Practice Makes Perfect Revisited
New ways to use practice and feedback to build expertise

Tom Gram
BC HRMA Conference
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Practice in the Popular Press
The Original Research

K. Anders Ericsson
Florida State University
Practice Makes Perfect (or does it?)

What is expertise?
What truly separates experts from novices?

How is expertise developed?
(Hint: It’s all about the practice!)

Implications for Training and Development
How can we use this research to improve our effectiveness?
What is Expertise?

How expert performers differ from novice performers
What Defines An Expert?

- They perceive more
What Defines An Expert?

- They perceive more
- They know more
Highly refined and structured long term memory
What Defines An Expert?

- They perceive more
- They know more
- They set goals, reflect and adjust more quickly
- They self-evaluate against a standard
- They draw on tacit knowledge and practical intelligence to solve problems
- They use networks more effectively
The Neuroscience of Expertise
The Novice to Expert Progression

- **Novice**
  - Rule bound
  - Considers everything

- **Beginner**
  - Tacit Knowledge
  - Explicit knowledge

- **Advanced**
  - Formal learning

- **Competent**

- **Proficient**

- **Expert**
  - Intuition
  - Sees patterns

**Tacit Knowledge**
- Informal learning

**Explicit Knowledge**
- Formal learning
The Limits of Experts

- Difficulty articulating tacit knowledge
- Expertise blinders
- Individual accounts of expertise are often unreliable
How is Expertise Developed?

How experts develop their exceptional skills, knowledge and practical intelligence
How Expertise is NOT Developed

- Experience
- Innate abilities
- General abilities
Deliberate Practice

Expertise is the result of years of effortful, progressive practice on authentic tasks accompanied by relevant feedback and support, followed by self-reflection and correction.
## Essentials of Deliberate Practice

<table>
<thead>
<tr>
<th>Authentic Tasks</th>
<th>Designed to improve performance</th>
<th>Highly demanding</th>
<th>Repetition</th>
</tr>
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<tbody>
<tr>
<td>Immediate feedback</td>
<td>Reflection and adjustment</td>
<td>10,000 Hours</td>
<td>Personal Motivation</td>
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Deliberate practice is demanding and requires high levels of focus and concentration….

…but the task must not be beyond reach
# Essentials of deliberate practice

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Repetition with Continuous Feedback Avoids Plateau
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The 10,000 Hour Rule

Deliberate practice X 10,000 hours = Expert performance
10,000 Hours to Expertise….Really?

Task Variety

Routine Work | Technician Work | Craft Work | Knowledge Work

Task Standardization

1,000 hrs. | 10,000 hrs.

Explicit Knowledge | Tacit Knowledge

Formal Learning | Informal learning
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UPS Driver Training

What elements of deliberate practice do you see?
Deliberate Practice Cycle at Work

- Performance goal
- Plan
- Reflection
- Feedback
- Action
- Domain Knowledge
- Tacit Knowledge
- Practical Intelligence
T&D Implications
Building expertise with new approaches to practice
How do you learn?

Employee Perceptions of How They Learn at Work

- Company provided Training
- On-the-job Experience
- Interaction w/Co-workers
- Mentored by Peer or Manager
- Formal Education
- Publication
- Contact w/Outside Professional
- Internet or Intranet
- Conferences
- Knowledge Networks
- Intellectual Capital Databases

Source: Capital Works, LLC
Informal Learning and Deliberate Practice

Expert

Novice

Time

Learning

Learning

Learning

Plan

Reflection

Feedback

Action

Formal training event

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Challenges for Learning and Development

How can we:

- Design experience
- Support novice to expert journey
- Build tacit knowledge
- Build rich feedback into the organization
- Separate information from practice
- Embed learning in the job
- Define jobs and roles clearly
The New Practice

- Action Learning
- Cognitive apprenticeship
- Communities of Practice
- Simulation and simgames
- Feedback in the workflow
- Job assignments with coaching
- Practice Centres
Action Learning

- A Problem
- An Action Learning team.
- An action taken on the problem
- A process of guided questioning and reflection
- An Action Learning coach
- Action learning sets
Guided Experience in Management Development

Experiences
(from managers)

