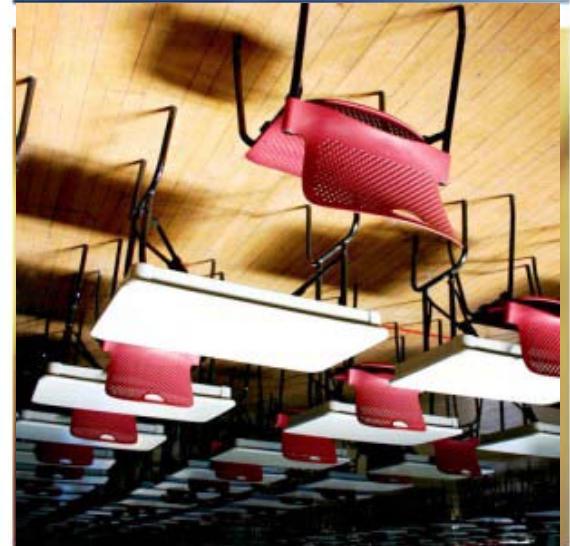# New Paradigms for a New Generation

Faculty Development in Innovative Curricular Methods for Today's Learners

Presenters

- Nancy Spector, MD
- John Mahan, MD
- Cliff Yu, MD
- Marsha Anderson, MD
- Ted Sectish, MD
- Matt Eberly, MD
- Suzanne Reed, MD
- Teri Turner, MD, MPH, MEd

Disclosures

- Teri Turner and John Mahan are paid educational consultants for Abbott pharmaceuticals. The work they perform for Abbott pharmaceuticals has no bearing on the content of this presentation and thus they have no conflict of interests to resolve. All other presenters have no conflict of interests to disclose.

Disclosures

- Overview of techniques (breadth not depth)
- Framework for planning
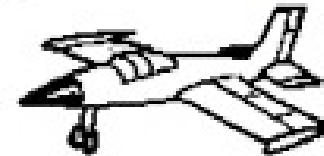- Guiding principles for curricular development
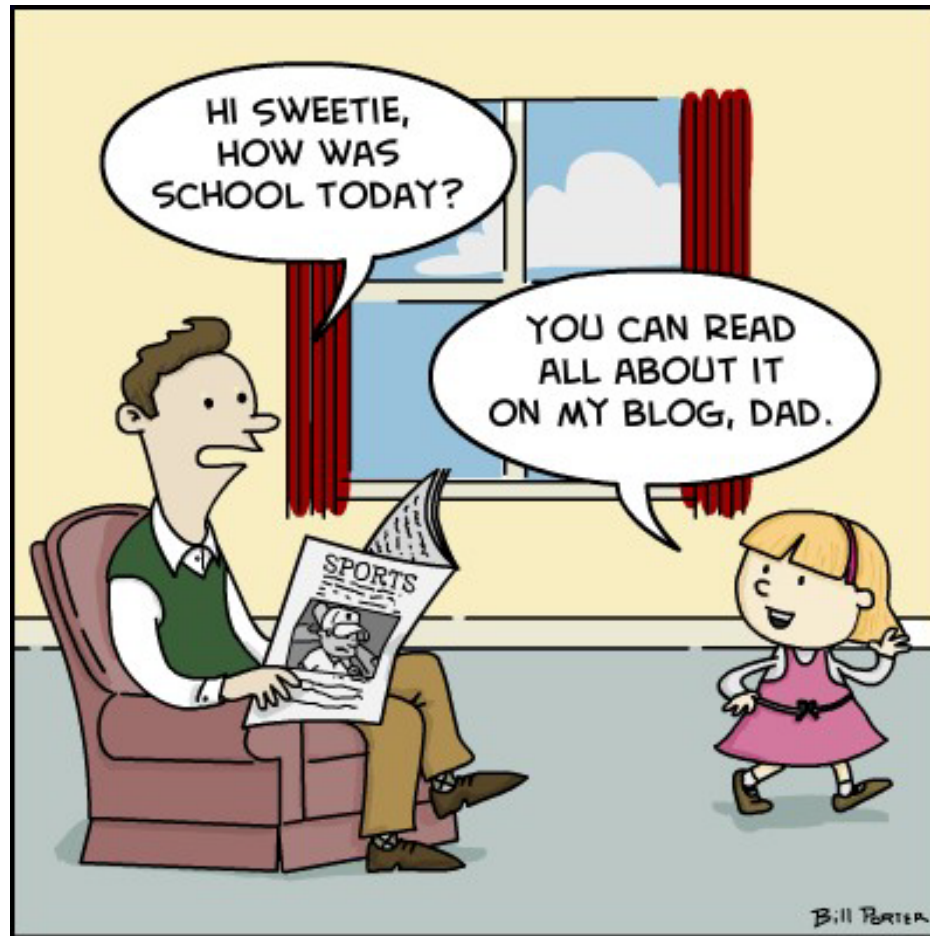
Experiential Activity

