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Medical Education Half-day @
European School of Internal Medicine

Brighton, July 2010
Shirley Rigby & Linda Snell

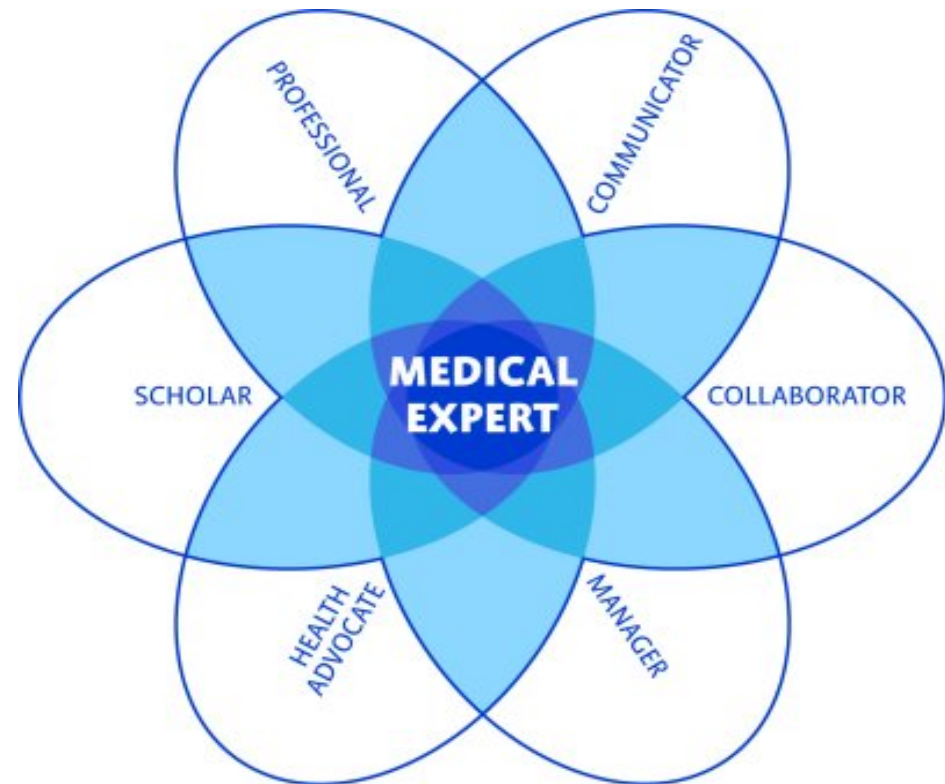
Why should residents learn how to teach?

- ❑ Because they *do*:
 - ❑ 20%, 33-40%
- ❑ Creates a positive learning environment
- ❑ Communicates a sense of enthusiasm
- ❑ Influence students' career decisions & attitudes
- ❑ Residents who teach well learn more
- ❑ Programs to improve residents' teaching 'work'
 - ❑ ...skilled resident teachers aid near-peer learning
 - ❑ ...programs to improve resident teaching skills, do so



CanMEDS Competencies

- ❑ Medical Expert
- ❑ Communicator
- ❑ Collaborator
- ❑ Health Advocate
- ❑ Manager
- ❑ Scholar
- ❑ Professional



THE
CANMEDS
ROLES FRAMEWORK



Why should internal medicine physicians learn how to teach?

- ❑ You *will* be teaching ...
 - ❑ Patients
 - ❑ Peers
 - ❑ Learners (students, junior trainees)
 - ❑ Other health professionals
- ❑ To teach is to learn ...
- ❑ Internists have depth & breadth, can approach undifferentiated problems
- ❑ Parallels between teaching & diagnostic reasoning

Career paths in medical education

This morning ...

- ❑ A lecture on lecturing
- ❑ Workshop on aspects of clinical teaching



Oral Presentation Skills for the Internist

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"Superfluity of lecturing causes ischial bursitis"
William Osler

“In a lecture given by a brilliant scholar with an outstanding topic and a highly competent audience, 10% of the audience displayed signs of *inattention* within 15 minutes. After 18 minutes, 1/3 of the audience and 10% of the platform guests were *fidgiting*. At 35 minutes everyone was *inattentive*. At 45 minutes *trance* was more noticeable than fidgiting; and at 47 minutes some were *asleep* and at least one was reading a newspaper. A casual check 24 hours later revealed that the audience *recalled only insignificant details*, and these were generally *wrong*

Frost, 1965



In what context do you give presentations?

-
-
-
-
-

What problems do you perceive with being a 'lecturer'?

-
-
-
-



Goals

- ❑ Define the characteristics and structure of a lecture, and apply it to your own presentations;
- ❑ List the indications for interactive strategies and discuss how to integrate them in your lectures;
- ❑ Use the rules of good audiovisual presentations to produce effective visual aids.



