

SEE 1, DO 1, TEACH 1 IN PURSUIT OF EXPERTISE

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- ▶ Someone who has made all the mistakes that can be made in a very narrow field. *Niels Henrik David Bohr (1885–1962)*
- ▶ One who knows more and more about less and less. *Dr. Nicholas Murray Butler (1862–1947)*
- ▶ Someone called in at the last minute to share the blame. *Sam Ewing*

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- ▶ Individuals who can reliably and repeatedly demonstrate superior performance (*Ericsson and Smith, 1991*)
- ▶ Elegant simplicity
- ▶ An act of faith for the public
- ▶ Some elements are understood, but for others we are scratching at the surface

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FEATURES OF EXPERTISE

Pattern Recognition: Identification of complex patterns

Knowledge: High levels declarative & procedural knowledge
Organized reflecting deep understanding
Conditionalized on sets of circumstances
Can flexibly retrieve with little attentional effort

Skills: Performance of skills largely automatic
(but not unthinking)

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FEATURES OF EXPERTISE

Cognitive Load: Knowledge automated & integrated
Capacity for additional cognitive load for deliberation

Situational Monitoring: Skillful/automatic monitoring of whole situation

Flexibility: High levels of contextual flexibility
Can consider more possibilities than average practitioner
Varying levels of flexibility in approaches to new situations

Teaching ability: Not necessarily good teachers

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LIMITATIONS TO CAPACITY FOR PROCESSING INFORMATION (COGNITIVE LOAD)

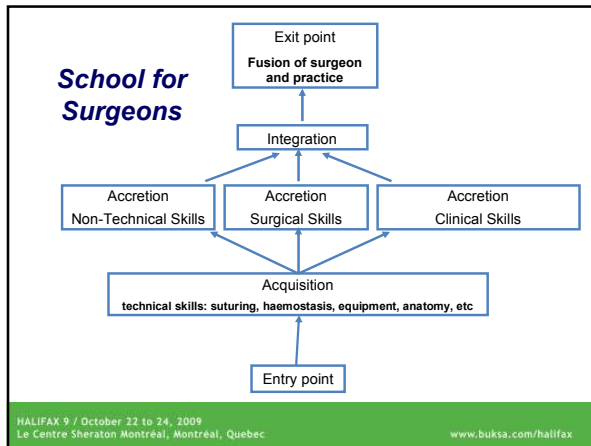
George Miller's "Magic 7": the average working memory can "handle" seven units of information, plus or minus two.

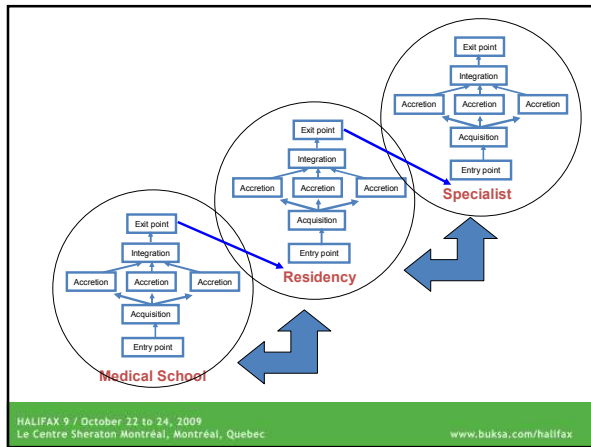


The Psychological Review, 1956, vol. 63, pp. 81-97

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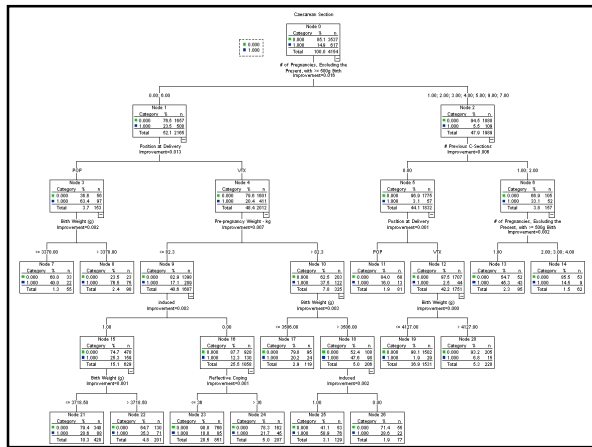


