Reaching for Excellence in Interpreting: Suggestions from Studies of Chess Masters, Musicians, Athletes, and Doctors

by

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Invited Keynote at

the **3rd Rectors' Conference** on

"*Delivering Excellence in Conference Interpreting*"

at the European Parliament, Brussels, Belgium,

November 13th, 2014

Basic Conceptions of Techne, Craft and Expertise

Knowledge about a specific field,
such as shipbuilding

Produces something useful—a ship or shoes

Production is reliable

It can be certified by earlier
successful products, such as ships or shoes

It can be taught

(Roochnik, 1996, p. 20)

Homer

(some time 900 BC to 700BC)

Who can evaluate today's performance of experts?

Other experts?

The experts themselves?

Self-Assessments on Relative Performance

How would you rate your own performance?

bottom 10% below average average above average top 10%

top 25%

Professors (**94%** above average)

Drivers (**80%** above average)

Doctors

(Davies et al., 2006)

Outline of My Presentation

I. Toward the measurement of ***objective performance***

II. Are some types of activities ***more effective*** in causing improvement?

III. ***Capturing*** expert performance

IV. Mechanisms, skills, and their acquisition through ***deliberate practice***

V. Possible suggestions for ***supporting professional interpreters' development***

Measuring Objective Performance

The Same Lanes

Same start

Same finishing line

(From Miller, 2004, Ancient Greek Athletics)

Ballet auditions and tournaments

Story by Erica Orden eo88@columbia.edu

Experts Are Not Always Worth their Price

The most respected experts' advice for selecting stock on New York Stock Exchange

Professional forecasters are not reliably more accurate than college students (Tetlock, 2005)

Tohoyon

Superior Performance

Chess

superior ability to win
chess games in tournaments

Surgery

superior ability to increase
patients' long-term health

Teaching

superior ability to increase
students' performance (post - pre)

Minimal Effects

of Traditional Indicators of Expertise

Long education

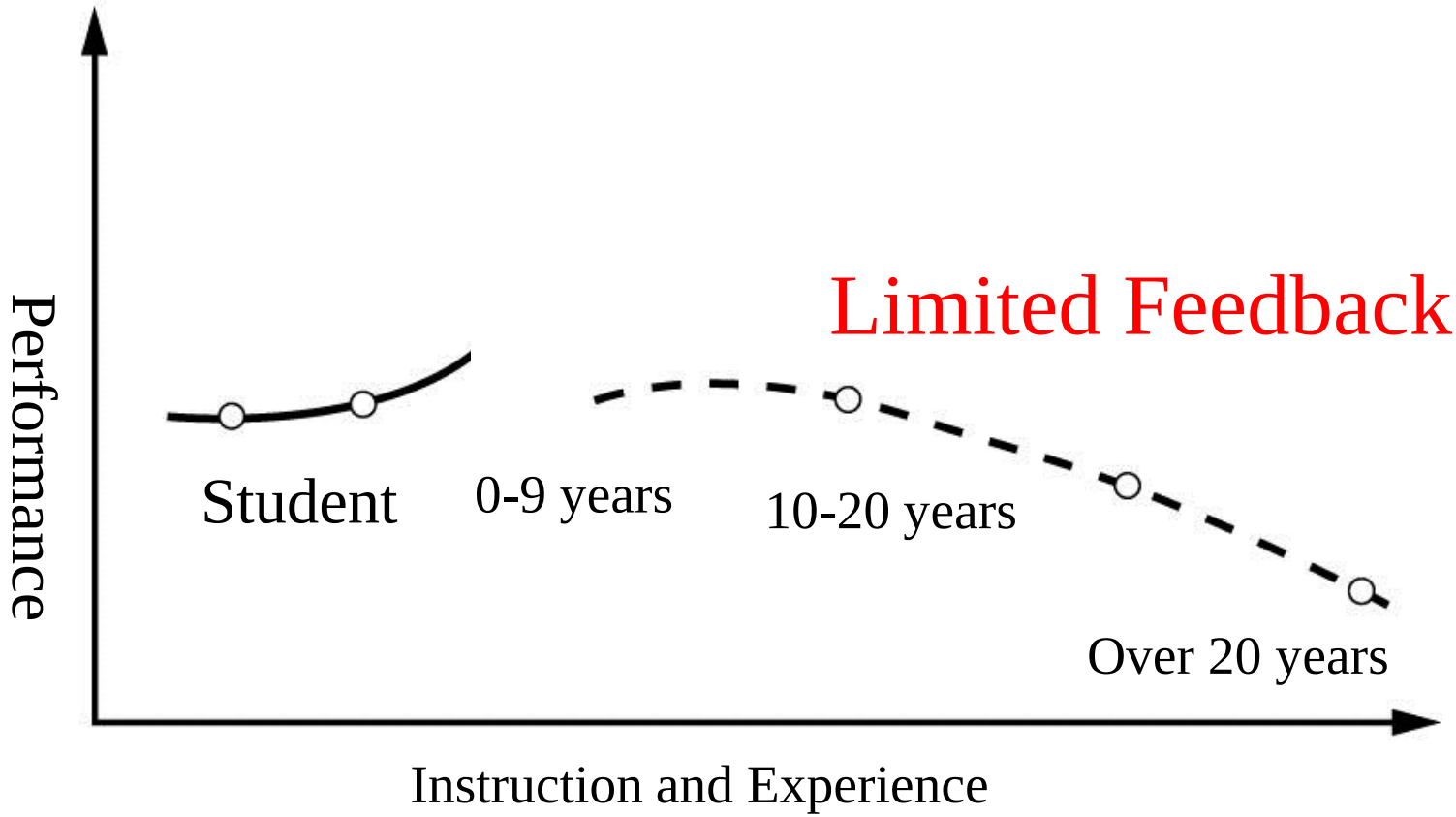
Extended experience as a professional

Teaching

Medicine

Objective Perceptual Performance on Cardiac Auscultation

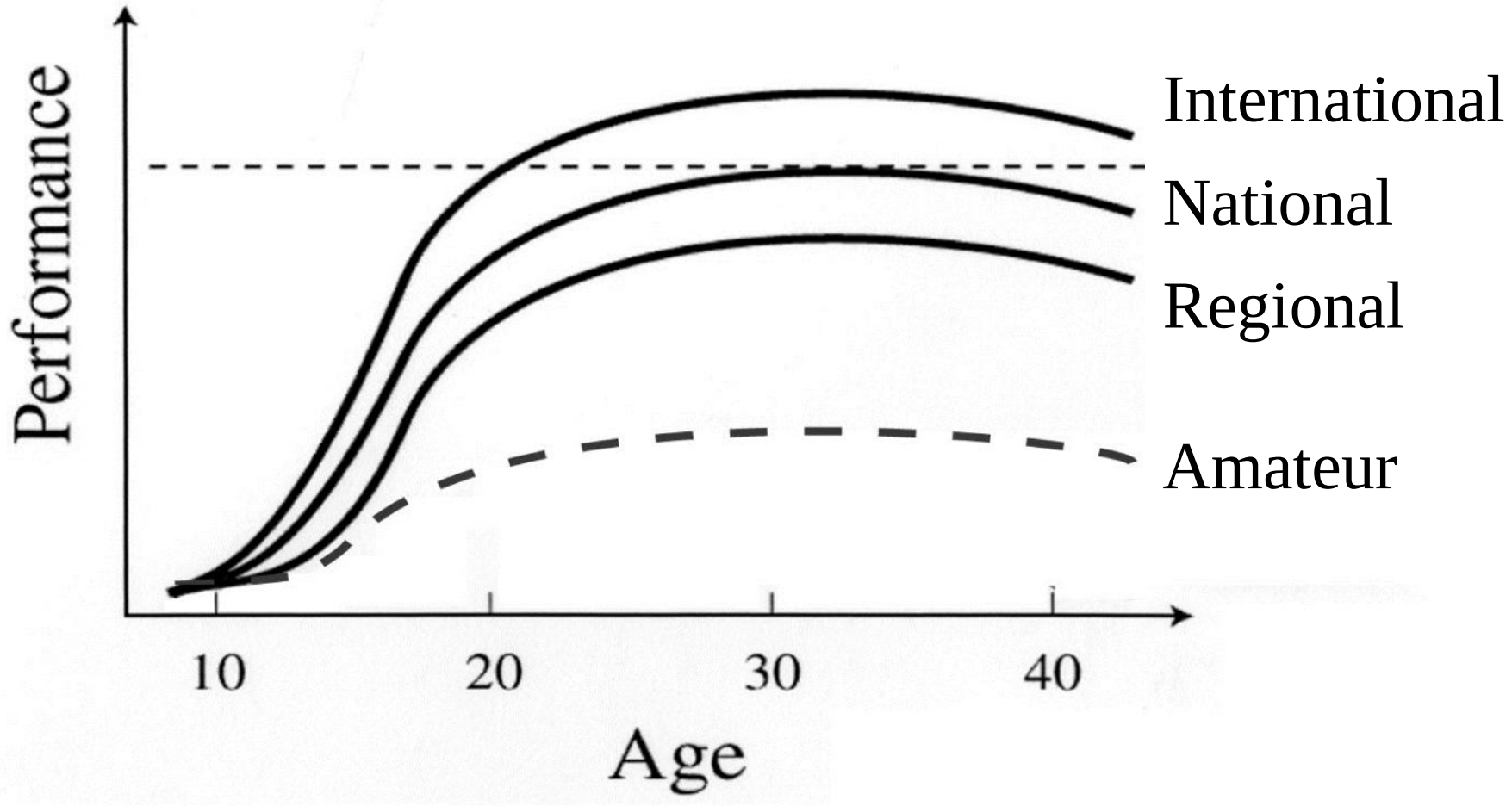
as a Function of Years of Experience



Reviews (Choudhry, Fletcher, & Soumerai, 2005; Ericsson, 2004; Ericsson, Whyte, & Ward, 2007)

Based on Butterworth & Reppert (1960)

Individual Differences in Attained Performance



Part II. Are some types of activities more effective in causing improvement?