Goals

- ❑ Define the characteristics and structure of a lecture, and apply it to your own presentations; **1**
- ❑ List the indications for interactive strategies and discuss how to integrate them in your lectures; **2**
- ❑ Use the rules of good audiovisual presentations to produce effective visual aids. **3**



Applies to:

- ❑ Formal lectures
 - ❑ Grand rounds
 - ❑ Case presentations
 - ❑ Clinical vignettes
 - ❑ Research presentations
 - ❑ '10 minute papers'
 - ❑



Think about a recent lecture you attended . . .

What made it effective
(or ineffective)?

or

What made you learn
(or prevented you from learning)?

Write it down



Principles of adult learning – theory to practice

Learning is improved if it ...

- ❑ is *learner – centered*
- ❑ uses *active learning*
- ❑ is *problem-based*
- ❑ is *applicable*
- ❑ *feedback* is given to the learners
- ❑ uses *experience* of learner



How does this apply to lectures?

Learner-centered: assess learner needs; be relevant

Active learning: interactivity

Problem-based: use real cases

Applicable: can be used in clinical context of learner

Feedback: tells learner what they have learned and what is left to learn

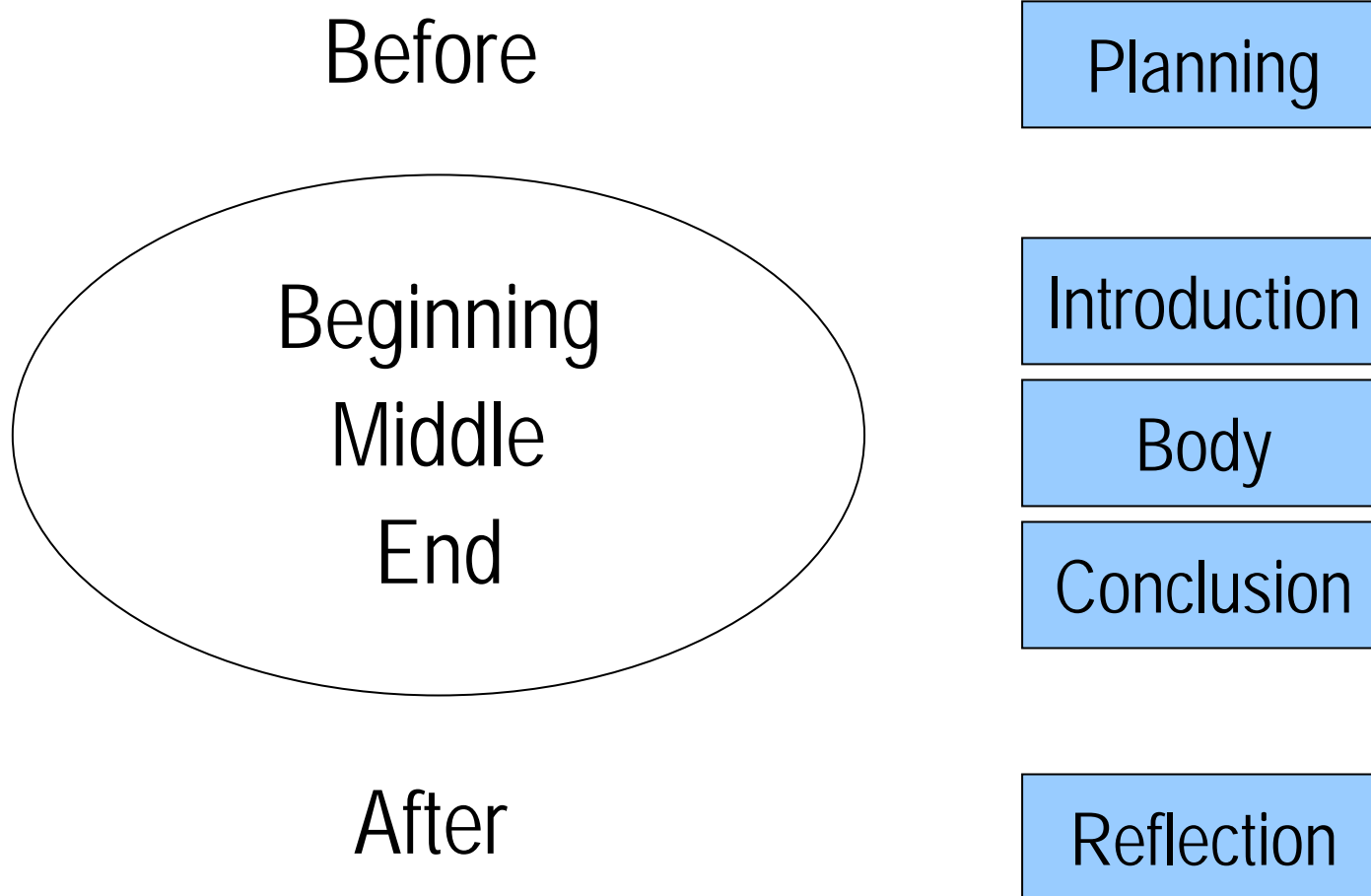
Experience of learner: start where they are; build a framework