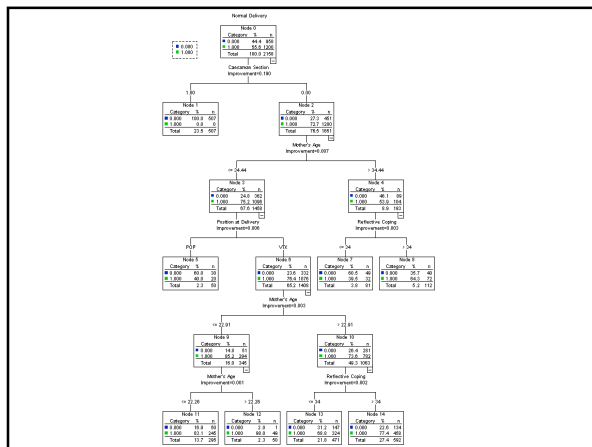
Level	Monitoring of Environment
Novice	Accepting
Advanced Beginner	
Competent	Beginning to recognize when "system" isn't working, and limit(s) of scientific knowledge
Proficient	Awareness when atypical or unusual situations occur or something is going wrong
Expert	Expanded peripheral vision Attuned to skill level of other practitioners More able to recognize hazards Sees the big picture and the unexpected

Benner et al. (1996)

Level	Emotional Development
Novice	Feelings of inadequacy and responsibility.
Advanced Beginner	Self-judge and self-criticize
Competent	Struggles with emotional over-involvement and/or excessive emotional detachment
Proficient	Learning the skill of how to balance emotional involvement
Expert	Emotional responsiveness varies depending upon the needs of a given situation Can enhance performance

Benner et al. (1996)





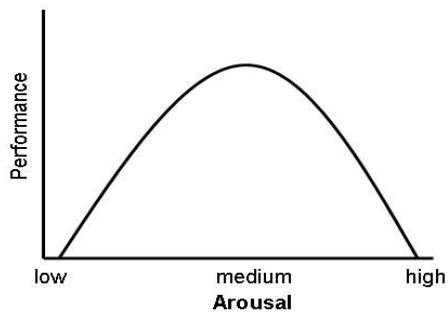
Trait Anxiety

High Staff / Consultant Obstetrician trait anxiety

- Increased neonatal asphyxia ($p < 0.05$, $Rho = .582$)
- More frequent complex forceps deliveries OR 2.49, $p = 0.01$
- Less normal deliveries OR 0.38, $p < 0.0001$

Dunphy et al, 2009

Yerkes-Dodson law (1908)



Reflective Coping (RC)

Assesses typical approach to dealing with difficult and stressful situations (*Greenglass, 2002*)

- Brainstorming and generating hypothetical plans of action
- Mental simulation of possible scenarios
- Considering alternative solutions and comparing their perceived effectiveness

High staff Obstetrician RC associated with superior clinical outcomes (*Dunphy et al, 2009*)

Need for Cognition (NFC)

Individuals tendency to engage in and enjoy cognitive endeavors (*Cacioppo et al, 1984*)

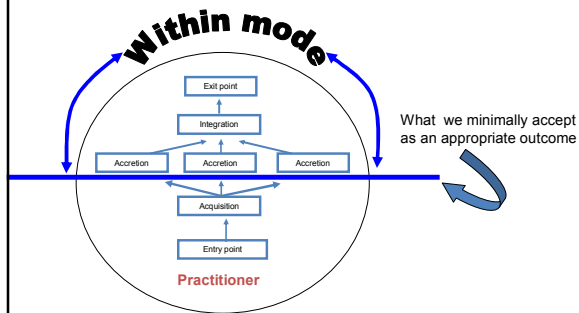
- Increased self-esteem, reliance on own judgment, accuracy and consistency of decision-making, adaptive decision-making
- Decreased anxiety, social anxiety, depression, influence of peer pressure
- Higher levels constructive mental activity including a thorough evaluation of information, situations & own thoughts

High NFC associated with less neonatal asphyxia and superior maternal outcomes (*Dunphy et al., 2009*)

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CONCEPTUALISING QUALITY



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Additional Features of Expertise

problem solving abilities and strategy evaluation;

Generates more options

Consciously evaluates strategies

Sees big picture

Anticipatory planning

- Assess events as unfold with seamless transition to backup plan(s)

Best decision-makers use less information than novices (*Lonka, 2009*)

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Additional Features of Expertise

Affect & possibly deeper engagement (*Vermunt, 1996*)

- Managing uncertainty
- Willingness to participate in elements of education

Consistently high level of performance (outcomes), and not all qualified practitioners are expert

Humanistic practice balancing evidence (science), lack of evidence, patient preference/opinion (*Waymack, 2009*)

Ongoing Issues

- Mixture of expert & non-expert performers amongst practitioners
- Deal with some elements within an educational framework including CPD
- Making the working environment safe enough to talk about feelings
- Challenges surrounding poor performers
- Further research is required – but is challenging
