A Four-Step Approach to Teaching a Clinical Skill

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Teaching a Clinical (or Practical/“Hands-on”) Skill

Aims
• Introduce a four step framework for teaching clinical (or practical) skills
• Provide the opportunity to teach a clinical (or practical) skill

Learning outcomes
• Demonstrate teaching a clinical (or practical) skill using the structured 4 step approach
• Apply effective teaching skills
What skills do you teach?

• Clinical skills?
  – Physical examination skills
  – Procedures

• Laboratory skills?

• Life skills?
A Four-Step Approach to Teaching a Clinical/Practical Skill
Teaching a Clinical Skill: Four Step Approach

1. Teacher demonstrates the skill at normal speed, with no words (Demonstration)
2. Teacher demonstrates the skill while describing the steps (Deconstruction)
3. Teacher demonstrates the skill while the learner describes the steps (Comprehension)
4. The learner performs the skill while describing the steps (Performance)
Step 1: Demonstration

• Teacher demonstrates the skill at normal speed, with no words (Demonstration)
Step 2: Deconstruction

• Teacher demonstrates the skill while describing the steps (Deconstruction)
Step 3: Comprehension

• Teacher demonstrates the skill while the learner describes the steps (Comprehension)
Step 4: Performance

• The learner performs the skill while describing the steps (Performance)
Teaching a Clinical Skill: 
Four Step Approach

1. Teacher demonstrates the skill at normal speed, with no words (*Demonstration*)
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4. The learner performs the skill while describing the steps (*Performance*)
Demonstration
Deconstruction
Comprehension
Performance
Time out: Teaching techniques

• What technique did I use in the last 4 slides?
Retrieval Practice Enhances Learning

• Asking questions
• Actively trying to retrieve new knowledge
• Quizzing yourself

• Cognitive Science of Learning
  – Harvard Macy Institute Program for Educators in the Health Professions
  – Karpicke et al (multiple studies)
Teaching a Practical Skill: Four Step Approach Example

• European Loop
Teaching a Clinical Skill: Four Step Approach

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Practice Teaching a Clinical Skill Using the Four Step Approach

• Groups of 3 people:
  – Teacher
  – Learner
  – Observer/“Patient” (provides feedback)

• Each teacher: 5 min teach (using 4 staged approach), then 2 min receive feedback

• Rotate (each person does each role)
Choose a Common Clinical/Practical Skill to Practice Teaching
(1 minute skill)

• Performing an arterial puncture
• Obtaining a throat Culture
• Reducing a Nursemaid’s Elbow
• How to focus a microscope
• How to tie a men’s tie
• How to draw a palm tree
Reducing a Nursemaid’s Elbow

- [https://www.youtube.com/watch?v=1XaspWMxn5A](https://www.youtube.com/watch?v=1XaspWMxn5A)

- Which step is she using?

- See Handout
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Lessons Learned

• How can you apply the four-staged approach in practice?

• What types of skills could be taught in this way?
Limitations and Modifications

• Best done 1 on 1
• Modification for small group teaching
  – Teacher performs steps 1 and 2
  – Learner #1 describes as teacher does step 3
  – Learner # 2 describes as Learner #1 does step 3
  – Peer, then teacher feedback to Learner #1
  – Multiple trainees practice step 3 & 4
• Other modification ideas?
References

• Harvard Macy Institute Program for Educators in the Health Professions, 2015
  – Clinical Skills Teaching: Eugene C. Corbett, MD
  – Cognitive Science of Learning: Holly Gooding, MD

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• NHS Education for Scotland. Train the Trainers’ Toolkit: Helping others to facilitate learning in the workplace. NHS, 2012

• Karpicke JD & Blunt JR. Retrieval practice produces more learning than elaborative studying with concept mapping. Science, 2011.

• Nikendei C. et al. Modification of Peyton’s four step approach for small group teaching—a descriptive study. BMC Medical Education, April 2014
Thank You!

• Questions?