

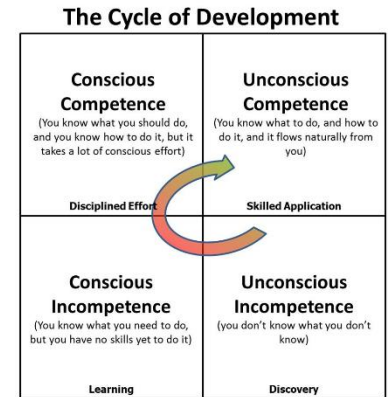
# Teaching Procedures in the Clerkships

CORD 2016

David Manthey and Mary Jo Wagner

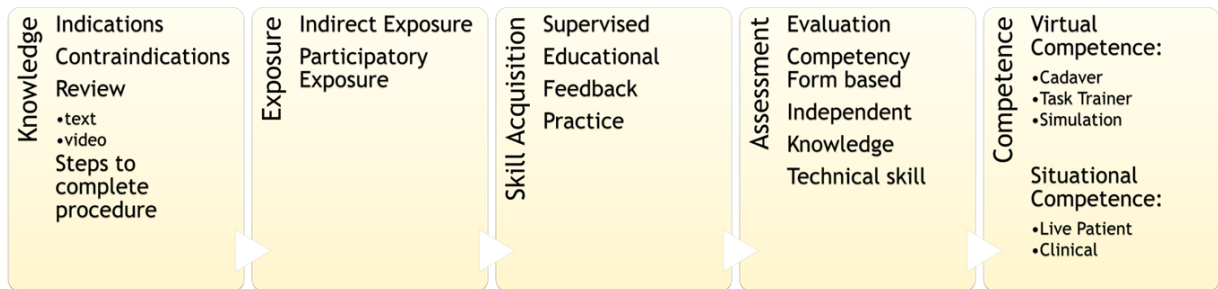
## Learning Theory:

- Videre...Facere...Docere
  - See one, do one teach one – how we were taught
  - The science of how to teach procedures has changed
- Cycle of Development ( “Four Stages for Learning Any New Skill” )
  - Students enter procedures in discovery
  - Moving too rapidly through the cycle will develop minimal ability with limited understanding



## Stages of learning a new procedure

- Knowledge of the procedure (Cognitive Phase)
  - Series of steps
  - Indications
  - Contraindications
  - Consent
- Exposure (Cognitive Phase)
  - Demonstration by expert
  - Nonverbal demonstration
  - Walking through the individual steps



- Deliberate Practice (Psychomotor Phase)
  - Motivated learners
  - Well-defined learning objectives
  - Focused and repetitive practice
  - Precise measurements of performance
  - Formative feedback
- Competency
  - Inferred competency – They completed procedure so they must be competent
  - Observed competency – I watched them and it looked right to me
  - Structured competency – Checklist review of the steps and psychomotor skills

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### Teaching Procedures

- Instruction on a model
  - Assess intended learner's needs
  - Identify an appropriate model
  - Perform a task analysis
  - Demonstrate the skill
  - Repetitive practice
  - Provide feedback
- Feedback with model
  - Immediately halt improper actions
  - Provide specific comments
  - Explain/demonstrate ("why" and "how")
  - Perform procedure again with correct actions
  - Supervised repetitive practice
- Learner Rehearsal
  - Discuss the sequence before the procedure is started
  - Identify the critical steps
  - Assemble equipment then... Demonstrate the skill
- Task Analysis
  - Sequencing
  - Break complex skills into simple parts
  - Identify the critical components
- Teaching during lab
  - Immediate correction
  - Re-demonstration of proper technique
  - Discussion of how and why
  - Assessment of procedural knowledge at the bedside
  - Have the resident:
    - Consent patient or parents
    - Acquire needed equipment
    - Identify personnel needs (nurses etc.)
    - Review critical steps
  - Feedback
    - Immediate
    - Specific
    - Performance based, not personality based
    - Limit corrections
- Teaching during clinical scenario
  - Discussion of how
  - Supervision variables
    - Difficulty of procedure
    - Urgency for procedure
    - Skill/experience of resident
  - When to step in
    - Patient safety issues
    - Stopping bad habits

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