

STRATEGIES BASED ON THE PRINCIPLES OF COGNITIVE PSYCHOLOGY FOR IMPROVING LEARNING

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INTRODUCTION

In the first place, defining of learning and memory would enable us to comprehend their relationship to better. Learning is the way toward increasing new and moderately enduring information and behaviours.¹ Memory refers to the process of recording and retrieving experiences and information.² Information Processing Model is a basis for the communication of memory and learning. What's more, the way toward learning is very like this model, individuals see new information, recognize and retain it, and afterward encoding it into individual learning as encoding it into long-term memory.³ Also, the data-preparing model incorporates each part of how memory functions. There are three fundamental memory types in this model which are sensory memory and short term/working memory, and long-term memory.⁴ In tactile memory, data is put away in the blink of an eye, additionally just 5-9 pieces can be hold for around 15-30 seconds in here and now memory.⁴ In any case, once the data exchanges to long term memory, it would be last yearly.⁵ There are two procedures that occur between here and short term /working memory and long term memory, one is called encoding forms that alludes to the way toward moving data from here and now memory to long term memory and the other one is recovery forms which is the procedure of data is conveyed to working memory from long term memory.⁶ Both the processes play a significant role in learning.⁶

Essential approaches to approach problem and issues in life, to learn in astounding route and to ceaselessly enhance quality are ventures towards taking care of issues. We require both a hypothesis and quality instruments to cultivate excellent considering and Memorization.⁶ There

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are two procedures that occur between here and short term /working memory and long term memory, one is called encoding forms that alludes to the way toward moving data from here and now memory to long term memory, and the other one is recovery forms which is the procedure of data is conveyed to working memory from long term memory. Both of the procedures assume a critical part in learning.⁷

STRATEGIES

There are different approaches and strategies to transfer and enhance human memory.⁷ Based on literature following strategy based on principles of cognitive psychology will improve learning.

1. Learning Environments

It is suggested to create learning environment before going to study remove distraction if there are any. Research suggests that doing multiple task at same time make learning less effective. Different studies show that Student lost significant amount of time as they switched between multiple tasks.⁸

By removing distraction, students will able to pay Attention, which is one of the major components of memory. In order for information to move from short-term memory into long-term memory.⁹ Studies have shown that eight seconds is the minimum amount of time it takes for a piece of information to go from short-term memory to long-term memory.⁹

2. Attention

Attention is the capacity of concentrating on a stimulus. Consider difficult data with respect to course educated in the academic session of students. Whenever students goes over a troublesome idea, it is proposed to commit some additional opportunity to retaining the information.⁹ Teacher should encourage students to study materials over some of session's which gives them enough time process the data.⁸ Research has demonstrated that understudies who ponder frequently recall the material do much better than those who did the majority of their concentration in one marathon session.¹⁰

3. Memory Types

There are following types of memory

- a. Sensory Memory (Iconic, Echoic, Hepatic)

- b. Working Memory
- c. Long term Memory

Every student must targets sensory memory initially then proceed on working and long term Memory.¹⁰ They can initially stimulate Iconic Sensory by providing visual information through pictures and slide about e.g. Cognitive load theory Furthermore, stimulate Echoic sensory memory by hearing recorded lecture on mentioned area of interest.⁹ Lastly, for Hepatic sensory memory stimulation by peer tutorial regarding Basic Concept and Practical application on cognitive load theory.¹¹

4. Schema activation

Schema or Schemata: Cognitive structure(s) that help organize knowledge and guide thinking, perceptions and attention.¹¹

Schemata's are accepted to be mental portrayals of an individual's general circumstances and end results knowledge.¹¹ Any and all learning that we pick up is sorted out in the schema is in charge of the consequent encoding, retrieval and storage of information.¹² Schemata's are shaped through the association of the outside conditions and the person's own earlier knowledge.¹³ They have been contrasted with what mental as well be called scaffolding meaning the mapping that we shape will give backings to us when we end up in novel circumstances or adopting new data.¹³ students can utilize Previous Learning to Promote New Learning (schema activation) to become a more effective learner, we suggest that one must use relational learning, which involves relating new information to things that student already know.¹² For example, student have been taught new content related to their topic in academic session .This is new information for them teacher should suggest them to take time to think about how this information relates to things that they already knew. This relationship between new data and already existing memories helps improve the probability of reviewing the scholarly data.¹⁴

Here they are stimulating Declarative (explicit memory) which require conscious recall.¹³ Schema activation will create abstract knowledge concept of the students.

5. Chunking technique

Chunking is Utilizing a letter, number, or word that may add to here and short memory limit.¹⁴ As indicated by Miller, the short-term memory's ability to remember is sensitive only to the amount of chunks and not the size of the chunks themselves therefore, increasing the size of chunks helps students to learn more efficiently and can allow them to remember large amounts of information at a time, with due rehearsal.¹⁵

we suggest students to ask questions themselves about the contents of topic to assess if they have the information. Here actually students are assessing their short-term memory. To increasing memory here we suggest to use chunking technique by break information into inter related pieces regarding Cognitive load theory.¹⁵

Short-term memory here relay most on the acoustic

information so students should have focus on acoustic information to enhance their memory.