We are all different

A New Generation of Learners

Objectives

- Describe at least three innovative instructional strategies that can be used to address specific curricular objectives and needs relevant for today's learner

- Create a lesson plan outline that utilizes at least one of four innovative curricular methods to teach a topic of interest

Objectives

- Identify existing resources that can be utilized to re-imagine and re-design faculty development programs for graduate medical educators

- Develop a commitment to action for incorporating what has been learned to one's home environment

Agenda

- **General teaching principles**
  - Flipped Classroom
  - Just-in-Time Learning
- **Small group breakout**
  - Teaching in a YouTube World
  - Using Standardized Actors
- **Small group breakout**
- **Large group discussion and Action Plan**

How we learn: ARCS model

- Attention
- Relevance
- Confidence
- Satisfaction

Our Learner's Speak…

- "My generation of learners is remarkable for two things: Seamless use of technology, and a lack of an attention span (mostly due to the vast array of technology at our disposal)."

Our Leaner's Speak…

- "Whether its practice questions, being asked questions by the instructor, or even just being forced to take notes, we need to be doing something other than listening, otherwise we are going to go to sleep."

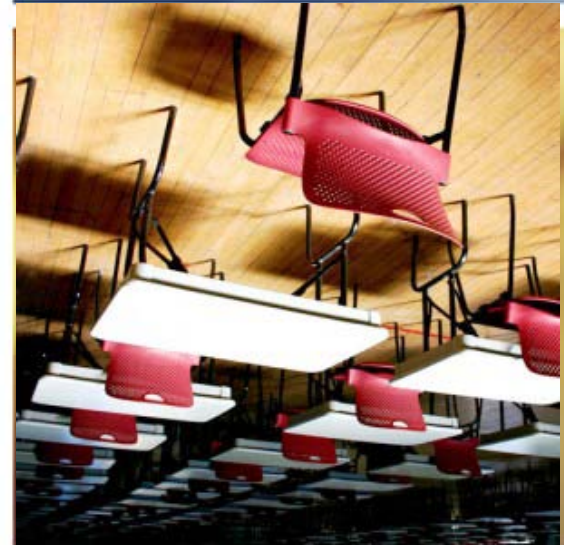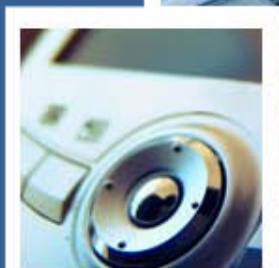# Teaching Strategies

- Keep learning sessions interactive
- Focus on key points
- Use technology
- Challenge us without making us feel inferior
- Pimping is ok (just not malignant)

We Teach Using Methods We Prefer

Flipping the Classroom:

Imagine the Possibilities!

