Editorial

Counseling in Medical Institutions; Challenges and Solutions

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It is really hard to imagine the spectrum of challenges faced by medical students. The lack of organized counseling and relevant policy in medical institutions has worsened the existing situation for students facing problems in learning, adjustment in medical institutions and coping with increased stress of studies. The progress in lifelong learning notion is seriously hampered in practical situation for the young brilliant and energetic minds who face multi facet problems and challenges, and cannot find the way out on their own.

The counseling in medical institutions should be based on principles, theories and approaches of educational psychology and medical education in order to avoid frustrations. In initial years of Medicine, basic medical sciences are focused to explain the structures, functions of human body and mechanisms involved to promote health and prevent diseases. The learning is greatly dependent on short term memory and long term memory. The memory decay causes more problems with short term memory and usually long term memory is less affected with time. The importance of information and working memory are proportional to each other, however reverse temporal relationship is present between time for decay of memory and importance of information. In neurology imaging, evidence has been produced that with passage of time neuronal firing pattern that results in target representation decreases unless they are set again. This reset is rehearsal over time. New concepts are different or sometimes opposite to the previous learning, experiences, and understanding of the individual or group of students.[1] Most of the experiments for interference have been carried out in laboratories so their ecological validity is being criticized. The forgetfulness increases with interference from other memories. Both biological processes and psychological processes are involved in learning. When any new information reaches brain, it takes time to get this information consolidated.[2] Brain has neurons, synapses and neurotransmitters. The process in which neurons are modified in an order to form new permanent memories is called 'consolidation'. Damage to Hippocampus in brain also causes lack of consolidation.[3] The evidence came from experiments performed in patients after brain surgery. Thus decay of neurons and neurotransmitters are playing important role in lack of consolidation. There is fixed number of available slots for information. However, if the short term memory is reached its full capacity and there is still information to be stored then some information will be pushed out of the short term memory and replaced by new information.[4] Encoding is necessary for short term memory, working memory and long term memory. Examples include visual, elaborative, organizational, acoustic, and semantic encodings.[5] Encoding failure is present when brain fails to create memory link. Encoding failure has many reasons. Common are substance abuse and trauma in learners. If information is not processed in deep it is likely to be encoding failure and difficulty in storage and recall of specific information. Students who don't make concepts from the information are likely to get encoding failure. It results in their difficulty in learning. The information from long term memory cannot become accessible to the person because retrieval cues are not present. External retrieval cues for example environment, smell, music etc. Internal

retrieval cues are emotions, mood etc. The information is purposively being forgotten to avoid anxiety from a situation. The information try to come to conscious level but they are pushed back or avoided consciously. For example a student may try to forget certain lessons associated with his experience of getting punishment in his school days for the same or related lesson.

The medical students should be advised following important things or strategies based on above mentioned theories to solve learning problems:

1. To increase the meaningfulness, understanding and concept building.

The student should be advised to increase understanding, meaningfulness and concept building by:

a. Visual imagery, verbal label, mental images and concept maps

b. Advanced knowledge will increase the effort of practice, brain storming and deep understanding so less forgetting.

c. Rehearsal increases the information to get stored in long term memory from short term memory. The Memory decay theory and Displacement theory emphasized the information to be rehearsed.

2. Intention to remember.

A key feature in remembering is positive attitude to remember. In a class, a student should give his attention to remember what is being taught or discussed. If he has something else on his mind and he is not attentive then he will suffer from forgetting. For intention to remember he must has a reason why this is important in his learning.

3. Subjective organization (chunking)

Organize material on the basis of its meaningfulness. Experienced individual organize the parts in to chunks. It is finding associations among previously learned things and new things that have to be learned. For example the student can make association of his knowledge from biology class lessons in past to physiology lessons in present for subjective organization.

4. Encoding specificity principle

Memory is improved when information available at encoding is also available at retrieval. Relationship between practice and test context helps in encoding. It is based on the observation that skill cannot be fully transferred to another context and performance or practical is increased from reinstate-ment of the context in which it was acquired. Thus it is context dependent learning. Moreover, there is overlap in features between training and testing. The context cues become associated with context dependent learning during the acquisition of tasks and later facilitate memory retrieval processes.

5. Avoid Drug abuse

The substance abuse like opium or derivatives, alcohol should be avoided because it decreases organization of information, processing of information and causes encoding failure.

6. Mood stabilizers and Anxiety decreasing strategies

Psychological assessment and help may be required to stabilize mood disorders and decrease anxiety. Medical referral may be needed for psychiatric evaluations and psychological counseling.

7. Reducing the retrieval problems

External or internal retrieval cues according to retrieval theory may help in decreasing forgetfulness. Association with music or visual image may help to reduce retrieval problem.

8. Good sleep, healthy diet, exercise and meditation.

Sleep 7-8 hours daily and exercise for 30 minutes every day produces good effect on memory.

9. Continuous motor skills. They are most resistant to forgetting due to repetitions so practice more to get continuous motor skills. Forgetting is related to type of skills for example discrete or continuous.

10. Procrastination: Avoid procrastination and make planners for learning activities well ahead in time.

11. Multiple tasking: The learner should focus on one task of learning at a time and avoid the dominant task of multiple tasking that may inhibit the other tasks from completion according to the interference theory. Interference increases when tasks share same resource.

12. Providing better educational environment: It will help in better learning and to avoid motivated forgetting according to repression theory.

13. Decrease Cognitive load: Plan to decrease intrinsic and extrinsic cognitive load of learning material and increase germane load according to the Cognitive load theory.

14. Schema of learning material: It will decrease forgetting according to schema theory.

15. Counseling Services in Medical Institutions:

The role of counseling service is explicit. It is suggested to adopt healthy habits, support from peer groups and experts, making better learning environment and facilitation, counseling by experts, motivation to learn, rehearsal, revision, practice, reflection and feedback. The role of a good teacher must be emphasized as facilitator, counselor and role model to help the medical students to become lifelong learners.

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