

Diagnosing Your Learner

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Goals and Objectives

- ◆ Goal: Understand the application of assessment scales when interpreting a learner's level
- ◆ Objectives
 - ✓ -Understand the RIME model – Pros and Cons
 - ✓ -Understand the Dreyfus Model – Pros and Cons

Two Popular Models

RIME

- More student based but it has been expanded to residents and beyond
- Designed in the medical education world

Dreyfus

- More applicable to higher level Learners
- Gaining National Popularity
- Used in the FM department
- Not Specifically designed with Clinicians in mind

RIME

- ◆ Reporter
 - ◆ Interpreter
 - ◆ Manager
 - ◆ Educator
-
- ◆ Before RIME – Observer/Pre-Reporter (pre-clinical)

RIME

- ◆ Reporter MS3
 - ◆ Interpreter MS4
 - ◆ Manager Intern - Resident
 - ◆ Educator Resident and Beyond
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- ◆ Before RIME – Observer/Pre-Reporter (pre-clinical)

RIME

- ◆ Reporter - Consistently good in interpersonal skills, reliably obtains and communicates clinical findings. Written and spoken presentations are clear and organized.
- ◆ Interpreter – Able to prioritize and analyze patient problems, develop a differential diagnosis and next steps in workup. Data is not just data (reporter), but has a clinical significance.

RIME

- ◆ Manager – Consistently proposes reasonable diagnostic and therapeutic options, incorporating patient preferences. They can take their knowledge, integrate it with the findings for a given patient and form a plan that prioritizes within and amongst the problem list.
- ◆ Educator – Consistent level of knowledge of current medical evidence; demonstrates self-directed learning (practice based improvement and learning) and contributes to others' education.

The R-I-M-E method for evaluation of medical students on an obstetrics and gynecology clerkship. Am J Obstet Gynecol. 2003 Sep; 189(3):666-9.

Dreyfus

Originally Applied to Skills such as driving a car and playing chess, the model has been adopted by medical educators without a consensus on interpretation of the stages as they apply to the acquisition of clinical skills by physicians in training.

Carraccio C, et al. Academic Medicine. 2008.

Dreyfus Model

- Novice
- Advanced Beginner
- Competent
- Proficient
- Expert
- Master

Accepted Educational Truths About Learning

Clinical Reasoning is Dependent on:

- ❑ Analytic Model - hypothetico-deductive approach to problem solving
- ❑ Pattern-Based Recognition – ability to realize relationships between a repertoire of context-specific past experiences and current clinical situation (development of clinical scripts)

Eva K. Med Educ. 2004.



Novice

- ◆ Rule Driven
- ◆ Uses analytic reasoning and rules to link cause and effect
- ◆ Little ability to filter or prioritize information – big picture can seem elusive

Year of Training?



Advanced Beginner

- ◆ Sorts through rules and information to decide what is relevant based on past experience
- ◆ Uses analytic reasoning and pattern recognition
- ◆ Can abstract from concrete and specific information to more general aspects of a problem

Year of Training?

Competent

- ◆ Emotional buy-in allows the learner to feel an appropriate level of responsibility
- ◆ Increased experience moves learner more towards pattern recognition
- ◆ Sees the big picture
- ◆ Complex or uncommon problems still require reliance on analytic reasoning

Year of Training?

Proficient

- ◆ Breadth of past experience allows reliance on pattern recognition of illness presentation – problem solving may seem intuitive
- ◆ Falls back on analytic reasoning for problems that are complex because exhaustive # of permutations and responses to management have provided less experience than compared to illness recognition.
- ◆ Can extrapolate from a known to an unknown situation

Year of Training?

Expert

- ◆ Thought, Feeling and action align into intuitive problem recognition and intuitive situational responses and management
- ◆ Open to notice the unexpected
- ◆ Clever
- ◆ Perceptive in discriminating features that do not fit a recognizable pattern

Year of Training?

