

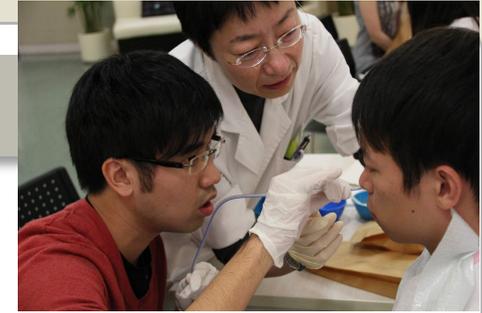


MASTERY

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The Motivation Matrix

Student motivation* is crucial for quality education



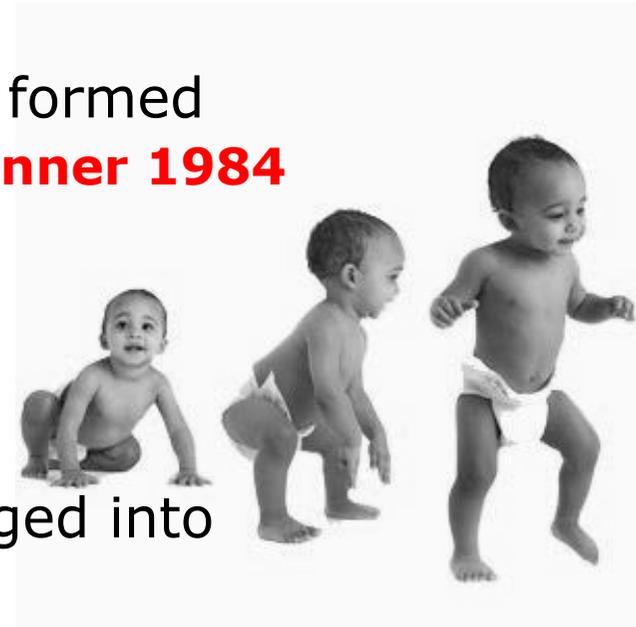
Student	Teacher	Content	Process	Environment
Access	Trained	Accurate	Innovative	Safe
Ability	Monitor	Stimulating	Authentic	Positive
Interest	Responsive	Relevant	Interesting	Personalized
Value Education	Inspirational			Empowering
Motivated students ask questions finish tasks are involved in their learning				

Mastery is part of **Self-Regulation**

Learning occurs when an association is formed between stimulus and response..... **Skinner 1984**

Mastery for Learning Model:

- Well defined learning objectives packaged into sequentially organized modules
 - The Focus is on **developing competence**
- Bloom & others**