1. Structure of a lecture

Framework for lecturing

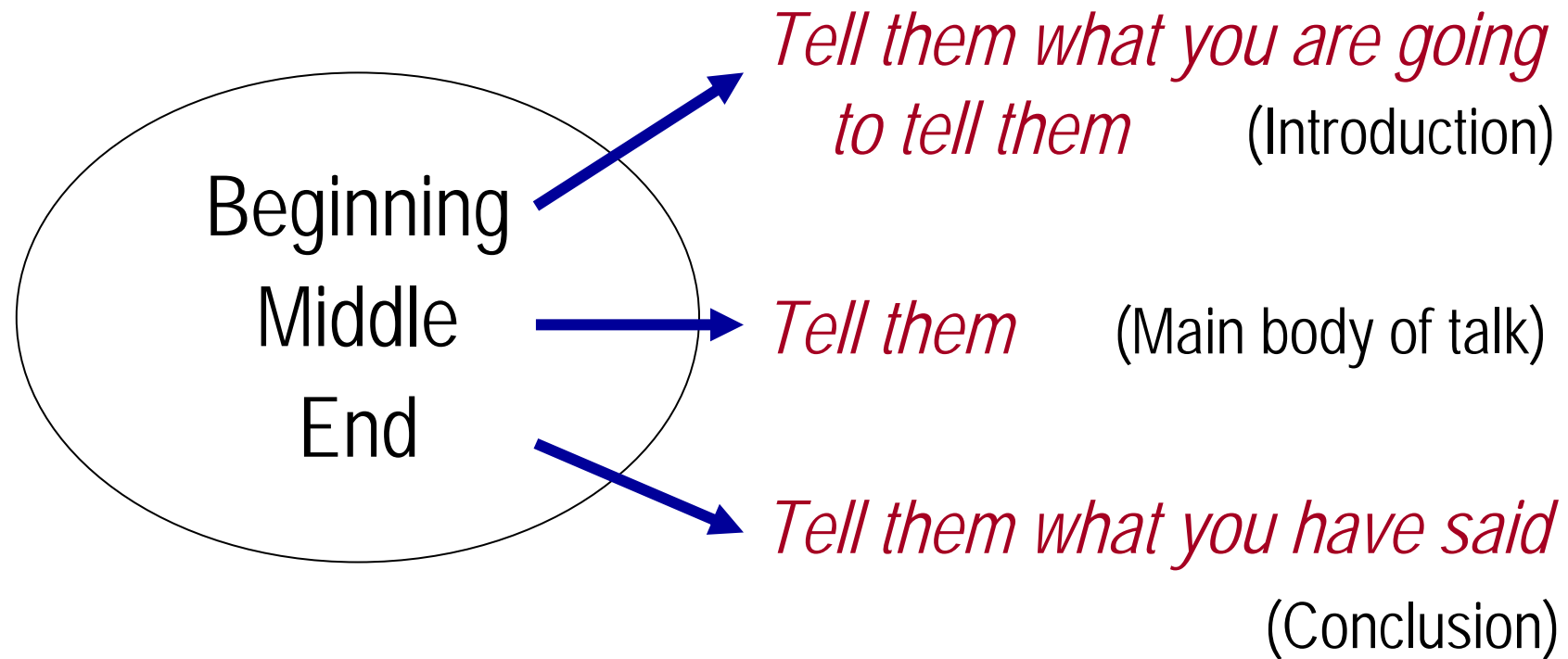


Planning a lecture

- ❑ Who is the audience? What are their needs?
- ❑ What are the goals & objectives?
- ❑ When & where will it occur?
- ❑ Why is it being presented?
 - To inform
 - To educate
 - To amuse
 - To inspire
 - To convince



Parts of a lecture



Introduction

- ❑ Specifies purpose and goals
- ❑ Provides an overview
- ❑ Sets ground rules
- ❑ Arouses attention



Main Body

- ❑ Provides an appropriate amount of information
- ❑ Organized, logical
- ❑ Relates body to introductory goals
- ❑ Clarifies & repeats key points
- ❑ Use examples, analogies
- ❑ Provides clear transitions between segments
- ❑ Periodically summarizes



Conclusion

- ❑ Relates conclusion to goals
- ❑ Checks learner understanding
- ❑ Clarifies misunderstandings
- ❑ Outlines future learning & goals
- ❑ Ends on a positive note
- ❑ Leaves time for questions



Presentation tips

- ❑ Put the most important message in the 1st 10 min
- ❑ Build in problem solving
- ❑ Don't teach too much!
3-5 points in a 50 – 60 min time slot
(= 30 – 45 minutes of lecture)



Presentation skills

- ❑ Use a conversational tone
- ❑ Speak at a proper volume & pace
- ❑ Be clear & concise
- ❑ Use eye contact
 - ❑ Scan the audience
- ❑ Use non-verbal gestures appropriately
 - ❑ Avoid distracting mannerisms
- ❑ Move purposefully
 - ❑ Use pointer with care

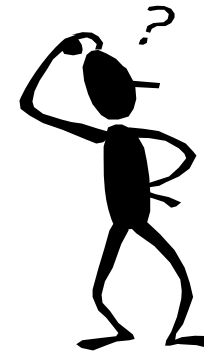


In summary ...