Reflection
(individual/group)

Application
(on job)

Impacts
(on organization)

Concepts
(from resources)

insights
and learning

Adapted from Mintzberg, Managers not MBA’s
Cognitive Apprenticeship

- Modeling by expert including discussion of mental processes
- Coaching, feedback and guidance in
- Scaffolding: gradual release of support as skills build
- Articulation: employees describe their mental process of problem solving or reasoning (metacognition)
- Reflection: discuss and identify strengths and areas in need of improvement
- Mastery of subskills
- Goal setting: Identify the next target skill
Communities of Practice (CoP)

Community of Practice
A group of people who share a concern, a set of problems, or passion about a topic, and who deepen their knowledge and capability for action through interacting and collaborating with others in the community on an ongoing basis.

Domain
The professional field of work and areas of problem solving and innovation

Community
The people that participate in the community and their corresponding roles (formal and informal)

Practice
The *work* of the community. Actions, knowledge repositories, and learning generated in the course of working.
Informal Learning Assets and CoP

FORMAL LEARNING
Learning essentials are designed and tightly sequenced through an integrated learning event (live or online) to produce a defined learning outcome.

INFORMAL LEARNING ASSETS
Learning essentials are created as independent assets using a variety of interactive social and communication media. Employees access and manage assets based on personal learning needs. Learning assets are created by a community of designers, experts, and learners.

SOCIAL LEARNING
Using Web 2.0 Platforms

Defined and Stable Knowledge

Effective learning in formal, informal and social modes requires experience with all 5 learning essentials.

Professional and Personal Networks

Organizational Objectives
Performance Objectives
Desired Competencies

Learning asset consumption

User generated content and knowledge creation

Informal Learning Asset Repositories
Simulation

- Surrogate for experience
- Embedded in context
- Deliberate practice with authentic tasks
- Learning by doing
Localizer, Navcan1 : Allez à la configuration de la fonction d'équilibre de modulation avec l'identification désactivée.
**Case Study: Jenny** This case study activity has audio so please adjust your computer’s audio settings if necessary.

Remember to use the scroll bar to read all the scenario content in the Case Study. Click to advance the story when you are ready. If you wish to go back at any time click at the top of the page.

**SCENARIO - JENNY: Monday Noon**

Here are a few things that you should think about...

You should constantly observe and look for warning signs. Be aware of the common warning signs and changes in behaviour so that you can recognise and better help the person in crisis.

These ‘red flags’ could occur as actions, feelings, words or changes in physical appearance.

What do you think Laura should do next? Make a selection from the options on the
Feedback in the Workflow

Want to get better? Ask.
Developmental Assignments with Coaching

- Challenge driven assignments
- Action oriented
- Coaching feedback
- Reflection
- Builds tacit knowledge and practical intelligence

Developmental Assignment Plan

**Developmental Assignment:** Investigate and provide recommendations on whether to outsource three business services currently operating in-house.

**Time Frame:** February to June, 2006

**Target of Development:** Ability to engage people from different functions in making politically charged decisions.

**Skills, Behaviors, Actions to Practice:**
- Separating fact from opinion or assumptions
- Facilitating discussions in which conflicting points of view are heard and respected

**Resources to Access:**
- Review best-practice studies on outsourcing.
- Interview individuals in the organization involved in past decisions about outsourcing.

**Relationships to Put in Place:**
- Get agreement with my boss to serve as a coach.
- Create a mechanism to get feedback from participants in the project on how well I am doing on the two skills listed above.
- Ask John D., a colleague, to serve as a sounding board during the assignment.

**Other Strategies:**
- Keep a journal to reflect on any anxiety I am experiencing and what I am learning.
Practice Centres
Summary

- Expert performers have highly refined perceptual skills, domain knowledge and practical intelligence
- These skills are developed through years of targeted and deliberate practice
- The elements of deliberate practice cycle can be supported and enhanced in the workplace
- The methods transcend the formal/informal learning debate
- New methods of practice support learning more effectively than traditional classroom practice
Questions/Comments?

tom.gram@globalknowledge.com
@tomgram1
performancexdesign.wordpress.com
ca.linkedin.com/in/tomgram