Can engagement in select activities explain some of the individual differences?

What would you do to get better in chess? (what makes you more effective in your job?)

Different Activities that Might Lead to Larger Increases in Performance

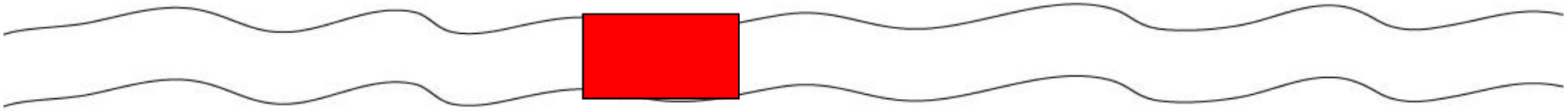
CHESS	**YOUR JOB**
Active participation in chess tournaments	Engaging in challenging job activities
Playing chess games outside of chess tournaments	Engaging in typical activities in the domain (experience)
Serious analysis of positions alone	Solitary reflection and analysis of current and past projects

Chess Rating and Hours of Engagement
(Charness, Krampe, & Mayr, 1996)

CHESS	**Accumulated Hours and Chess rating**
Active participation in chess tournaments	No correlation
Serious analysis of positions alone	Positive correlation
Playing chess games outside of chess tournaments	Negative predictor

Practice Alone

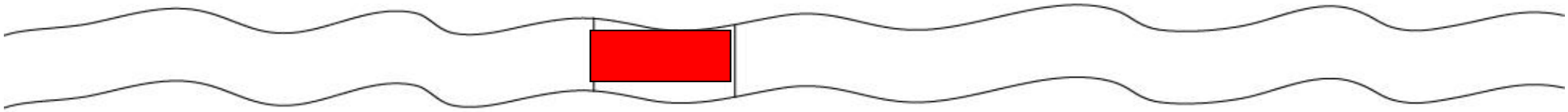
Part III. Capturing Expert Performance - Finding Representative Tasks for Essential Activities



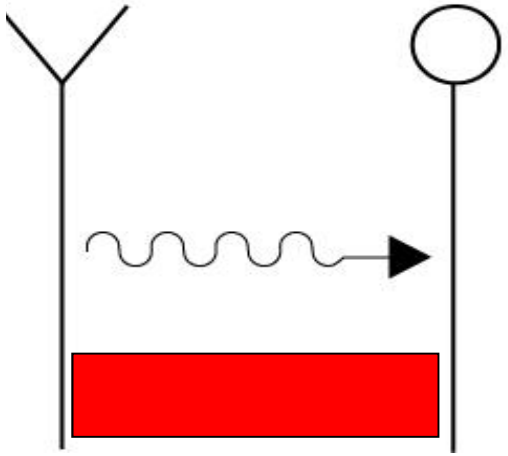
Adriaan de Groot
(1914–2006)

Identify challenging and difficult situations, where experts are supposed to excel.

Capturing Expert Performance - Finding Representative Tasks for Essential Activities



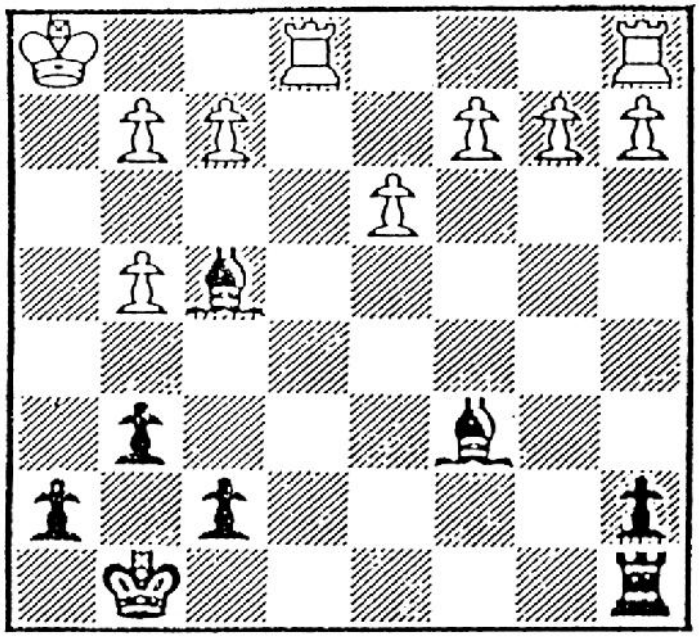
Recreate
the situation and task in laboratory



Actions and thoughts
of novices and experts can be directly compared

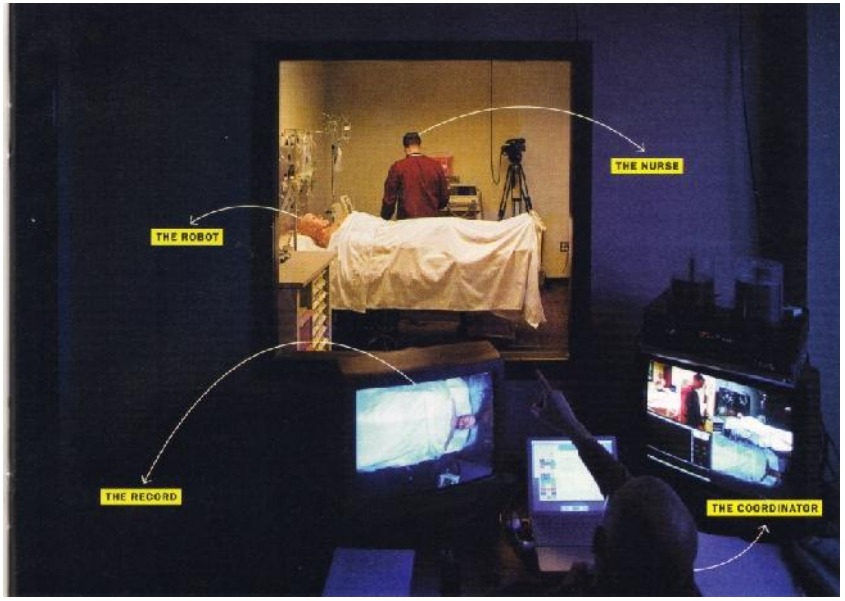
Reconstructed Real-World Tasks

Select moves in games by chess masters



Black’s move

Manikin simulating life threatening problem



Diagnose and treat Post-op patients with with acute problem

(van der Maas et al., 2005)

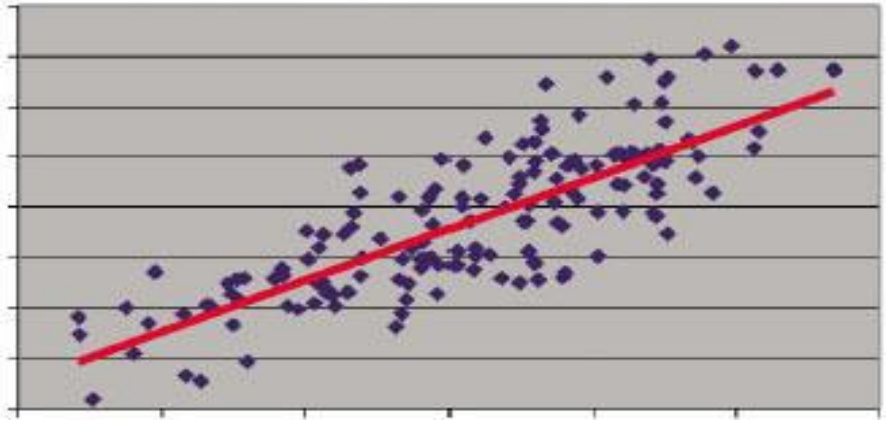
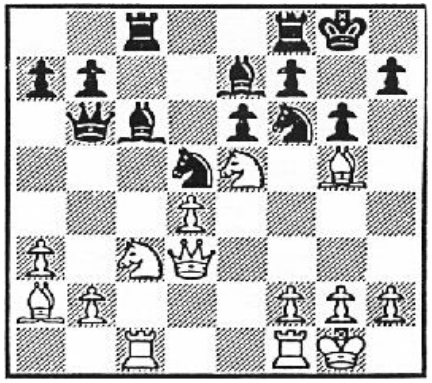