- ❑ The principles of adult learning apply to lectures
- ❑ Presentations have a beginning, middle & end
- ❑ Practice presentation skills



Insights?
Comments?
Questions?



Your turn ...

That lecture you thought about ...

What made it effective
(or ineffective)?

or

What made you learn
(or prevented you from learning)?

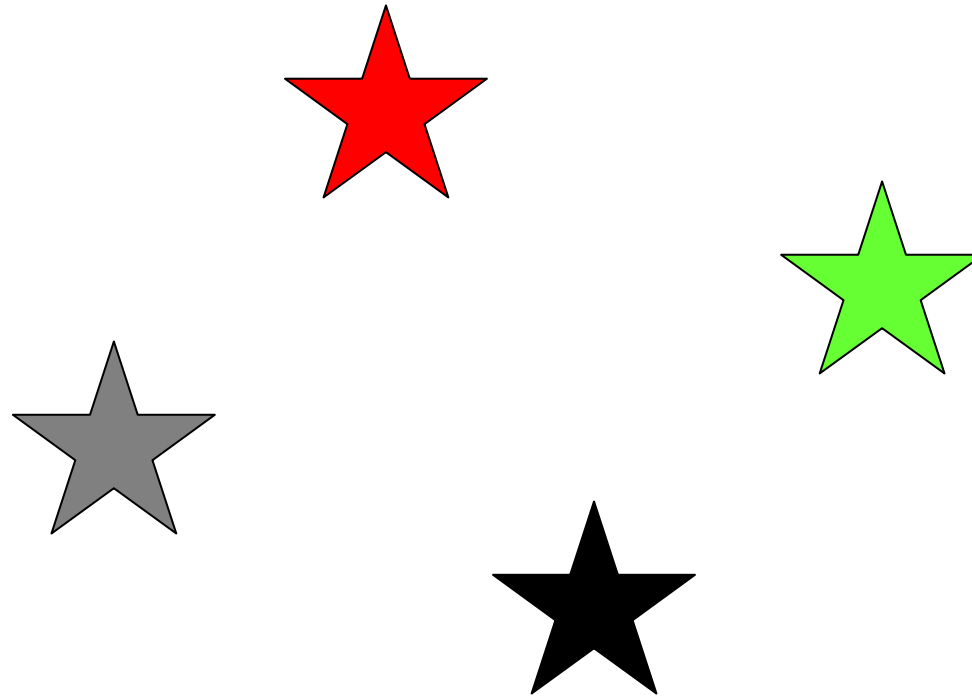
*Based on what you have just learned, what one change
would you suggest to improve learning?*

Discuss it with the person next to you for 1 minute.



2. How to make didactic presentations more interactive

Quiz ...



Have you ever given an interactive lecture?

- a. Yes
- b. No
- c. Not sure



'Traditional' (didactic) lectures are best for...

- a. Promoting problem-solving
- b. Giving information
- c. Changing attitudes
- d. Learning technical skills



Increasing interaction during lectures ...

- a. Gives feedback to the teacher
- b. Promotes active involvement of the learner and the material / content
- c. Gives feedback to the learner
- d. All of the above



“Interaction” ...