MASTERY

GOALS

PERFORMANCE

Desire to develop competency and skills

Desire to achieve highly on external measures of success
Grades Marks

Increases student's motivation
Deeper Engagement with task

Locus is **EXTERNAL**
Engagement is shallow

Greater perseverance **resilience to setback**

Higher states of anxiety
Higher incidence of cheating
Rote learning

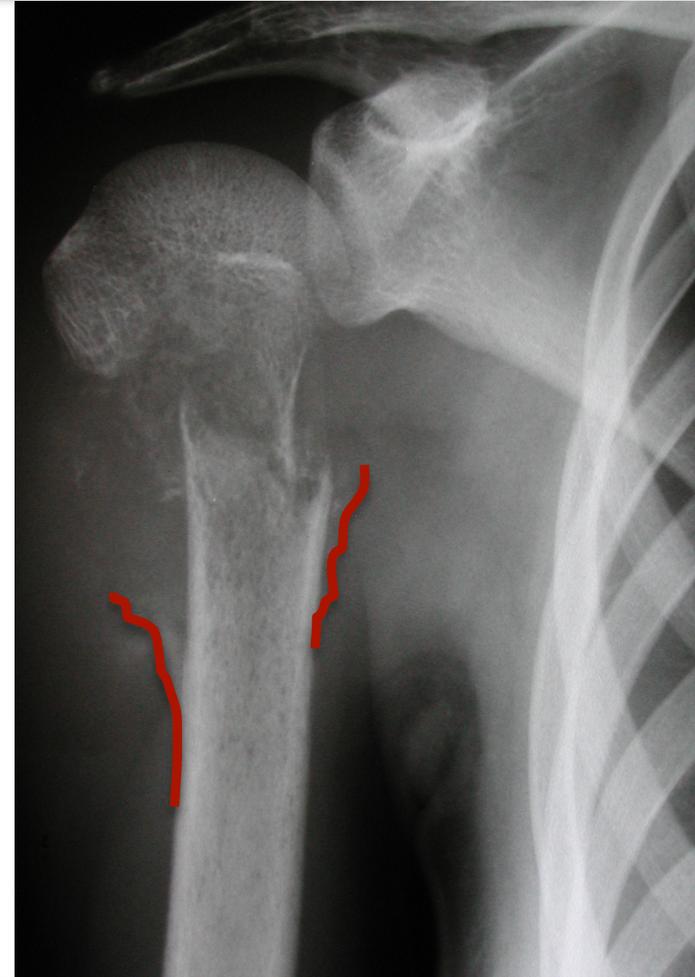
Learning Outcomes Revisited



16-year old girl lost her
Right Arm



Misdiagnosed as a
traumatic fracture
after injury while
playing basketball



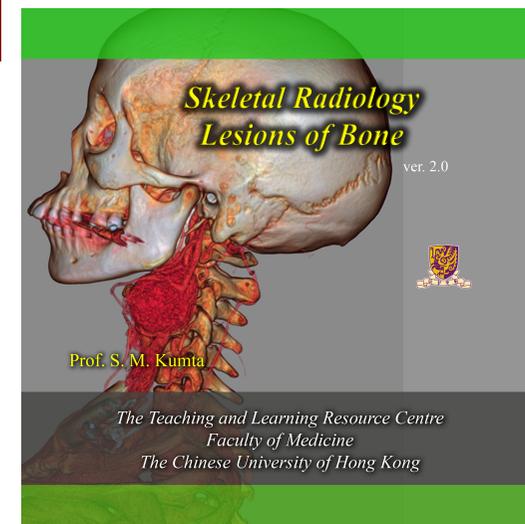
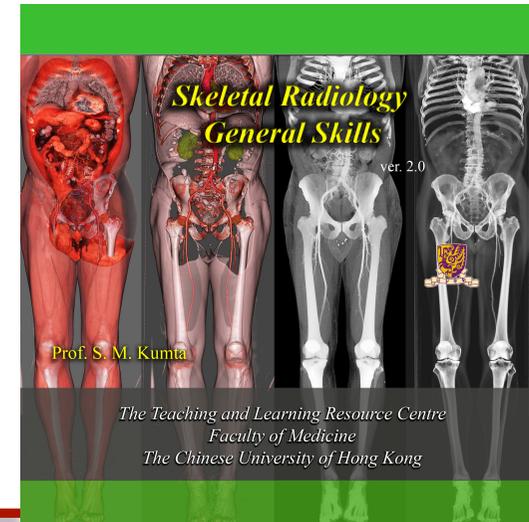
A Medical officer failed to interpret the radiographs – this was not an isolated incidence thus the **review of our teaching**

Learning Outcomes Revisited

- Improve the contextual interpretation of radiological investigations
- Improve holistic care and management

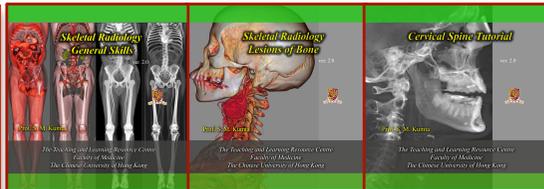
Instructional Design Change

- Student Pre-Engagement thru E-Learning
- FaceTime® Interaction & engagement
- Focus on **MASTERY** rather than performance