Illustration of r=0.8



Laboratory

Everyday life

Analysis: Experiments & Process tracing

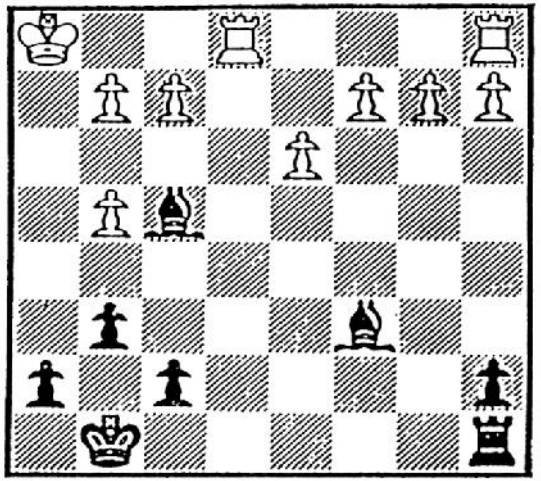
capture

Exceptional chess performance

Identification process of acquiring mechanisms

Cognitive Processes that Mediated the **Selection of a Chess Move**—Think Aloud

* Initial Orientation and Generation of Immediate Possibilities

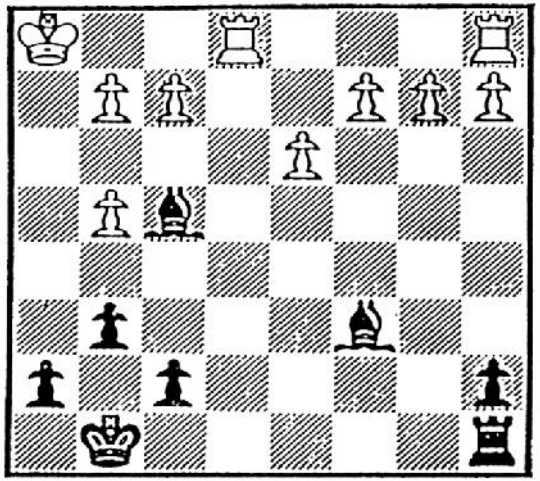


Position B

Black on move

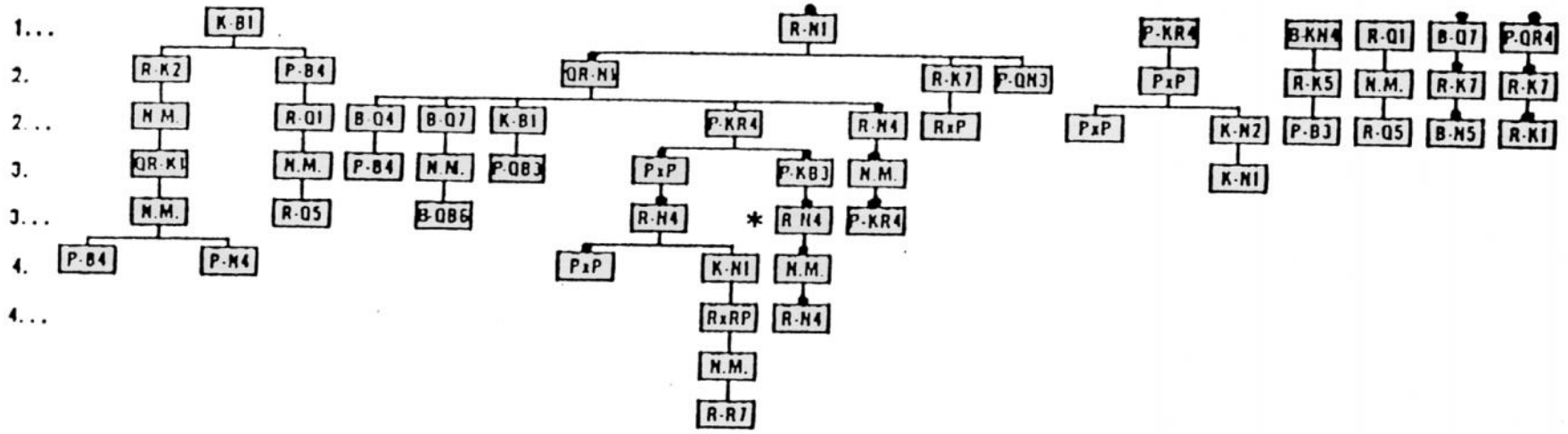
Cognitive Processes that Mediated the **Selection of a Chess Move**—Think Aloud

* Initial Orientation and Generation of Immediate Possibilities
* Exploration of Possibilities
* Systematic Investigation
* Final Evaluation



Position B

Black on move



Selecting the Best Move

Your best move in a game

Your best without time limit

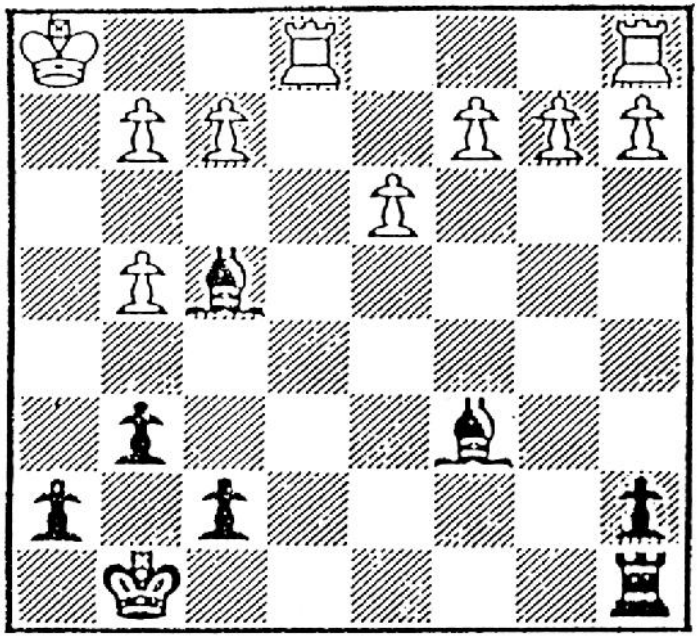
Move by a better player

Move by world champion

Move by computer

Simulated Play Against World Class Players

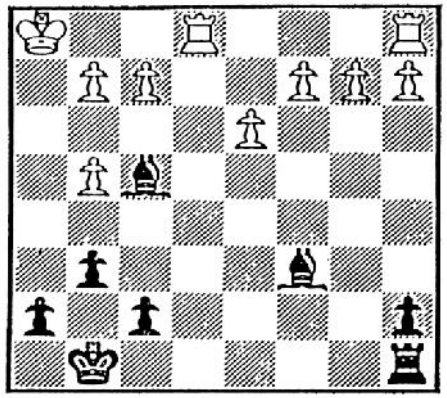
Study published games
by chess masters

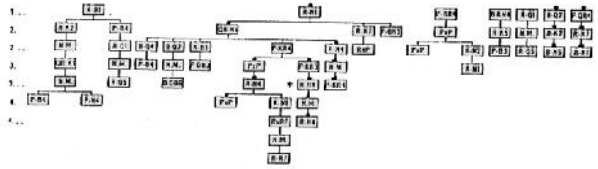


Black’s move

Select next move
If selection not correct, study
the position until understood

Making move in chess game





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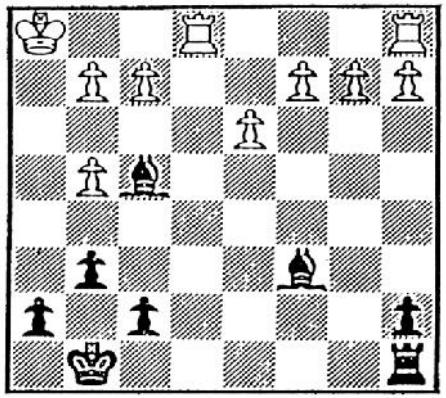
After chess game



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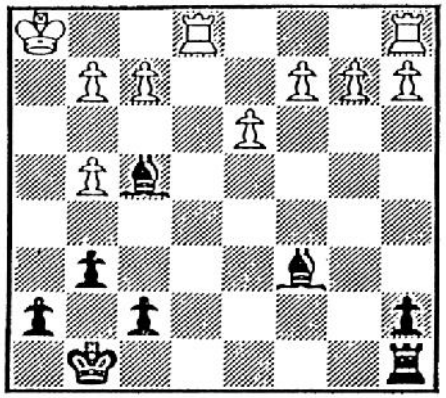
A month later