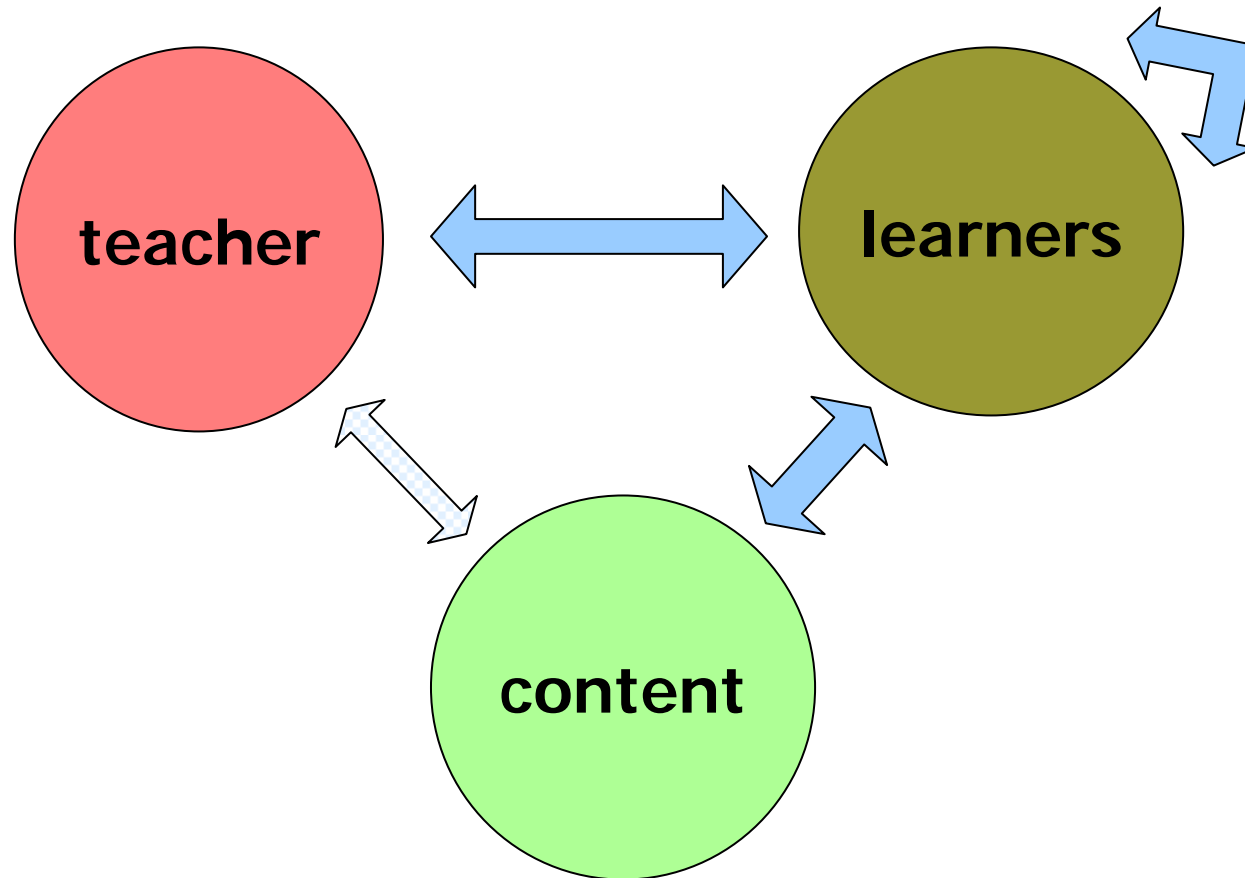
What words or phrases would you use to
describe, characterize or define it?

Write it down!