Example #1

AT generates a differential diagnosis that drives the data gathering in a more focused direction, can filter information and focus on the relevant and formulate a summary of the case. They can abstract pertinent positives and negatives and appropriately incorporate them into the HPI. Their plan seems prioritized between problems, but can be expansive at times.

What Stage What Year of Training

- ◆ RIME -
- ◆ Dreyfus
- ◆ Year of Training

What Stage What Year of Training

- ◆ RIME - Interpreter
- ◆ Dreyfus - Advanced Beginner
- ◆ Year of Training – MS4/Intern

Advanced Beginner

Still heavily dependent on Analytical thinking but increasing clinical experience allows AT to invoke illness scripts that facilitate pattern recognition.

Key to Learning – Exposure to clinical cases working from the common to uncommon so that the learner can match current patient encounters to previously created scripts.

Example #2

JG performs a H/P using a set of rules. Regardless of the complaint, they go through each item on the generic template without gathering data on the basis of the likely differential, with each sign and sx seeming equally relevant. Pertinent +/- remain scattered throughout the presentation and they link the data gathered to their knowledge of pathophysiology.

What Stage What Year of Training

- ◆ RIME -
- ◆ Dreyfus
- ◆ Year of Training

What Stage What Year of Training

- ◆ RIME - Reporter (Early)
- ◆ Dreyfus - Novice
- ◆ Year of Training - MS3

Novice

Decision making is rule based with the rules being derived from the knowledge and relationships of pathophys to clinical signs and SXS.

Key to Learning – basic science is important for a substrate with integration of basic and clinical sciences using various techniques:

- Point out meaningful diagnostic info in H/P
- Eliminate Irrelevant Information
- Highlight discriminating features and their relevance to the diagnosis
- encourage comparison of >1 diagnostic hypotheses at the same time so they learn to compare and contrast.

Example #3

- ◆ MB can recognize patterns of illness based on previous encounters, can see the big picture and the consequences of her clinical decisions. When Complex or uncommon problems are encountered they will methodically attempt to reason through each step of the case, sometimes successfully and sometimes getting stuck.

What Stage What Year of Training

- ◆ RIME -
- ◆ Dreyfus
- ◆ Year of Training

What Stage What Year of Training

- ◆ RIME - Manager (early)
- ◆ Dreyfus - Competent
- ◆ Year of Training – R2/R3

Competent

Movement from analytical reasoning to illness scripts is the theme. Pattern recognition helps the learner sort through a large data set, focus on the relevant and prioritize data and find an appropriate illness script.

Key to Learning

- Teachers must balance supervision/autonomy
- Teachers should ask in lieu of tell
- Learner must see a great breadth and Depth of patient encounters so they may develop deeper illness scripts.

Question

DB relies mostly on Intuition, but does not have an intuitive sense for the appropriate response to every situation. While they have seen a large variety of cases, they have not seen the outcomes of the different interventions that are possible in each of these cases and at times may use analytical techniques in their management plans.

- Advanced Beginner
- Competent
- Proficient
- Expert

Proficient – An Example

May recognize a CHF patient, the reason for their decompensation, easily distinguish them from patients with other causes of SOB and have a very good and detailed plan. As the creatinine continues to rise, in the setting of increased lasix doses for their patient's SOB, they may struggle with whether to continue the lasix for the patient's SOB or stop/decrease the dose because of the rising creatinine.

A Competent learner may not as easily recognize the pattern of the illness as a Proficient Learner. An expert recognizes and initiates a plan-just as the proficient learner has- but can also draw on their more vast experiences of the outcomes of their decisions.

What Does this Mean?

- ◆ I like to think of two important skill sets
 1. Recognition/Diagnosis
 2. Decision Making – Problem Solving

Diagnosis and Management

- ◆ In general, the ability to use pattern recognition for initial diagnosis tends to advance quicker than the ability to problem solve.

- ◆ Reporter – Novice to Advanced Beginner
- ◆ Interpreter – Advanced beginner to early Competent
- ◆ Manager – Competent to early Proficient
- ◆ Educator – Proficient to Expert

Thoughts and Questions

