

ABSAME 2007

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Medical Education from a Different Perspective

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What Do You Believe?

- Medical Education = Learning Facts
 - True or **False?**
- Medical Education = Understanding Patterns

Training to be a Physician

- Medicine is not Knowledge for knowledge sake
- But, Knowledge for action's sake
- Physicians must know how to intervene, in short, what to do.
- What are the essential thought processes for a physician?

Preparing Physicians for Effective Action

- 1. Teaching Pattern Recognition:**
 - Seeing what is there
- 2. Training for Decision-Making:**
 - Choosing based on what is seen
- 3. Fostering and Maintaining Curiosity:**
 - Continual active inquiry

1. Teaching Pattern Recognition

- **Learning how to see**
 - Depth of focus
 - Breadth of vision
 - Schemas for recognition
 - Metaphors for understanding
- **In short, medical education should give students essential “Ways of Seeing”.**

1. Teaching Pattern Recognition

- Each Basic Science subject offers a unique set of perspectives
 - The way that pharmacology or physiology or anatomy looks at a patient problem are different.
- Behavioral Sciences are the experts in this
 - We are multiple perspectives
 - This is our unique contribution

1. Teaching Pattern Recognition

- Not simply changing delivery mechanism
 - Lectures vs. PBL
 - Subject vs. Organ system

Are false choices

- Facts without patterns are not useful knowledge
 - The difficulty of cognitive load
 - Loose facts do not lead to action


1. Teaching Pattern Recognition

- The essential clinical art is knowing how to choose the most appropriate set of perspective for addressing the problem at hand.
- The best physician is an active agent changing perception to achieve the best focus on the patient's problem.

1. Teaching Pattern Recognition

- Preclinical years → teaching patterns
- Clinical years →
 - teaching use of patterns
 - the art of shifting among the available perspectives

2. Training for Decision-Making

- Practice guidelines (decision trees)
 - Bayesian models
 - All Human decisions are emotional
 - Information is stored as sets, not singles
 - Human thought has a strong non-linear component
- Human's don't think like this!**
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How Doctors Think

And People

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- Simplifying Heuristics
 - Confirmation bias:
 - Notice some stimuli, ignore others
 - Anchoring:
 - Focus on single piece of info
 - Representativeness:
 - If one thing similar = all qualities shared
 - Availability:
 - Easiest to access matters more
 - Recent experience carries more weight

Attributional Bias

- Fundamental Attributional Bias (FAB)
 - Others behavior due to who they are
 - My behavior due to situation
- We see others of “our group” as we see ourselves
- Empathy = taking the perspective of the other

2. Training for Better Decision-Making

- **Differential Diagnosis is the template**
 - Know set of Options
 - Choose among Options
- The essential step → defining options before deciding the answer
- The drive to “Know the answer” disrupts this process

3. Fostering & Maintaining Curiosity

- **Physicians are active agents, not passive reactors**
- **Yet, we tend to see medical education as a factory**
 - We mold the raw material of students into the finished product of physician

3. Fostering & Maintaining Curiosity

- **Students are active agents, not passive reactors**
 - They develop their own norms for behavior
 - They ignore curriculum we provide
 - They spend a lot of time educating themselves
 - The “hidden curriculum” is the product of these active decisions
 - Community service initiatives are testimony to students as active agents

3. Fostering & Maintaining Curiosity

- The focus on “knowing” inhibits curiosity
- Sift focus to what are the right questions
- Physicians should be active seekers of knowledge
 - Asking, “Why?”
 - Asking, “If not this, what else?”
 - Asking, “Is there anything else?”

The Challenge:

- Changing WHAT WE TEACH
 - Patterns, not facts
 - Differentials, not answers
 - Active questioning, not passive responding
- Our task is not to educate students, but to help students become physicians.