"Interaction": descriptions, definitions



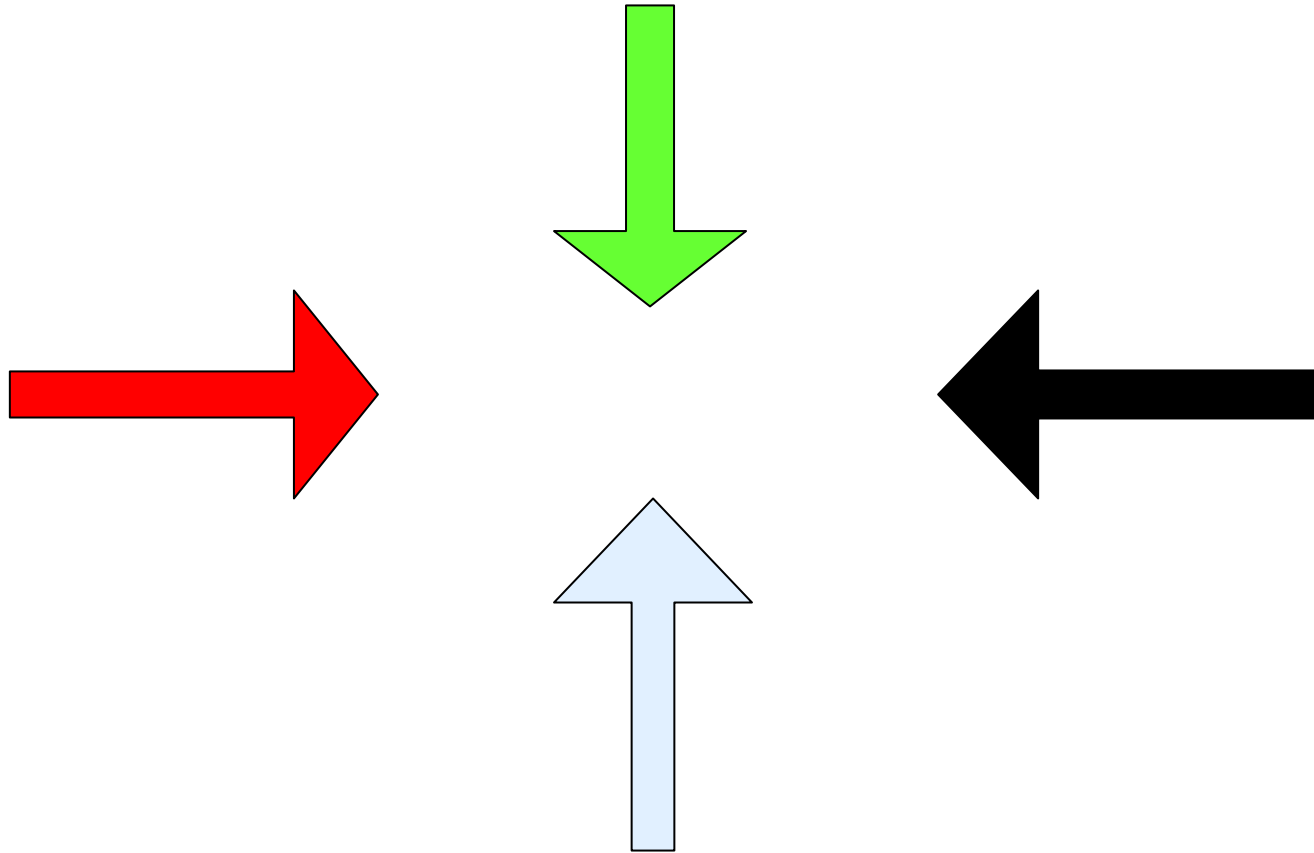


Interactive lectures: indications & advantages

- active involvement: *material, content, peers*
- increased stimulation, attention, motivation
- a 'different' learning: *higher level thinking*
- feedback *to teacher & learner*
- pedagogical reasons: *icebreaker, energy shift*
- uses participants' experience
- increased satisfaction: *teacher & learners*



Interactive Lectures: Strategies



Interactive lectures: Strategies

- ❑ Question the audience
- ❑ Use audience responses
- ❑ Break up the group
- ❑ Present cases
- ❑ Use written materials
- ❑ Organize debates, panels
- ❑ Conduct role plays or simulations
- ❑ Organize games
- ❑ Use A-V 'triggers'
- ❑ Computer assisted learning



Question the audience

- ❑ straightforward questions
- ❑ rhetorical questions
- ❑ brainstorming
- ❑ surveying the audience



Using Audience Responses

- ❑ quizzes
- ❑ touch pads (or show of hands)
- ❑ the focused short answer



Breaking the group into smaller groups

- ❑ buzz groups
- ❑ pyramid groups
- ❑ participant-led discussions
- ❑ 'jig-saw'
- ❑ 'fishbowl'



Presenting cases

- ❑ written cases
- ❑ videotaped vignettes
- ❑ live interviews
- ❑ patient charts / documents
- ❑ the 'deteriorating case' *



* Wiseman J, Snell L. *The Deteriorating Patient Simulation*
The Clinical Teacher, 2008; 5:1-5

Using written materials

- ❑ notes & handouts
- ❑ diagrams & figures
- ❑ study guides
- ❑ selected readings

Timing??



Other techniques

- ❑ debates & reaction panels
- ❑ role plays & simulated patients
- ❑ games and simulations
- ❑ using effective presentation skills



Other techniques

- ❑ audio-visual triggers
 - ❑ x-rays & other imaging
 - ❑ models
 - ❑ videos & film
- ❑ computer assisted learning
 - ❑ on-line cases
 - ❑ on-line discussion groups



Whatever strategy used ...

remember that the
method should meet
the objective



Limitations & Barriers of Interactive Lectures?



Interaction: Perceived limitations

“It is cognitively more demanding for the teacher to exert less control over discussion topics, divert from predetermined content, and encourage freedom in interaction & questioning, than it is to teach from a script or detailed outline”

- ❑ *Time, & preparation time*
- ❑ *‘Loss of control’*
- ❑ *Less facts transmitted*
- ❑ *Physical setting*



In summary . . .

- ❑ interaction - an exchange:
 - ❑ presenter ↔ learners ↔ content
- ❑ interaction improves learning
- ❑ many strategies: easy to incorporate
- ❑ role of lecturer different



Your turn ...

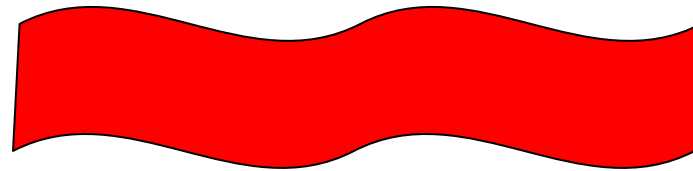
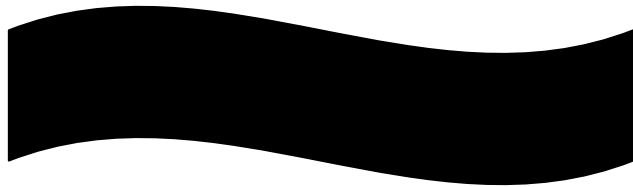
For a presentation you are going to give soon (or a recent lecture):

- ❑ think of at least one interactive technique appropriate to the goals and context;
- ❑ why would these techniques be useful?