Pre-Engagement Resources

Year 1



Year 3

Engagement during Clinical Modules

Year 5

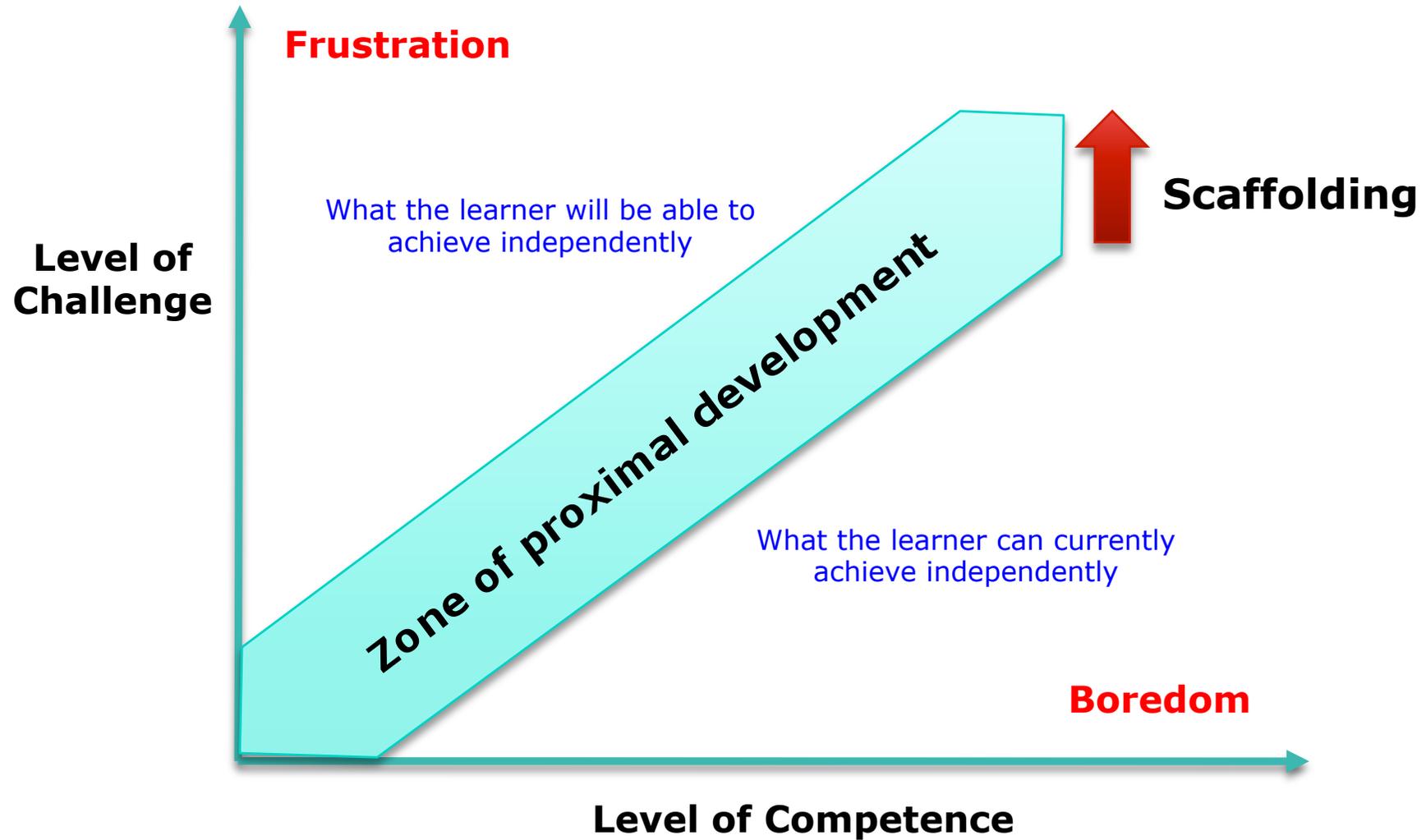
Bedside tutorials
OPD Clinics
Ward-rounds

Internship

HOT-SEAT



Scaffolding – The ZPD



6 Critical Components



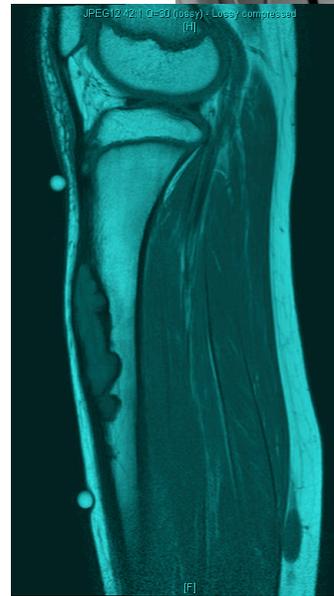
GOAL

- Must be **Explicitly** stated
- Shared Goals – student **buy-in**
- Meaningful and Engaging to students
- **Realistic**
- Strong Motivating Factor



Whole Task Approach

- Mastery in a **narrow context** is seldom useful
- Broaden the scope so that mastery focuses on a **holistic** rather than a **fragmented** approach

