical Organization

List the facts alphabetically or chronologically. The matter that is logically organized is better preserved than floating pieces of disjointed information. Logical facts are easier to remember.

The Funnel Method

Go from the woods to the trees. First try to get a general idea of the lesson and then go to specific details. Get an overview of the textbook/note material using simple or complex or general to specific.

Make it Meaningful

Search for connections you're studying. For example, packing a parachute alone can be tedious, however, the thrill of jumping from a plane gives a whole new meaning to this process. Focusing on the "Great Picture" helps make sense of the learning process and encourages us to remember.

Create Associations

Associate something new with something you already know. This creates a construction process on the memory bank. With each additional bit of knowledge to our memory, the brain goes to a new configuration; this is an ongoing process. We recommend that you take new bits as additions to existing knowledge.

Active Learning

People remember 90 percent of what they do, 75 percent of what they see and 20 percent of what they feel. This saying is very accurate, since the

action is a proven memory enhancer. Move your hands, walk back and forth, and use gestures while reciting a passage. If your body is actively involved, it will help you remember.

Relax

Eating the right foods, avoiding caffeine before an exam, and doing the right exercise will help you relax and feel safer. Relaxing will improve your ability to remember facts faster, more clearly, and you will feel better overall.

Visual Encoding

Translate information into visual modules-Draw diagrams, compose cartoons, images, graphics, etc. use them to link facts and illustrate relationships. When abstract concepts can be "seen" they are much easier to remember. You can be as creative as you want, as long as you understand your price.

Acting and Repeating

When you repeat something aloud it is better to anchor the concept using two or more of your senses. Repetition is the "Mother" of learning. If you use more than one sense you create a "synergistic" effect that is a powerful memory technique. If you recite your words aloud, the memory becomes even better!

Write

Writing notes for ourselves helps us remember. If we write an idea or a passage several times, in different areas, we increase our chances of remembering.

Reduce Interference

Find an area without distractions. Studies show that most students study more effectively in a quiet area in 1 hour than in a noisy area in 2 hours.

Over-learn

When you think you have it, it doesn't give up Don't miss a chance to review just one more time. Ever hear the expression "I beat that subject to death!" Do It!

Review Notes the Same Day

Studies show that for us storing "long-term" information, it must be reviewed within 24 hours. Or not. By entering the review habit on the same day, we increase the chances of remembering by more than 70 percent!

Use Daylight

This method is particularly effective for weekend study and review. Study the most difficult topics during daylight hours. For many students, early morning hours can be particularly productive and stimulate the memory process.

Distribute Learning

Research suggests that marathon study sessions (3 hours or more) are not as effective as light study sessions (1-2 hours) that are distributed at different times during the week. Take frequent breaks. Some students may study 50 minutes or more, others need to stop after 30 minutes. Try to distribute the duration of the study at the same rate as the classes (50/10/50). Reward yourself, you've earned them!

Maintaining a Positive Attitude

Studies show that if you repeat negative feelings on a subject you increase your chances of failure! Since we all want to be successful, "negative garbage" and replace it with "Positive Thoughts". For example, replacing "I can't do this" with "It's not easy, but I'm tough and I accept this challenge." Prove that you can and you will! This is a self-fulfilling prophecy, for attitude directly affects memory!

Simulated Teaching

If you find it difficult to digest a particular part of a lesson, imagine it being taught to a student sitting in front of you. Explain the content of the lesson. The idea will come to mind.

Going on an "Information Diet"

Just as we avoid certain foods, we can choose what we shouldn't hold back. Extract the basics, study what will be tested, shorten large passages of information into easy-to-digest phrases, this will help you remember.

Rhymes

Let us remember the verse better than the prose. We remember some of the poems we learned in elementary school, while rhyme; could be sung as songs. Kindergarten teachers teach small toys the sequence of the alphabet by rhyme the 26 letters with "Twinkle little star". To store a difficult list, you can quickly write a few rows of rhyme. Just verses, not poems.

Combining Memory Techniques

All memory techniques work best when combined. You can learn a formula, sing about a famous person and think about positive thoughts about themes, use sight, sound and other methods to sharpen your memory.

Remembering Something Else

When you're stuck and can't remember, think about something related to the information. For example, if you don't remember a name, think about what the person did, what period they lived with, or who they worked with. Write what you know and soon trigger facts you're trying to remember. This technique really works!

Note: When You Don't Remember

If you've tried some memory techniques that don't seem to work, that's fine. Try an experiment with other techniques and use what's best for you and not what works for a classmate. Being a journalist, getting the facts and finding out what works and what doesn't. Congratulations and reward him when you remember.

Use it before Releasing it

Information stored in long-term memory can be difficult to remember if it is not used. Just read it, write it, talk about it and/or apply it. This is especially effective when you need to remember formulas or facts from a previous course. Course 101 information can be used in a course of 102. Therefore, keep your notes, the text above, and keep the information up-to-date with a revision.

Chunking

Divide the items you want to remember into a number of bits or fragments. For example, if you want to remember a nine-digit phone number, you can divide it into three fragments.