Discuss with the person next to you for 1 minute.



Quiz ...



Interactive lecturing can promote all of the following except:

- a. In-depth learning
- b. Increased retention of facts
- c. Chaos
- d. Motivation to learn



A good question to use in a lecture to promote problem-solving or discussion is:

- a. What % of patients ...?
- b. Discuss the pros and cons ...?
- c. Do you agree that ... ?
- d. How many ...?



How many interactive techniques were used during this lecture?

a. 1 - 2

b. 3 - 4

c. 5 - 6

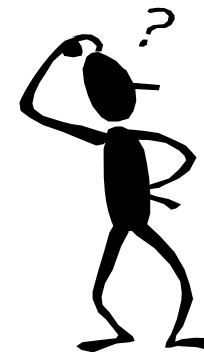
d. ≥ 7



Name them.



Insights?
Comments?
Questions?



Steinert, Y & Snell, L. The Interactive Lecture. Medical Teacher, 1999





3. Audiovisual Aids

Audiovisual Aids

- ❑ What are they?
- ❑ Why use them?
- ❑ How to create them?

Questions to ask yourself.

Suggestions for superb slides.

- ❑ Common errors to avoid



What Is An Audiovisual Aid?

Anything that students can see or hear in a classroom.



What Is An Audiovisual Aid?

Anything that students can see or hear *and that helps them learn.*



Examples of Audiovisual Aids

- ❑ Slides / PowerPoint
- ❑ Films or videos
- ❑ Black/whiteboard
- ❑ Flipchart

- ❑ Teacher
- ❑ Other students

text

charts & graphs

pictorial

audio

combination



Why use AV Aids?

- to arouse & maintain attention
 - humour
- as an outline for content (organizer)
 - emphasize important points
- to clarify, simplify or demonstrate
 - "A picture is worth 1000 words."
 - to summarize
- to improve learning
- to focus speaker



AV Aids are not...

- lecture notes for the lecturer
- a substitute for the lecturer
- a computer graphics exhibit
- a test of visual acuity for the audience



How to Create a Slide - General principles

- KISS (*'keep it Simple & See-able'*)
- aim for:
 - relevance
 - simplicity
 - legibility
- one slide = one idea \geq one minute
- avoid over reliance on AV aids



Legibility Principles

44 Font

44 Font bold

36 Font (Optimal for headers)

32 Font (Optimal for text)

28 Font (for subtext)

20 Font

20 Font Bold

20 Font Italic

Arial Narrow Tahoma Times New Roman Arial Century

Impact Courier Lucinda Verdana **Georgia**



Dark letters on a light background are better
than...

light letters on a dark background
(especially if the room is light)

Preparation rules

- ❑ 6 x 6 (or 7 x 7) rule
- ❑ lower case NOT UPPER CASE
- ❑ bullets
- ❑ colours
- ❑ transitions: limit flying objects
- ❑ prepare the room
- ❑ ...



Common Slide Errors

- ❑ Too much information:
 - ❑ Sentences rather than key words or concepts.
- ❑ Text and tables instead of graphics
- ❑ Visual effects compete with content



A-V Aids - Summary

KISS

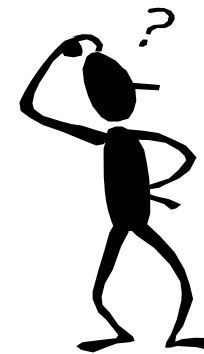
Keep it simple and see-able



Your turn ...



Insights?
Comments?
Questions?





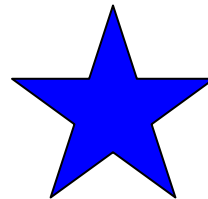
Workshop in Medical Education: Clinical Teaching Skills for the Internist

Linda Snell
McGill University
&
Shirley Rigby
University of Warwick

Resident Teaching STARs

A Simple Evidence-based Model

Why 'STARs'?



A Model of the Tasks of Clinical Teaching

- ❑ R—Recognize the learner
- ❑ E—Expectations & orientation
- ❑ S—Situate

- ❑ S—Setup the educational encounter
- ❑ T—Teach
- ❑ A—Assess & give feedback
- ❑ R—Role model & reflect on teaching

The ED STAT developers, 2003.



