Mind Maps and Medical Education

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A good teacher, naturally, wants his/her students to do well. In teaching, a good teacher would always strive to turn the lesson into an engaging experience for students that would at once be stress-free and memorable. Medical students, especially, are at the receiving end of a system that compels them to absorb loads of knowledge in a short span of time.

For the medical teacher too, it is a race against time to complete the syllabus in a specified time period. The syllabus is not only vast but also difficult. So, there is a constant search for a magical process that would suit both; the students as well as the teachers.

One of the most popular ways recommended worldwide for medical teaching and learning is Mind Mapping. So what exactly is Mind Mapping?

Wikipedia defines it thus: "A Mind Map is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It harnesses the full range of cortical skills – word, image, number, logic, rhythm, colour and spatial awareness – in a single, uniquely powerful manner. In so doing, it gives you the freedom to roam the infinite expanses of your brain. The Mind Map can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance."

If the older generation of doctors looks back, they would realize that they assimilated knowledge mainly from reading print and they would also recall that the colourful diagrams in the books not only piqued their interest but also helped them understand the topic well, leaving a permanent imprint on their minds that made it easier to remember it later in words.

So, the underlying fact remains that any visual or graphical support facilitates recall. Visual images enrich teaching as well as learning. A teacher may think of a particular lesson that is to be taught to the student, but merely conveying it in words may cause some of its essence to be lost. Words and images together, however, make the teacher's thinking visible and vivid.

Trying to find your way through a thick forest of knowledge with no map in hand is indeed a challenge.

The mind would start thinking of ways to reach the destination without getting lost. When these thoughts are made visible by putting them on paper, you have created a mind map! How you make it is through visual intelligence…!!

An idea not put on paper remains locked in the brain. Once it is put on paper it stimulates the brain to think more. Mind Mapping is the brain child of Tony Buzan. Buzan has written books on Mind Mapping and how it helps you not only to organize yourself but also improve your memory/recall. He states that the Mind Map uses the full range of left and right human cortical skills, balances the brain, and taps into the alleged "99% of your unused mental potential." Mind Maps are not restricted to any particular field like engineering or logic or biology or architecture. In fact, even a housewife can make a Mind Map to navigate her way through the daily chores.

Using them regularly for every task enhances your work potential. Since they are created by you, your thoughts, your ideas and the associations and connections your mind makes, the ways you can make a mind map are limitless and absolutely unique.

According to Willingham (2007), critical thinking, which is the highest level of cognitive domain, occurs when a student possesses both domain knowledge and the capacity to penetrate beyond the surface structure of a problem to recognize how the problem can be solved[1].

With time newer methods of learning are being constantly discovered and created. In the early 1970s, Tony Buzan invented Mind Mapping. He formulated seven steps to create a Mind Map.

7 Steps to Making a Mind Map

1. Start in the CENTRE of a blank page turned sideways. Why? Because starting in the centre gives your Brain freedom to spread out in all directions and to express itself more freely and naturally.
2. Use an IMAGE or PICTURE for your central idea. Why? Because an image is worth a thousand words and helps you use your Imagination. A central image is more interesting, keeps you focused, helps you concentrate, and gives your Brain more of a buzz!
3. CONNECT your MAIN BRANCHES to the central image and connect your second- and third-level branches to the first and second levels, etc. Why? Because your Brain works by association. It likes to link two (or three, or four) things together. If you

connect the branches, you will understand and remember a lot more easily.

4. Make your branches CURVED rather than straight-lined. Why? Because having nothing but straight line is boring to your Brain.

5. Use ONE KEY WORD PER LINE. Why? Because single key words give your Mind Map more power and flexibility(This rule, however, is flexible. You can use two or more words, phrases or even sentences in your Mind Maps…as per your purpose or needs, especially in study and similar Mind Maps.)

6. Use COLOURS throughout. Why? Because colours are as exciting to your Brain as are images. Colour adds extra vibrancy and life to your Mind Map, adds tremendous energy to your Creative Thinking, and is fun!

7. Use IMAGES throughout. Why? Because each image, like the central image, is also worth a thousand words. So if you have only 10 images in your Mind Map, it's already the equal of 10,000 words of notes!

You will soon realize that you have a style of your own, quite different from others, in making a Mind Map. Traditionally, Mind Maps have been used for problem solving, outline/framework design, anonymous collaboration, marriage of words and visuals, individual expression of creativity, condensing material into a concise and memorable format, team-building or synergy creating activity and enhancing work morale.

In education, Mind Mapping is often used for:

• Brainstorming sessions
• Visualizing concepts
• Improving critical thinking
• Decision making
• Improving reading and writing skills
• Advanced research papers or graduate projects
• Outlining written documents
• Storyboarding presentations
• Project management

Farrand et al. (2002) studied the superiority of Mind Maps over traditional note taking in the recall of both short- and long-term factual information[2]. 50 medical students (n=50) were exposed to a 600-word sample of text from Scientific American and then administered 3 short tests based upon the text. Recall was only slightly higher but significant in the Mind Map group after the second test (p=.016). Comparison of mean scores on the third test (administered 1 week later) revealed that the Mind Map group had significantly higher factual recall compared to the self-study group (p=.013).

There are many studies for and against Mind Maps in medicine. It is now recognized as an important tool for imparting medical education, too. It promotes critical thinking. Mind maps establish non-linear relationships between two ideas. Images and colors break the monotony of reading in print. The dynamic colors and the images help memory recall. And since the student himself/herself has made it, it promotes creativity, makes it coherent and imprints a vast amount of knowledge in a single map.

Mind mapping is also recognized as an assistive tool for children with Asperger or dyslexia. There are websites that offer free software for mind maps in medicine.

So…Happy Mind Mapping….!!

References

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