Training for competence – why and how?

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• What is competence –based medical education?

• The role of medical educators in developing competence
What is competence?
Which skateboarder has competence?

A  B
Competence –based medical education

- Competence = measurable behaviour
  - Standards of performance
  - *Assessment*

Competence-based medical education

- Competence = measurable behaviour
  - Standards of performance
  - Assessment

- Competence = end-product of instruction
  - Learning / Teaching

Competence–based medical education

Better standards, better physicians, better care
Assessing Competence

# Developing and Assessing Competence

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<th>Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
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<td>Recall</td>
<td>Repeat</td>
<td>Reactive response</td>
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<td>Understand</td>
<td>Sequence</td>
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**APPLICATION = PERFORMANCE**

Developing Competence

Teaching → Learning

ASSESSMENT

FEEDBACK

INSTRUCTION
Developing Competence

Teaching

Learning

Teaching to achieve the full potential of the learner

STRETCH
Developing Competence

Fine tuning of existing teaching!

• Assessment *for* learning

• Developing higher levels of competence through Awareness Raising Questions

• Mastery learning
Assessment FOR learning
KNOWLEDGE

SKILLS

ATTITUDES

Do not know a fact

Do not know how to do something

Cannot be bothered

ASSESSMENT → FEEDBACK
Feedback

Narrative summary of 12 previous meta-analyses (196 studies)

Review of Educational Research 77(1):81-112
Feedback

• Large differences in impact of feedback on learning and performance

• Your feedback may not be useful to the learner!

Feedback

• Most useful—receiving information about a task and how to do it more effectively

• Least useful—praise or scorn

Review of Educational Research 77(1):81-112
Feedback
1. Feedback directed at self
   “You are not good”
The 4 Levels of Feedback

2. Feedback about the task
   Correct or incorrect—
   “You did not correctly position the needle”
The 4 Levels of Feedback

3. Feedback about the process

How the task was performed –

“You did not palpate the vein before inserting the needle”
4. Feedback about Self-Regulated Learning

How SRL was used –

“You were not confident in taking the blood, you did not have a clear plan about what to do and before inserting the needle you did not check that you had performed the correct steps”
The 4 Levels of Feedback

1. Feedback directed at self
2. Feedback about the task
3. Feedback about the process
4. Feedback about Self-Regulated Learning
What type of feedback do I usually give?
The Importance of Self-Regulated Learning (SRL)

Sandars J & Cleary TJ (2011)
AMEE Guide No:58  Self-Regulation Theory: applications to medical education
Medical Teacher 33 (11): 875–886
What is Self Regulated Learning?

“An active process whereby learners set goals and monitor, regulate and control their cognition, motivation and behaviour to achieve their goals”

Self Regulated Learning
Self Regulated Learning

- PLAN
- SELF-MONITOR
Self Regulated Learning

- Plan
- Self-monitor
- Self-evaluate
- Feedback
Self Regulated Learning

External

Internal

Essential for lifelong learning
Providing feedback on Self-Regulated Learning
SRL Micro-analysis of Performance

Semi-structured interview to assess students’ self-regulation and motivational processes during learning

Medical Teacher 33(7):e368-74
SRL Micro-analysis Questions

Forethought Phase
- Goal setting
- Planning strategy
- Self-efficacy

Performance Phase
- Self-monitoring

Self-Reflection Phase
- Self-evaluation
- Planning for next time

Venepuncture
What are you thinking about as you prepare to draw blood from this arm?

• First of all, I’d check his names and date of birth to make sure that it was the right patient.
• I’d make sure that he was relaxed and then put the tourniquet round the arm to make it quite tight.

• Whether I can actually get blood ..... whether I can get any blood back into the vacutainer.... to get enough blood
Do you think you have performed a flawless procedure so far?

• No .. [giggles] I would probably have palpated the vein first ... but it was quite prominent and I would take it from there

• Mmmm [pause] I can’t think of any right now but I’m guessing that I may have made some mistakes but I can’t think of any right now
Why do you think that you were successful in obtaining a blood sample on your first attempt?

• I’ve had quite a bit of practice ... umm, I’m quite confident with the arm.