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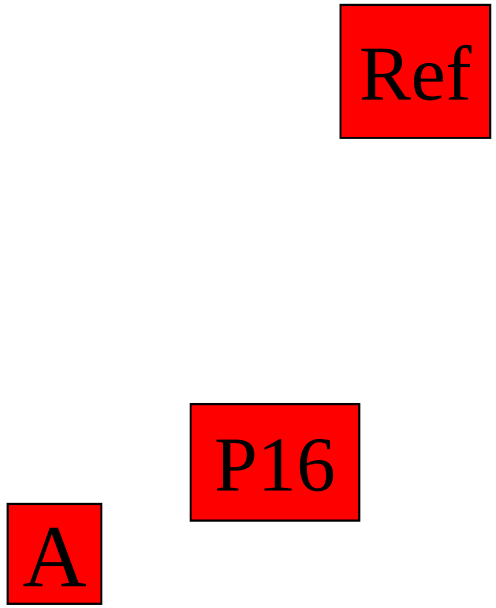
Memory for thought processes when reflecting on feedback

Exceptional Memory Abilities

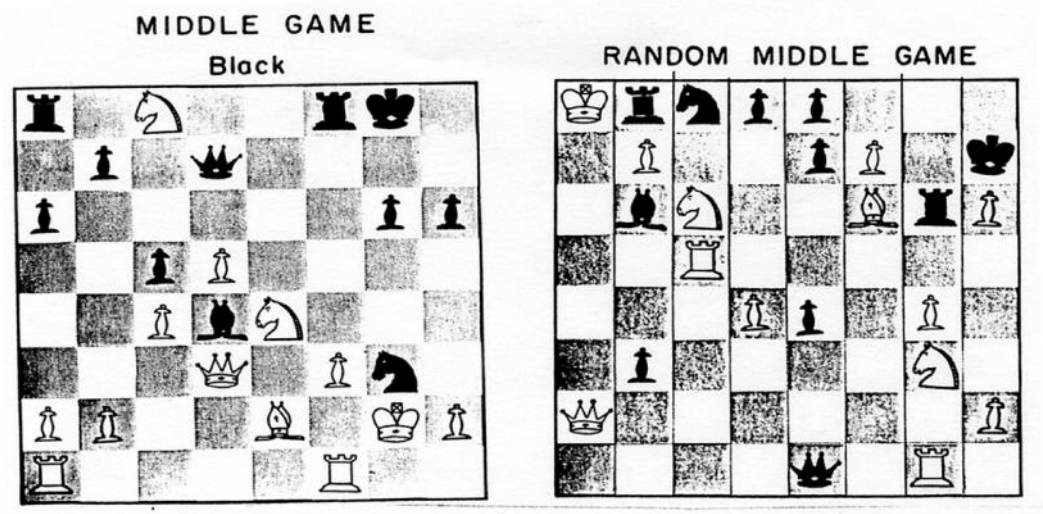
Blindfold
Chess

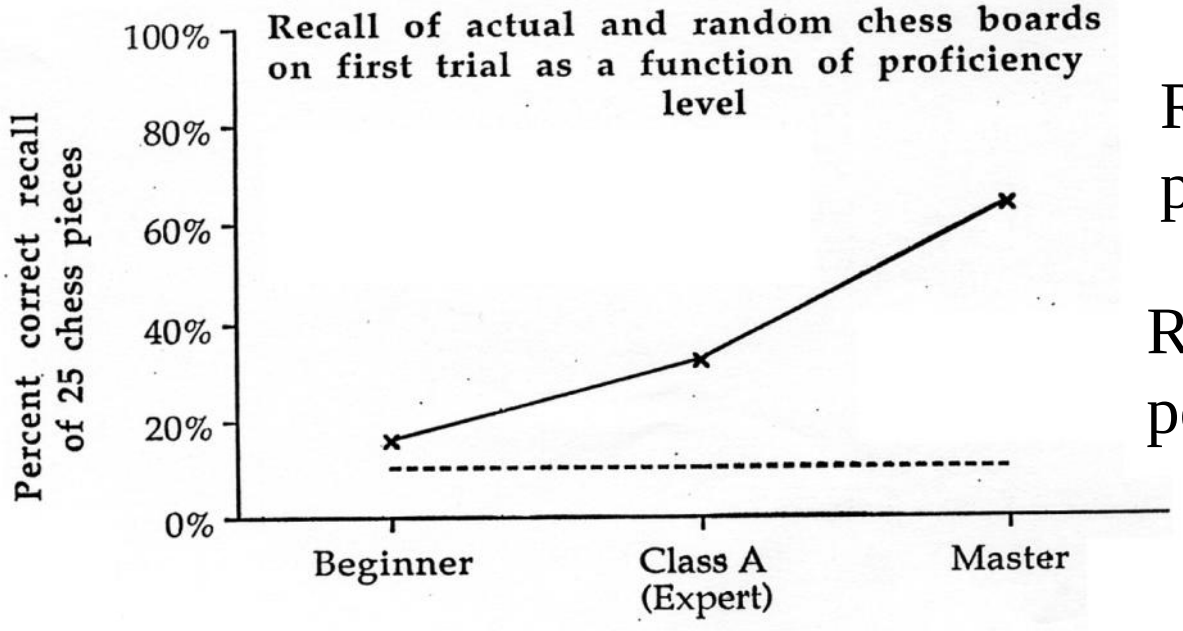


Alekhine beat most of the 30 skilled players while playing them simultaneously under blindfold conditions

Susan gave a white cat to Maria, who is the president of the club.

white of is the Maria cat gave a Susan club the president the who.