6. Elaborate and rehearse information

Elaborative practice is a more important method of encoding, in which to-be-scholarly data is given significance by being identified with already learned data.¹⁶ In spite of the fact that this type of practice utilizes more intellectual assets, it is better for long haul maintenance and makes utilization of more profound encoding exercises.¹⁶

We suggest students to elaborate and rehearse information regarding their course content. In order to recall information, they need to encode the learnt information into long-term memory. One of the most effective encoding techniques is known as elaborative rehearsal.¹⁷

A case of this system would be that students initially plans the expansive idea about Mentioned point (topics) at that point outline little idea with subtler elements. Subsequent to rehashing the procedure few times, student will have the capacity to review of the data far superiorly.¹⁷

7. Mnemonic

Students can utilize mnemonic devices to remember information. Mnemonic use helps to recall previous knowledge easily. For instance, It is recommend that students to partner diverse terms that they needs to recollect with a typical thing which will recollects for long time and review it effortlessly.¹⁷

8. Acronyms

Acronyms are a well-known mental aide methodology including the main letters to be educated words list; the principal letters of each word in the set are taken and assembled to frame another word called an acronym. For example, a commonly used acronym is remembering the colours of the rainbow as ROYGBIV. Each letter serves as a retrieval cue for the target items.¹⁸

9. Acrostics

Acrostics are like acronyms however include utilizing a sentence to help recall a section of letters as opposed to a different way. The principal letters of a rundown of words fill in as the main letter in another sentence or expression. A regularly utilized acrostic is utilizing the sentence " every good boy deserves fudge" to recall the lines of the treble clef.¹⁸

10. Application of Knowledge

Literature suggested that utilization of practical experience by putting new knowledge and skills into practice. Which is one of the best ways to improve memory?

Students can search Up for Answers as opposed to Struggle to Remember Sometimes; we overlook the points of interest of things that we have effectively learned. On the off chance that you discover hard to review data, inquire about recommends that it is smarter to just search up for the right answer.¹⁸ This will comprehend data and can be reviewed in their own words.

11. Peer Tutoring

Peer tutoring is a strategy for learning in which

schoolmates educate and gain from each other through one-on-one direct guideline. Many schools, especially auxiliary schools, have actualized this system as entire classes. We proposed that students make a Peer ponder assemble with their class individual and gap learning undertaking to each and every individual from a gathering to educate other part what they have realized.¹⁸ "Educating can enhance their taking in" The most ideal approaches to get the hang of something is to show it to another person. Instructors and clinicians have additionally found that having understudies really educate new ideas to others improves comprehension and review.¹⁸ Furthermore, relate learning objectives with real time scenario to create the episodic memory that will help students to recall the topic easily

12. Testing and Reflection

Utilize Testing and reflection will support memory. "Testing can be more advantageous than educating alone". While it might appear that investing more energy considering is outstanding amongst other approaches to augment learning, investigate has shown that taking tests really helps better recollecting what you've realized, regardless of the possibility that it wasn't secured on the test.¹⁹ Therefore it is necessary that students start doing self-regulation of learnt Knowledge.

13. Know, Want, Learned strategy (KML)

Students are advised to use different steps of the strategy (Know, Want, Learned) activate student's prior knowledge, help students recognize their current schemas, and links newly learned information with old, solidifying and strengthening this information. The KWL relies on students constructing their own meanings of what they know and teaches them to be more interactive in their learning experience.²⁰

CONCLUSION

There are multiple ways to improve learning and memory. The best way is to assess your own strengths and weaknesses and make a strategy according to the principles of cognition that will help you the most. In our opinion focus on subject, deep learning approach with encoding and schema activation, and regular rehearsal helps you to improve learning and achieve success.

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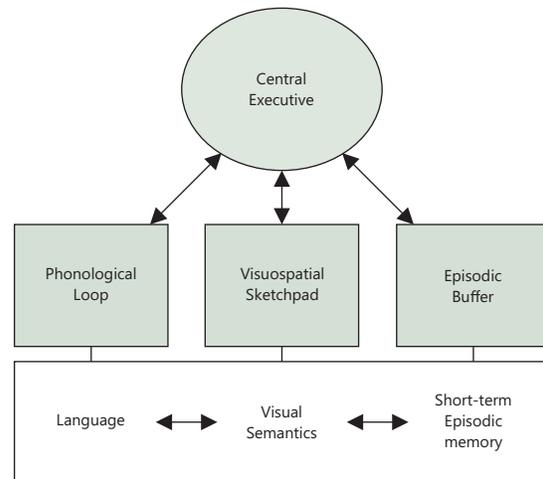
NOTES ON CONTRIBUTORS

The study was part of IW, DAK and EHK all authors were involved in every part of Manuscript writing, analysis, Protocol developments and data collection process.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

FIGURE 1: Three part Working Memory Model



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