Presenters

Marsha Anderson, MD University of Colorado

John Mahan, MD Nationwide Children's Hospital/ Ohio State University
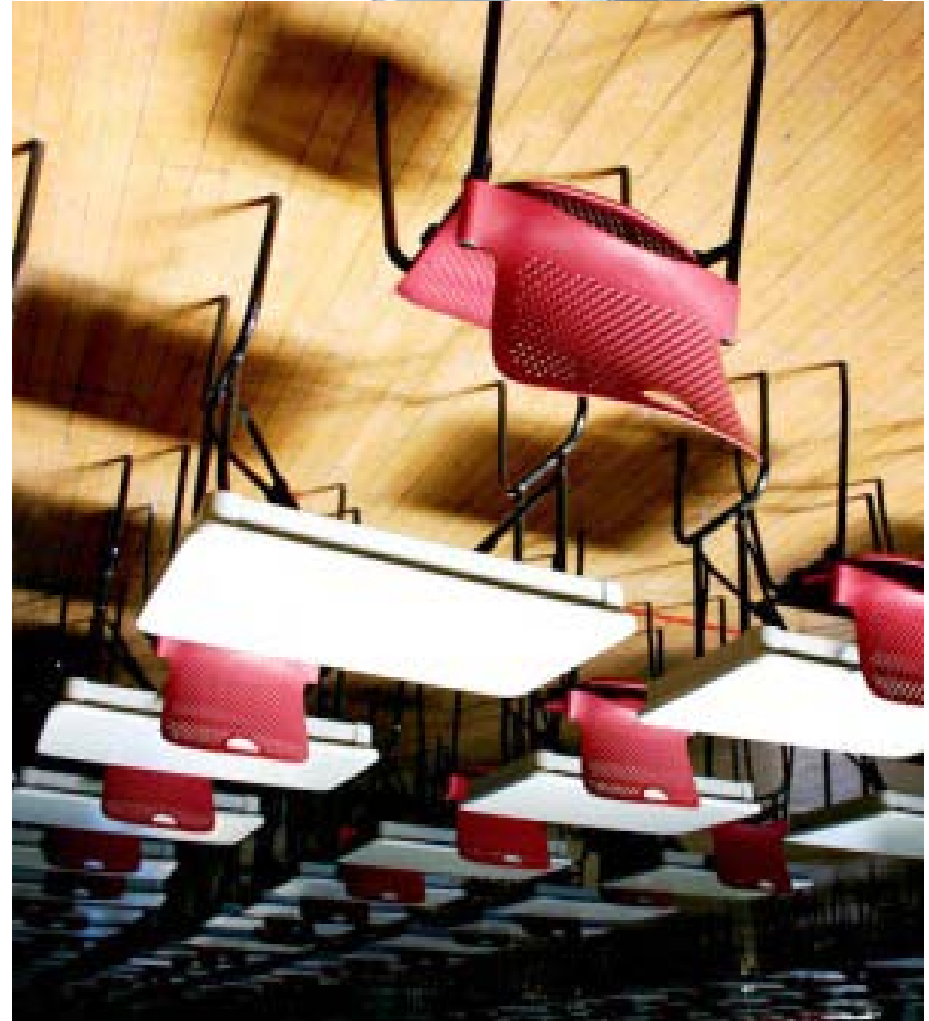
Objectives and Agenda

Objectives

- Define the concept of Flipped Classroom
- Provide 2 examples of potential Flipped Classroom use in your teaching activities

Agenda

1. Pre-Work
2. Flipped Classroom basics
3. Flipped Classroom activities
4. Flipped Classroom: situational factors, barriers
5. Wrap-Up

Pre-Work

- Normally, a pre-work assignment would have been assigned
- For a learning activity like this:
  - Watch the entire Sal Khan Ted Talk video, 2011
- http://www.tubechop.com/watch/2222783
- http://www.tubechop.com/watch/2222852

Sal Khan, Khan Academy Founder, Ted Talk 2011

Flipped Classroom Basics
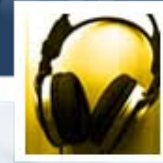
- **Definition:**
  - A pedagogical model in which the typical lecture and homework elements of a course are reversed. Content delivered via pre-work (video, readings, exercises) with classroom devoted to application/discussion.
- **Rationale:**
  - Engagement, satisfaction, deeper learning
- **Implementation:**
  - Pre-work – preparation, accountability
    - Video preparation, other pre-work methods
  - Classroom activities - active method
    - Additional resources needed for more active teaching methods
- **Outcomes**

Activities – Question 1

- What types of activities could you do during classroom time that would engage learners (students, trainees, faculty) in a Flipped Classroom Model?