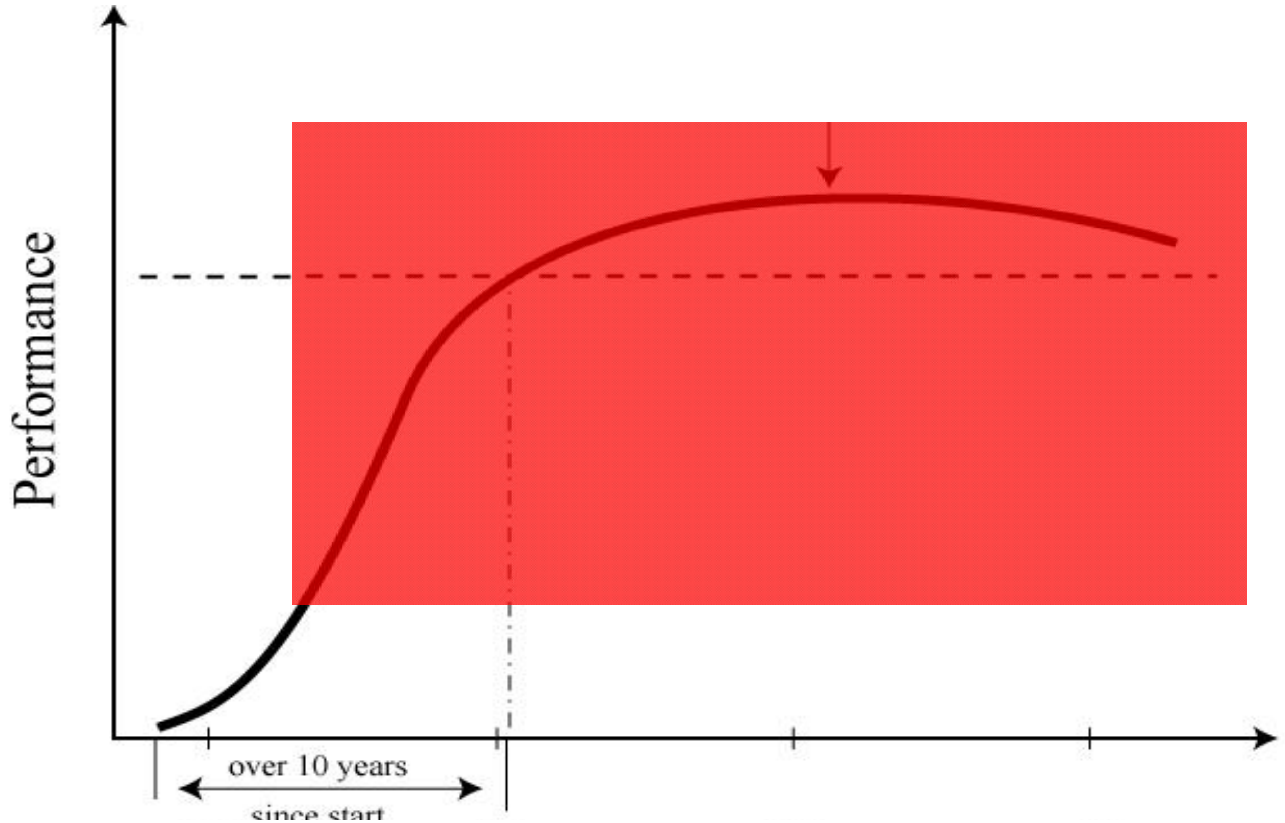




Regular positions

Random positions

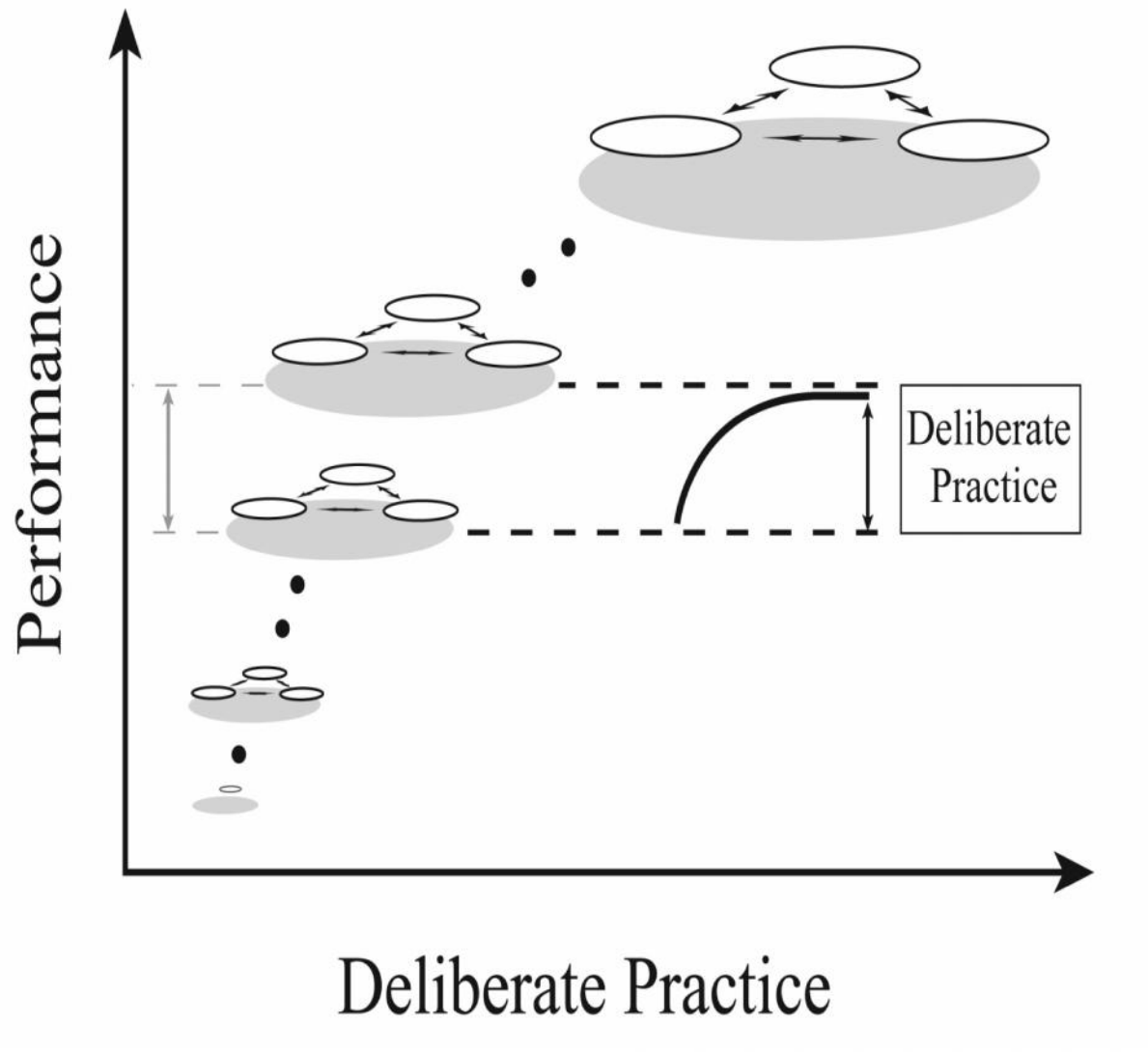
General Cognitive Capacities and IQ



Music
Chess
Scrabble
Architecture
Other creative domains

The **Constructed** Nature of Expert Performance

Acquiring Necessary Mental Representations



Expert Performers are Better Able to Represent and Analyze Situations

(Kersting, et al., 2010)

(Ward & Williams, 2003)

(Tuffiash, Roring, & Ericsson, 2007)

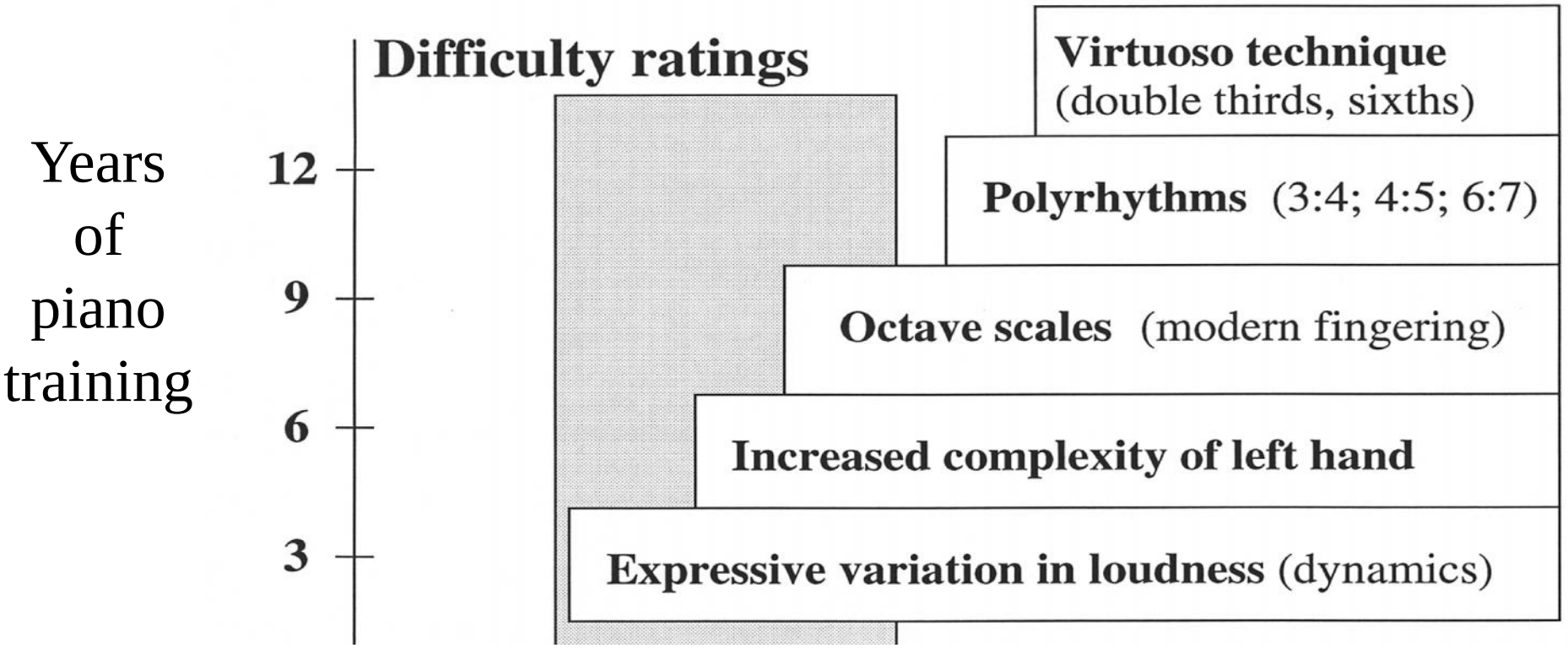
Arm wrestling—A domain where hours of lectures might not by themselves create champions