Why do you think that you were unsuccessful in getting into the vein?

• [pause] I don’t know. I think ..... umm. I don’t know ... I feel like I’ve chosen the wrong vein, but that’s one that I would normally choose. I’m just not sure how it feels when you have not gone deep enough.
Developing higher levels of competence

Questions

Passive to Active Learning
Authoritative Interventions

The tutor takes a more dominant or assertive role, taking responsibility for and on behalf of the learner.

- **Prescriptive Intervention**: the tutor explicitly seeks to direct the behaviour of the learner.
  
  “You must /should do ...”

After: Heron, J (2001) Helping the client: A creative practical guide
Authoritative Interventions

The tutor takes a more dominant or assertive role, taking responsibility for and on behalf of the learner.

• **Prescriptive Intervention**: the tutor explicitly seeks to direct the behaviour of the learner.
  
  “You must /should do …”

• **Informative Intervention**: the tutor seeks to impart knowledge, information and meaning to the learner, by giving instruction.
  
  “The most important 3 causes are ....”

*After: Heron, J (2001) Helping the client: A creative practical guide*
Facilitative Interventions – Awareness Raising Questions

The tutor seeks to enable learners to become more autonomous and take more responsibility for themselves

- **Cathartic Intervention**: the tutor seeks to enable the learner to express powerful emotions – anxiety and anger
  
  “You seem to be very frustrated…”

*After: Heron, J (2001) Helping the client: A creative practical guide*
Facilitative Interventions – Awareness Raising Questions

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  “You seem to be very frustrated…”

- **Supporting Intervention**: the tutor seeks to affirm the worth and value of the learner’s qualities, attitudes, beliefs and actions.
  
  “You have a caring approach”

After: Heron, J (2001) Helping the client: A creative practical guide
Facilitative Interventions – Awareness Raising Questions

The tutor seeks to enable learners to become more autonomous and take more responsibility for themselves

- **Confronting (Challenge) Intervention**: the tutor seeks to raise the learner’s awareness about some limiting attitude or behaviour of which they are relatively unaware, by challenging the learner by direct feedback.

  “Why did you...?”

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  “Why did you...?”

• **Catalytic Intervention**: the tutor seeks to enable the learner to develop and problem-solve by encouraging self-reflection, self-direction and self-discovery

  “What else could you do?
  “What if.......?”

After: Heron, J (2001) Helping the client: A creative practical guide
Developing higher levels of competence

- **Minimal prompts** for awareness raising

Developing higher levels of competence

- **Minimal prompts** for awareness raising

- The power of “**Why?**”, “**How?**” and “**What if?**” questions

- **“Teachable moments”**
  = moments of hesitation in the learner
Developing higher levels of competence

THINK

FEEL

ACT

Questions
What type of questions do I usually ask?
Mastery learning - sequence
Mastery learning - sequence

Repeated / Deliberate practice
Mastery learning - sequence

- Consolidation of learning
- Transfer to other contexts

Repeated / deliberate practice
How do I usually sequence learning for mastery?
Key messages
Developing Competence

• Assessment for learning

• Developing higher levels of competence through Awareness Raising Questions

• Mastery learning
“The educator's part in the enterprise of education is to furnish the environment which stimulates responses and directs the learner's course”

*John Dewey Democracy and Education 1916*
Facilitating Learning


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Initiating Learning – Tutor

- Learning task design

Sufficient challenge!

(Progressively increase)
Initiating Learning – Tutor

• Learning task design

  *Sufficient challenge!*
  *(Progressively increase)*

• Learning task presentation

  *To engage/motivate the learner*
  *(Relevance)*
Maintaining learning – Tutor

TRANSFER FOR THE FUTURE

• Learning task feedback

  Outcome

  Process – meta-learning/self-regulation
Maintaining learning – Tutor

TRANSFER FOR THE FUTURE

• Learning task feedback
  
  *Outcome*
  
  *Process – meta-learning/self-regulation*

• Learning task consolidation
  
  *What have you learned?*
  
  *How can you use it in the future?*
Developing Competence

It’s all down to you and me!
THANK YOU!