A Useful Model

- ❑ RES: each time a clinical teacher establishes a teaching relationship with a new learner
- ❑ STAR: each clinical teaching encounter



R—Recognize the Learner

Diagnose the learner:

- ❑ Name
- ❑ Level
- ❑ Program
- ❑ Experience



E—Expectations & Enthusiasm

A. Develop a Clear, Shared Agenda:

- ❑ Perceived needs
- ❑ Your expectations
- ❑ How you will work together over what time
- ❑ How they will be assessed

B. Demonstrate Enthusiasm for Teaching Medicine!

- ❑ Passion for specialty
- ❑ Positive about teaching & learning



S—Situating

Orient the Learner:

- ❑ Role in the team
- ❑ Setting
- ❑ Patient flow and work to be done



The Clinical Teaching Encounter:

- ❑ S—Setup the educational encounter
- ❑ T—Teach
- ❑ A—Assess & give feedback
- ❑ R—Role model & reflect on teaching



S—Setup the Educational Encounter

- ❑ Choose an appropriate setting
- ❑ Priming: tasks, framing, priorities, content
- ❑ Choose an appropriate tone



T - Teach

- ❑ So many tools & techniques!
- ❑ Tailor to the learner-task-setting-goals
- ❑ Asking questions at an appropriate level
- ❑ Demonstrate
- ❑ Knowledge, skills, and attitudes
- ❑ All CanMEDS Roles
- ❑ Seek the teachable moment
- ❑ Supervise & keep safe



A - Assess & Give Feedback

- ❑ Critical tasks for all teachers
- ❑ Direct observation
- ❑ Indirect observation
- ❑ Formative & summative
- ❑ Frequent, timely, objective
- ❑ Useful
- ❑ Help to correct errors, reinforce ability, and get to the “next level”



R - Role Model & Reflection

Role Model

- ❑ “Always teaching”
- ❑ Rewarding—lifelong impact
- ❑ Inspire

Reflect on Teaching

- ❑ Continuous improvement
- ❑ “How did that go?”, “What could be better?”



A Model of the Tasks of Clinical Teaching

- ❑ R—Recognize the learner
- ❑ E—Expectations & orientation
- ❑ S—Situate

- ❑ S—Setup the educational encounter
- ❑ T—Teach
- ❑ A—Assess & give feedback
- ❑ R—Role model & reflect on teaching

Ref: The ED STAT developers, 2003.



Questions? Discussion?

Thank-you!



Instructions:

- ❑ In small groups discuss your topic (30 minutes)
 1. **Groups A & B** - Teaching a procedural skill
 2. **Groups C & D** - Teaching at the bedside
 3. **Groups E & F** - Providing effective feedback

- ❑ Advice, a framework, challenges/pitfalls, strategies, tips
 - *Use your own experience as a teacher and learner.*
 - *Articles have been provided as resource material.*

- ❑ Report back the main points (5 minutes)



Teaching a procedural skill

- ❑ You have been asked for advice by a junior colleague who is just starting to supervise medical students and young doctors in clinical settings.
- ❑ Your colleague wants to know what advice you could provide on how to teach medical students how to do a venipuncture, or to teach junior residents how to insert a central venous line.
 - ❑ Is there a framework for teaching procedural skills that they could use?
 - ❑ What are the pitfalls and challenges, and what strategies would you suggest to address these?
 - ❑ What tips would you suggest?



A. Teaching a procedural skill



B. Teaching a procedural skill



Teaching at the bedside

- ❑ You have been asked for advice by a junior colleague who is just starting to supervise medical students and young doctors in clinical settings.
- ❑ Your colleague wants to know what advice you could provide on how to teach medical students or junior house officers at the patient bedside.
 - ❑ Is there a framework for bedside teaching that they could use?
 - ❑ What are the pitfalls and challenges, and what strategies would you suggest to address these?
 - ❑ What tips would you suggest?



C. Teaching at the bedside



D. Teaching at the bedside



Providing effective feedback

- ❑ You have been asked for advice by a junior colleague who is just starting to supervise medical students and young doctors in clinical settings.
- ❑ Your colleague wants to know what advice you could provide on how to provide effective feedback to junior clinical learners.
 - ❑ Is there a framework for providing feedback that they could use?
 - ❑ What are the challenges to providing effective feedback, and what strategies would you suggest to address these?
 - ❑ What tips would you suggest?



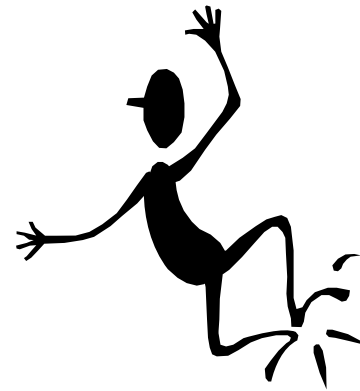
E. Providing effective feedback



F. Providing effective feedback



Thank-you
... & have fun!!







Advantages - Promotes feedback

To teacher:

- ❑ on learner needs & baseline level
- ❑ on amount learned & future directions
- ❑ for evaluation purposes

To participants:

- ❑ on own performance & relative to peers
- ❑ on consequences of decisions