Matthias Schlitte

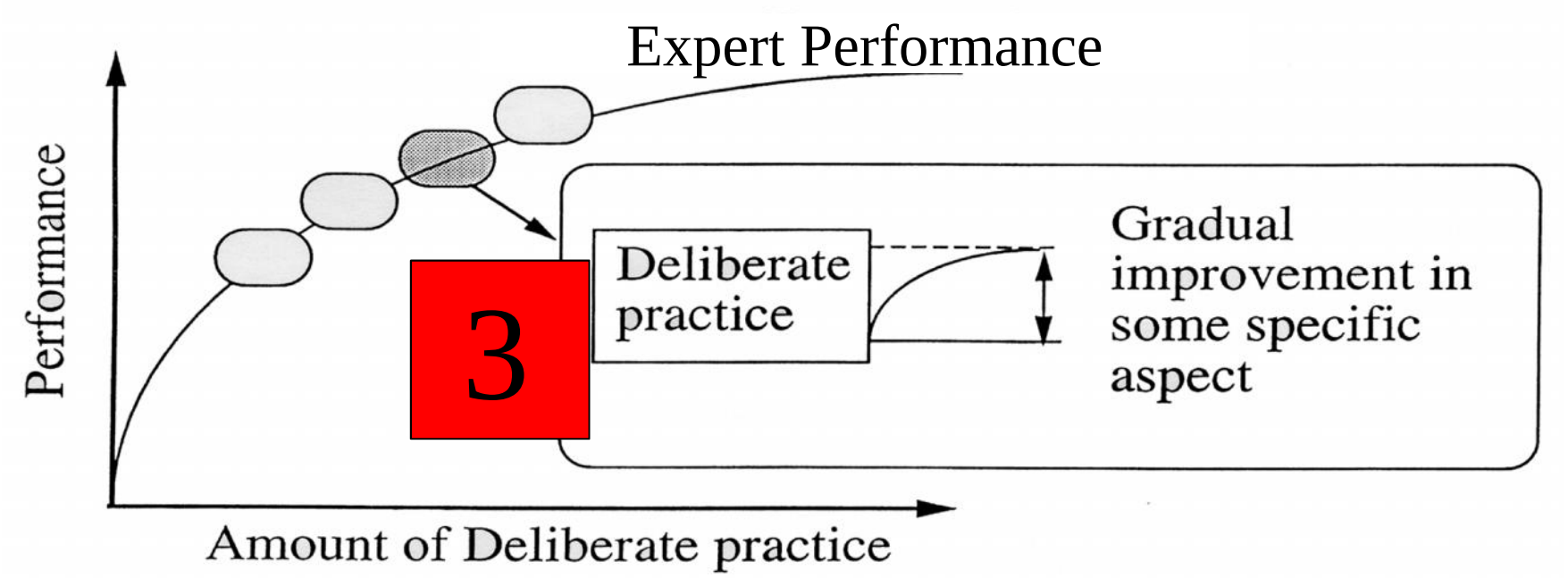
Part IV. Mechanisms, Skills, and their Acquisition Through Deliberate Practice

Salchow

Increase in Complexity and Control as a Function of Years of Piano Training



Design and Sequencing of Training Activities

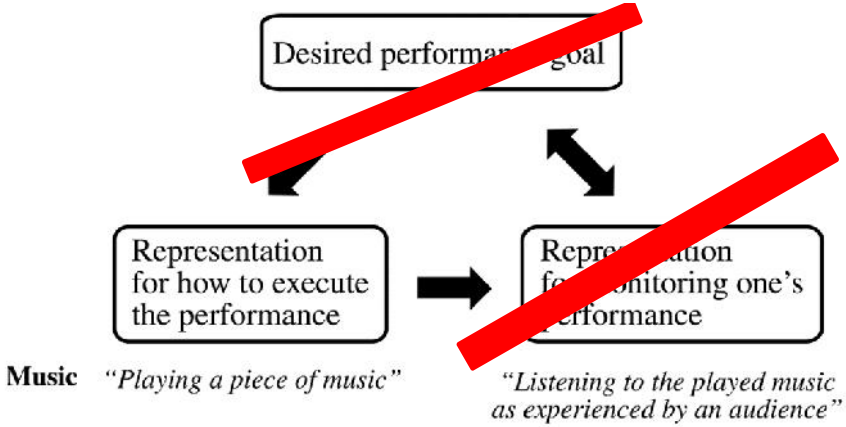


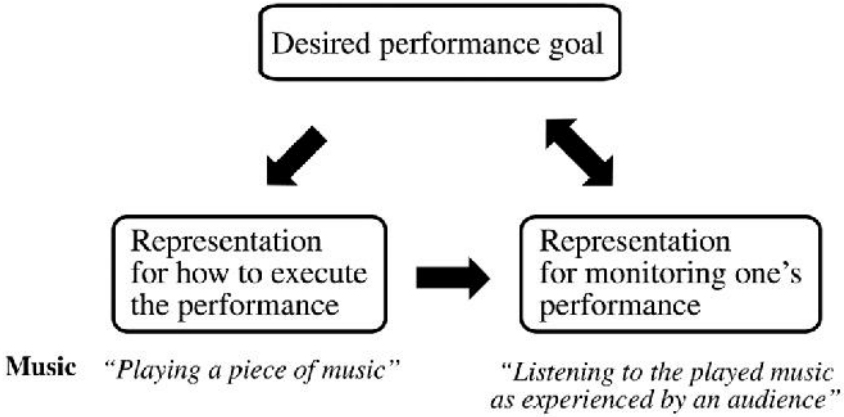
Professional teachers and coaches

1 Assess students' current performance

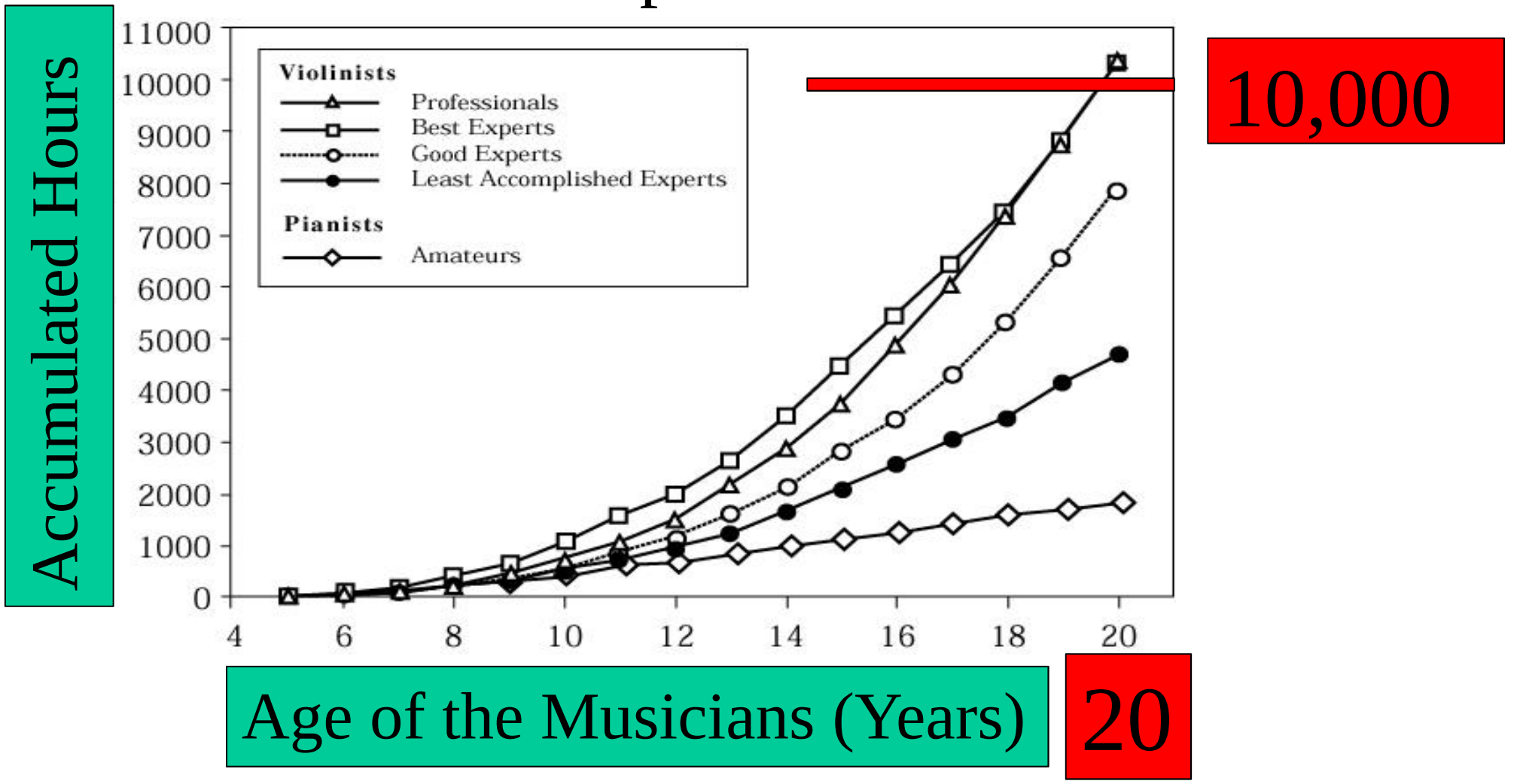
2 Design training tasks for individual students

Music *"Imagined music experience"*





Accumulated Amount of Practice During the Development of Amateurs and Expert Musicians