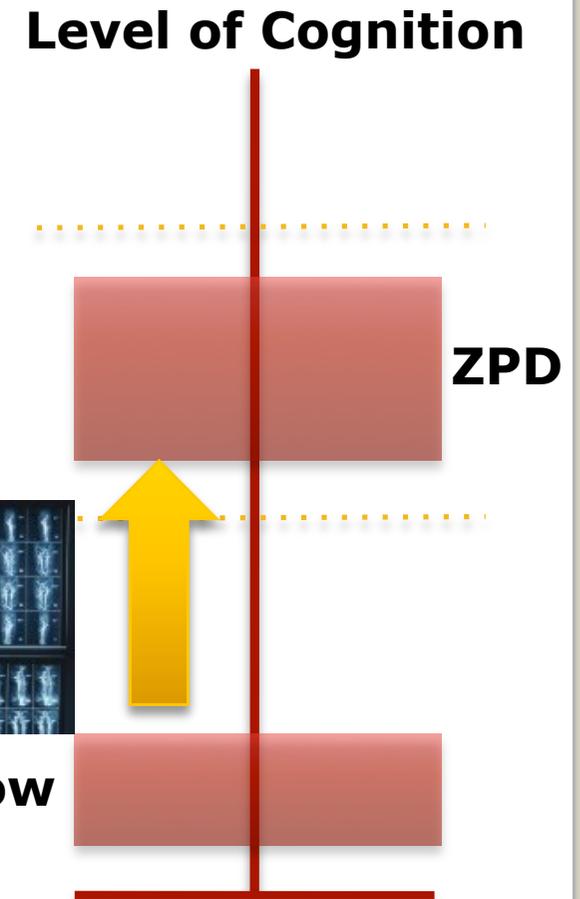


In our teaching the focus is always on the whole patient

Intention-Assist

Successful Scaffolding towards Mastery requires students to attempt **cognitive tasks** that are **intentionally higher** than their capability

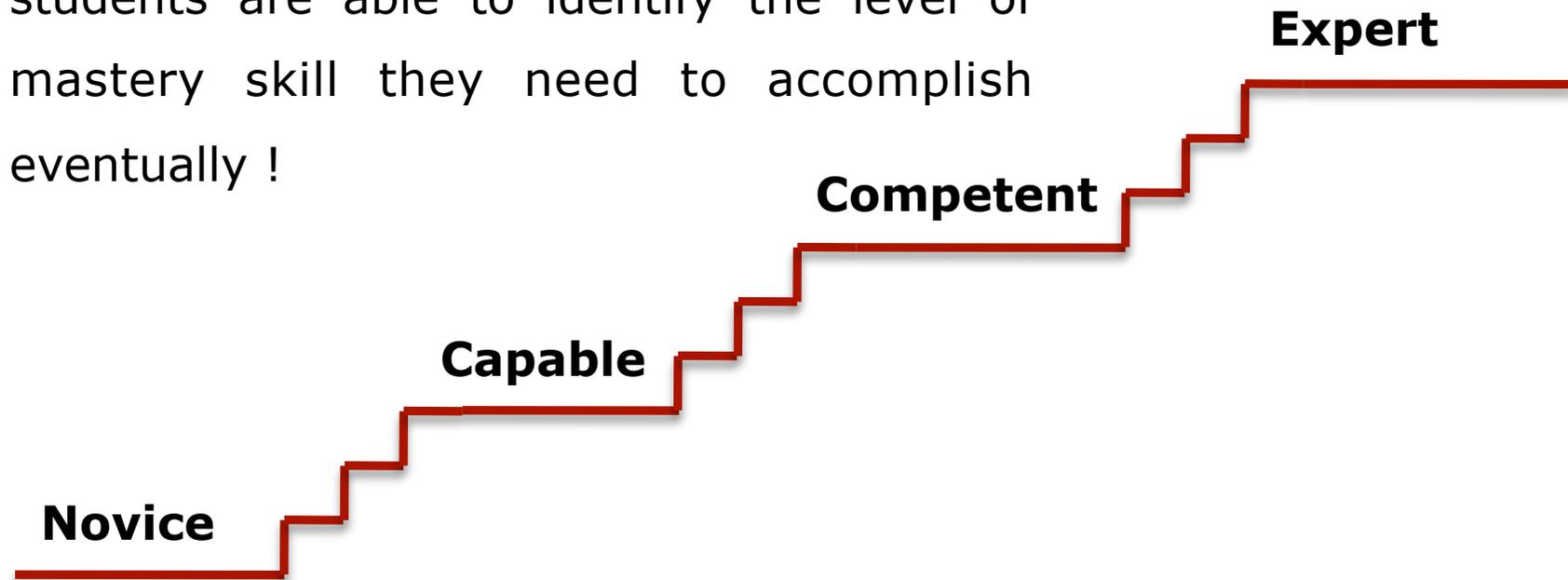
Those who attempt engagement at a **low level** may need **coaching** to push them towards the ZPD