Notecards

Note cards are an easy way to organize the main ideas and relevant details that need to be retrieved. If the main ideas are formatted into possible test questions, business cards can give students the practice of seeing questions and remembering answers as they should in exams.

Pegging

The pegging memory system is a unique method of remembering facts. This implies the principle of association. First make a list of ten or twenty convenient pins or keywords that you can easily remember in the right

sequence. For example, apple, bat, cat, dog elephant, fox, goat, horse and so on. And this technique works by associating images that represent and cued from letters of the alphabet with images that represent the elements to remember.

Affirmation of Your Good Memory Helps You to Remember

When you are strong and remember all the facts, accept the compliments! When you don't remember the facts, you think you know, you can remember it, and the facts will come to you. You may need to use various techniques to help you remember, but never give up! Really "never forget it".

Mnemonic Devices

Using memory techniques known as mnemonic devices allows you to retain information for testing. There are several devices that can be used to absorb information. Different devices are used to remember different information. One of the oldest forms of use of mnemonic devices is rhyme. This was used to store entire documents in ancient and modern times.

Another method is the acronym. We know the mnemonic VIBGYOR that helps us list the seven colours of the rainbow in the correct sequence. This method creates a word from a word list Abbreviations are similar to acronyms because they use the first letter of each word, but do not form a word. An example of this is the air conditioning, the air conditioning.

There are acrostics that make use of the first letters of words in a sentence instead of an artificial word. For example, the acrostic "My very enlightened mother only served us noodles," tells us the names of the eight planets in the order of their distances from the sun: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

Mnemonic devices are memory devices that help students remember larger pieces of information, especially in the form of lists such as features, steps, phases, parts, phases, etc. only by the imagination of each individual student. Different types of mnemonics are:

Music Mnemonic

The same method you used to remember song lyrics can work just as well in academics. Music can be used to help students remember important details for key ideas, and many students have created songs with information while learning a list of items.

For example, some children learn THE ABC by singing the song "ABC". Other children learn all states alphabetically using the song "50 Nifty United States".

Name Mnemonics

In a mnemonic name, the first letter of each word in an item list is used to make a name for a person or thing. Sometimes the elements can be rearranged to form a more recommended mnemonic name. Examples:

ROY G. BIV - colours of the spectrum (red, orange, yellow, green, blue, indigo, Violet.)

Expression or Word Mnemonics

This is by far the most common mnemonic. To create a mnemonic word or expression, the first letter of each element in a list is organized to form a sentence or word.

Model Mnemonics

In a Mnemonic model, some kind of representation is created to help you understand and remember important information.

Examples include a circular sequence template, a pyramid phase model, a pie chart. Templates should be used in addition to words and lists because they make retrieval at test time much easier.

Ode or Rhyme Mnemonic

A mnemonic ode or rhyme puts information in the form of poetry. Examples include:

A mnemonic rhyme commonly used for the number of days in each month is:

The 30 days are September, April, June and November.

Everyone else is 31 years old

Except February, my dear son.

He's 28 years old and that's fine.

Note Organization Mnemonics

How textbook and conference notes are organized can inhibit learning and remember or promote it. In the sense that the known organization can promote recovery, it is a memory device. The following are three examples of organizing note formats that promote recovery:

Image Mnemonic

The information contained in a mnemonic image is constructed in the form of an image that promotes the retrieval of information when necessary. The more stupid the Mnemonic image, the easier it will be to remember

related information. These images can be mental or sketched into text notes and lessons.

Connection Mnemonic

In this type of mnemonic, the information to remember is linked to something already known. Examples include:

Remembering the direction of longitude and latitude is easier to do when you realize that the lines in a balloon that runs north and south are long and that correspond longitude. Another connection mnemonic indicates that there is an N in Length and an N in the North. Latitude lines must be run from east to west, so because there is no N in latitude.

Another mnemonic connection is related to sound. The first part of the word latitude sounds like flat and flat runs horizontally or east and west.

Spelling Mnemonic

Here's an example of mnemonic spelling: a school principal is your friend, and a principle you create or follow is a rule.

The 4th "R"

Reviewing, rereading, recitation, and rewriting are some of the best ways to store class information. These are the 4 Rand and are considered the most effective memory strategies for university students. This method includes reviewing notes taken during the lesson. Reread the chapters discussed in the class. Recite one of the important lists or facts that were raised during the lesson. Finally, a student must rewrite the information they deem relevant to the instruction that the teacher is trying to impart to the student. This method helps expose the student to information multiple times, giving the brain more time and scope to make this information part of long-term memory rather than short-term.

13.6 Conclusion

It is often said that we forget certain things because we have to remember more important things. Trying to recall an idea frequently will make it firm in our memory. We easily remember matter that has some meaning. You may not find it easy to remember a set of 25 letters in a given sequence. But you have no difficulty to remember the meaningful sentence, 'if there is a will, there is a way'. The key factor is that the sentence has meaning. If the words carry some sense, we learn the idea easily. If we make an effort to translate the tough matter we wish to remember into something that can be taken in with ease and delight, we make both learning and

memorisation more effective. Learning by rote without grasping the meaning is no learning at all.

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