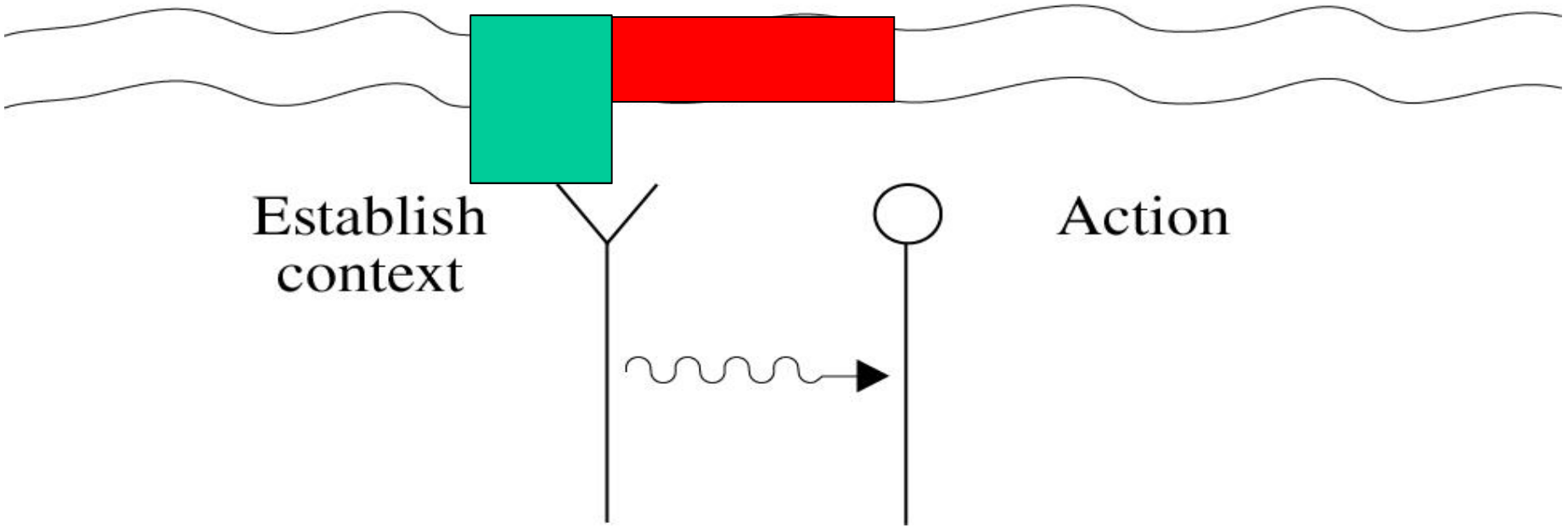


Reaching Beyond One’s Current Ability

Part V. Possible Suggestions for Supporting Professional Interpreters' Development

Finding Areas of Targeted Improvement

Adverse Events, Recovered Errors and Challenges



Recorded Video or Audio Tapes

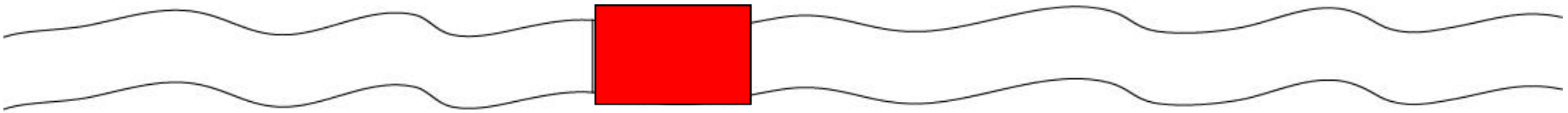
Average Number of Adverse Events per Surgery

2001 2012

(Oremakinde & Bernstein, 2014, p. 302)

From opportunities for experience to designed training

Training
Surgical
procedure
& Tennis



Practicing
Music
Performance

Identify challenging and difficult parts

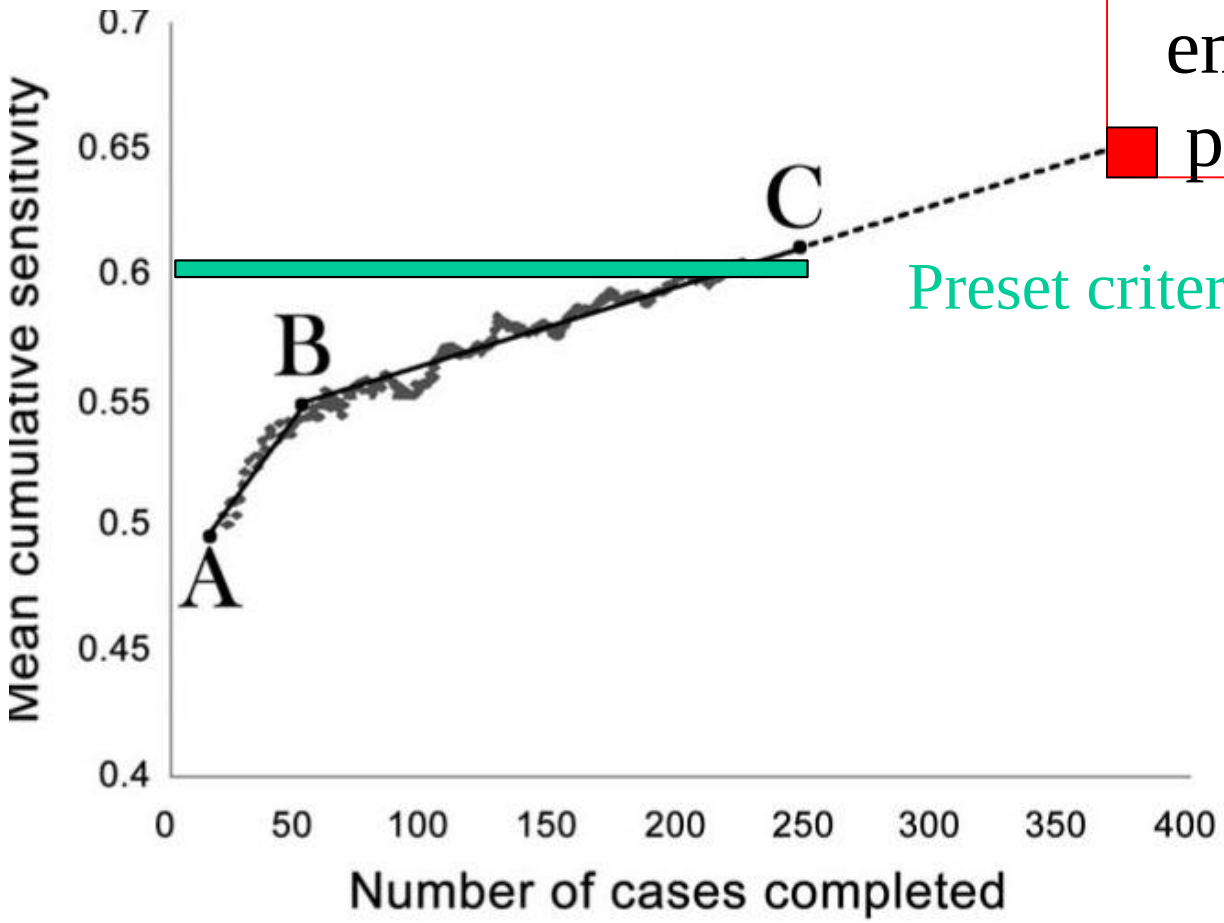
Libraries with Old Medical Cases
a gold standard for accuracy

An archive with 234 radiographs with and without fractures and official case reports

A patient's
characteristics
and
symptoms

Pusic, M., Pecaric, M., & Boutis, K. (2011). How much practice is enough?
Using learning curves to assess the deliberate practice of radiograph interpretation.
Academic Medicine, *86*, 731-736.