Expert Model

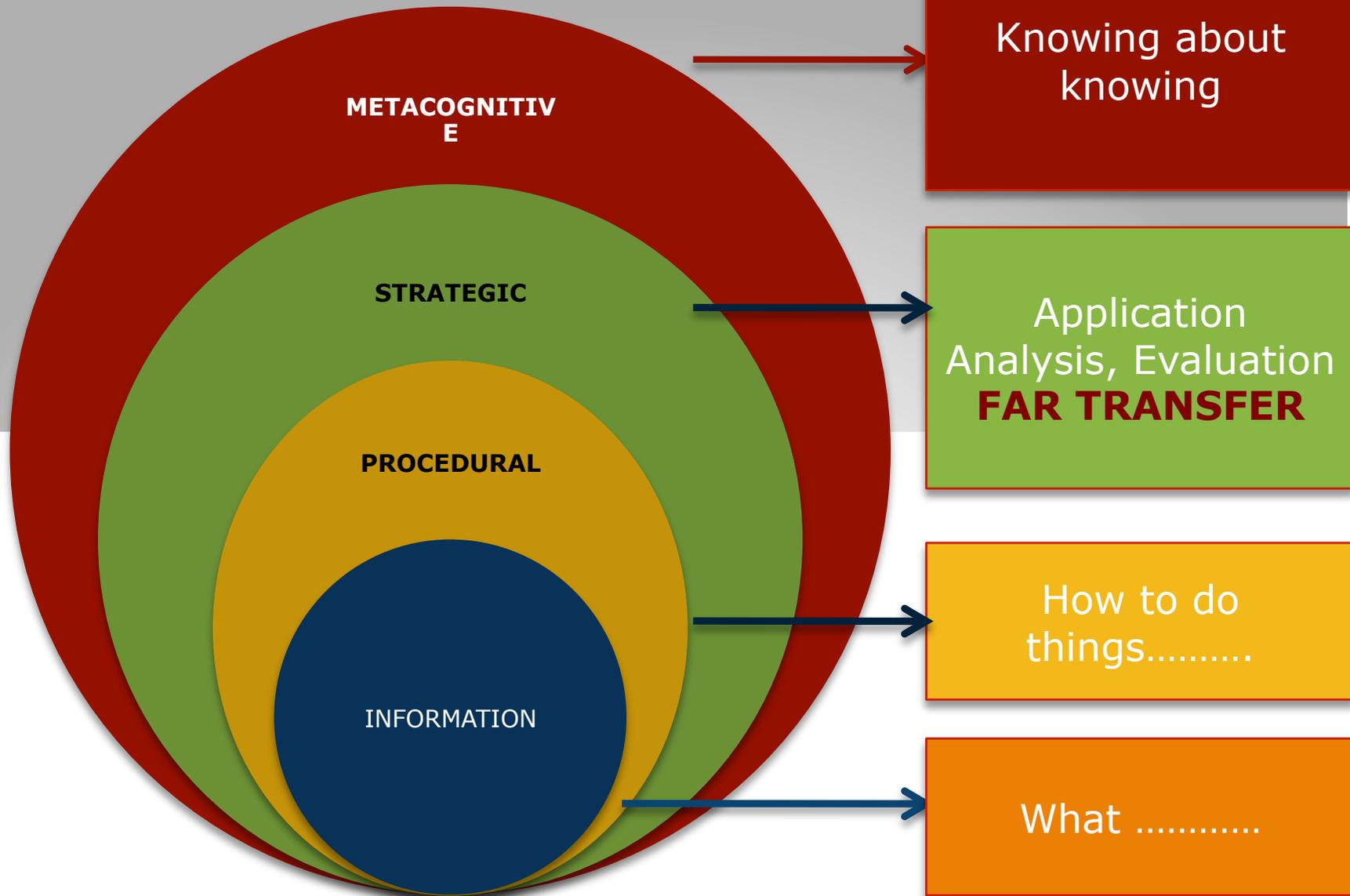


Need to convey and communicate what the **expert level** of performance is – so that students are able to identify the level of mastery skill they need to accomplish eventually !



Cognitive effort → Failure & set-back → Scaffold → renewed effort → Move to a higher level

Types of Knowledge



FAR TRANSFER

- Lessons and course designed to build **strategic skills** focus on “**principles**” and a “**general**” approach to tasks in which there is **no single correct solution**.
- **Promote Teamwork & Collaboration**
- Encourage **innovative ways** to problem-solve
- **Help develop Judgment**



Chess is a good example!

Judgment is crucial to mastery

Course Architecture

Architecture	Goal	Interactivity	Utility
Receptive	Information Acquisition	Low	Time-table
Directive	Response Strengthening	Medium	Procedure Guidelines
Guided Discovery	Knowledge Construction	High	Strategic Training

Structure is useful for reducing time to discovery



Radiograph interpretation skills have improved

Assessed at Year-3 and Year-5 exams

Assessment during internship.

Interns are better at ordering and interpreting investigations

Have our students become better?



Mastery Motivation

- Important but often forgotten in Higher education
- Wider application
- Requires **rethinking** of Instructional Design
- **Learner Focused** approach
- **Invert the Curriculum Design** paradigm