Performance of 18 Trainees



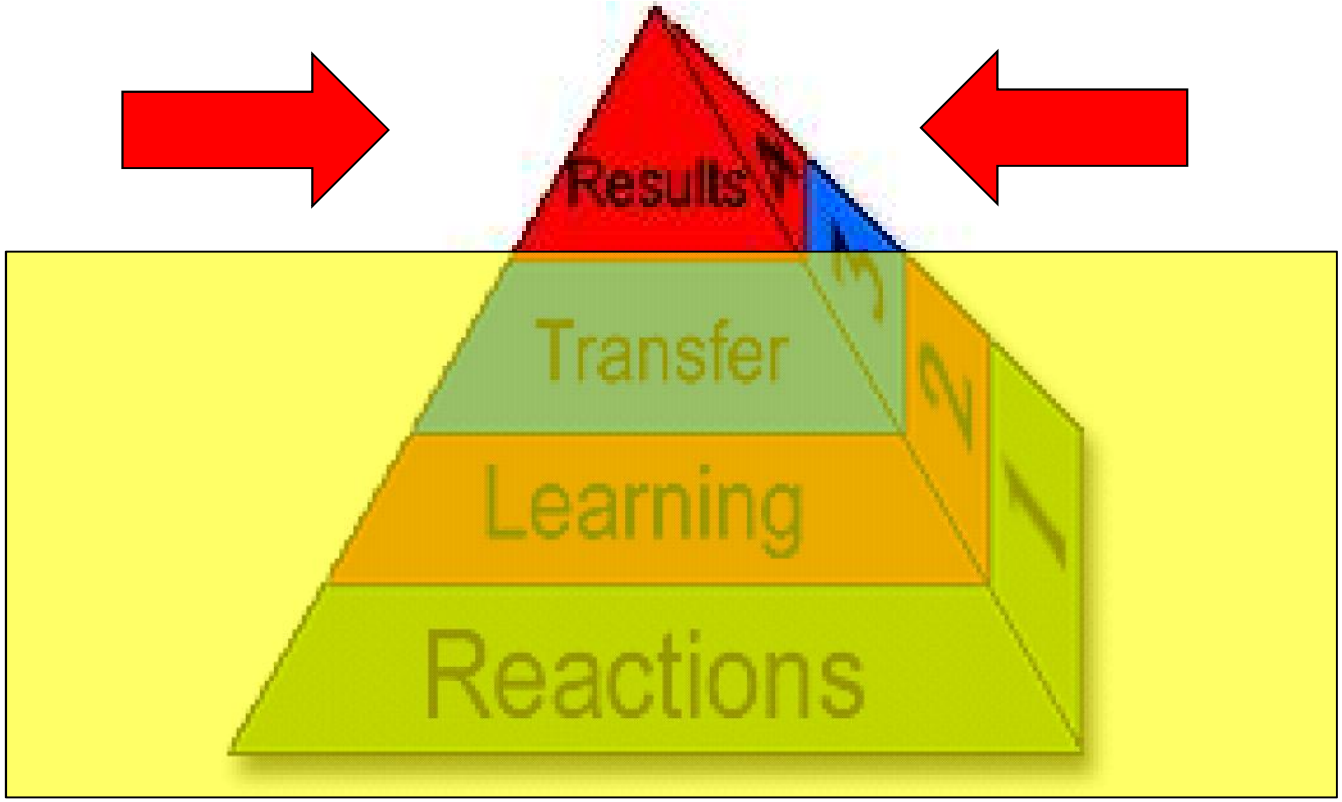
Attending-level pediatric emergency medicine physician.

Figure 3 in Pusic et al. (2011) How much practice is enough? Using learning curves to assess the deliberate practice of radiograph interpretation. *Academic Medicine*, 86.

The **Use of Libraries for Deliberate Practice** with Performers at Different Levels of Expertise

Allows exposure to difficult situations under conditions *optimal* for learning and performance

- Individuals being focused and ready
- Immediate perfectly accurate feedback
  (and opportunity for repetition)
- Presentation of related cases to facilitate discrimination



Kirkpatrick's four level model of evaluation

When One Mistake Is Your Last Action

Mortal Combat between Fighter Pilots

(In Chatham, 2009, in Ericsson--Development of Professional Expertise)

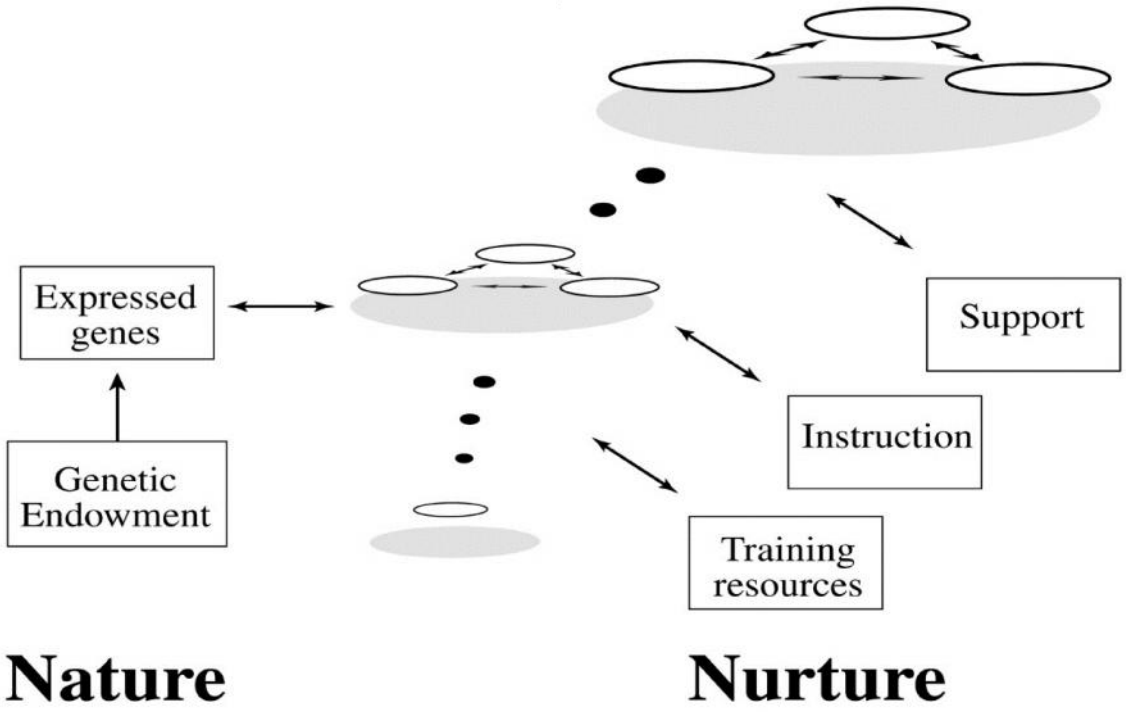
Top-gun
training for
only
Navy (USN) pilots

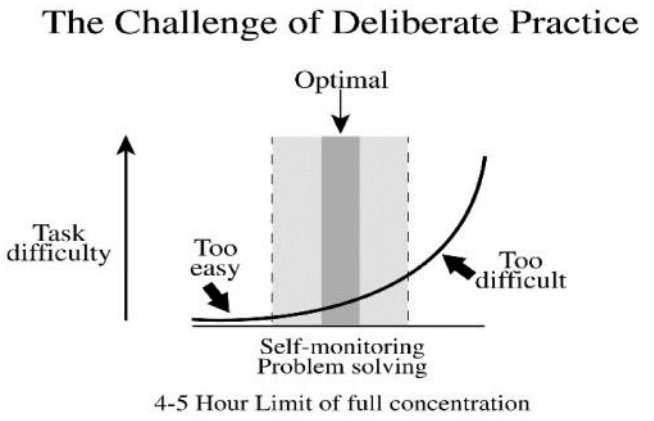
(In Chatham, 2009, in Ericsson—
Development of Professional Expertise)

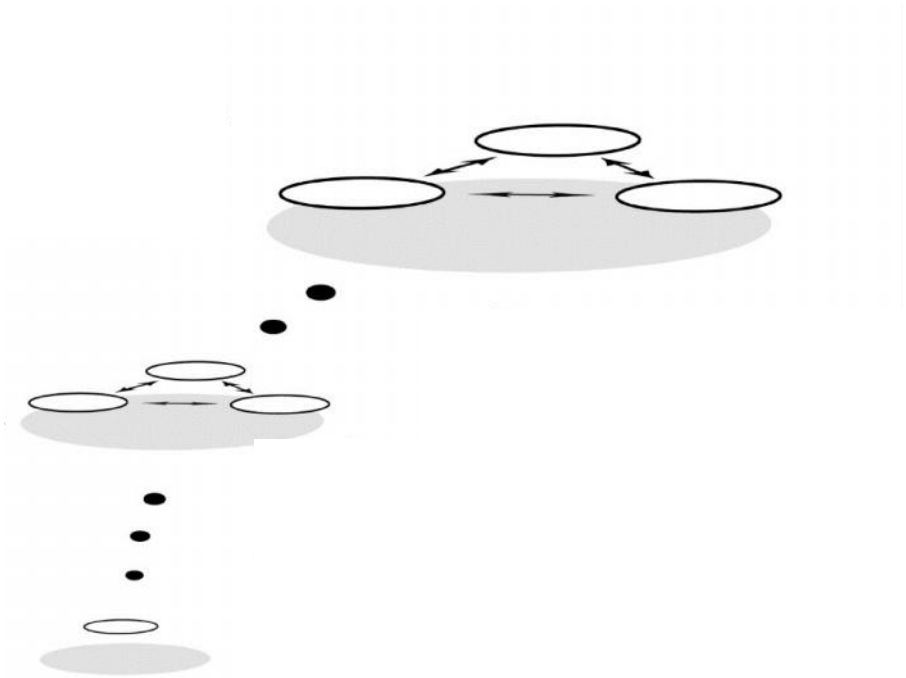
Actual dog fights with instructors flying enemy aircrafts

(In Chatham, 2009, in Ericsson—
Development of Professional Expertise)

The Complex Process of Acquisition of of Expert Performance







Continued practice

Continued search
for feedback