Question 1
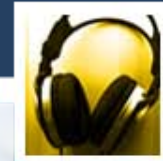
- **What types of activities could you do during classroom time that would engage learners (students, trainees, faculty) in a Flipped Classroom Model?**
  - PBL
  - Team based learning
  - Game based learning
  - Small group discussion
  - Debates
  - Individual student presentations
  - Working through problems; problem solving sessions

Question 2
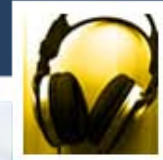
- What barriers can you think of to implementing a Flipped Classroom model? Think about your own institutions and what the challenges would be.
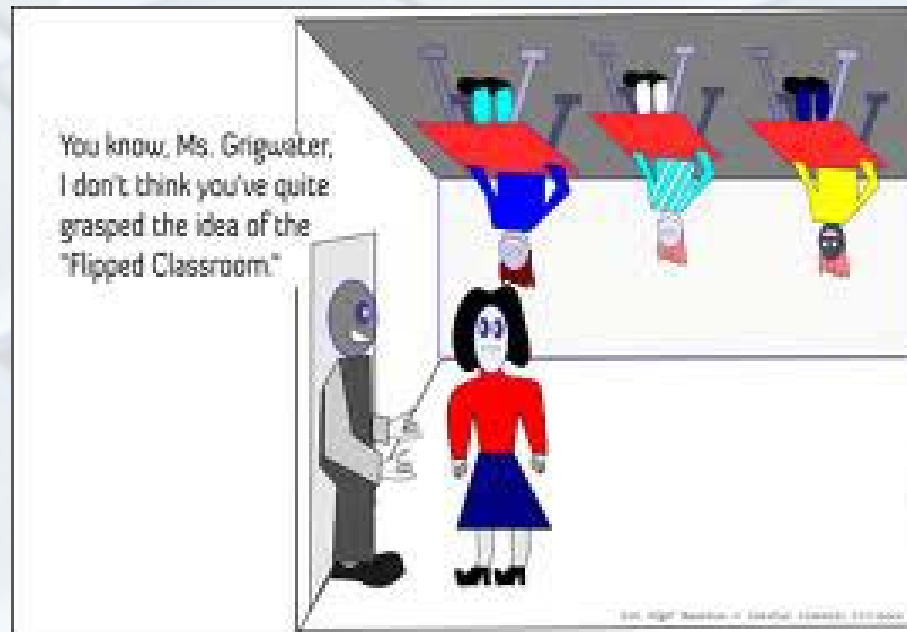
Question 2

- **What barriers might exist to implementing a Flipped Classroom model?**
  - Technology support for video, podcasts, etc.
  - Increased faculty time for preparation
    - Preparation of pre-work: video, readings, uploading assignments online
    - Preparation for in-class activities
  - Integration with educational objectives
  - Faculty attitude and skills gaps

Question 2

- Learner time (for pre-work especially)
- Accountability to perform pre-work – quizzes; probing questions
- Engaging learning activities: comfort level of faculty, learners
- Space (increased small group demands)
- Increased facilitators for small group discussion

WHAT IS THE FLIPPED CLASSROOM?

The flipped classroom inverts traditional teaching methods, delivering instruction online outside of class and moving "homework" into the classroom.

THE INVERSION

The Traditional Classroom
Teacher's Role: Sage on the Stage

LECTURE TODAY

Homework
Reading and questions due tomorrow

The Flipped Classroom
Teacher's Role: Guide on the Side

ACTIVITY TODAY

WATCH lecture online tonight!

http://www.knewton.com/flipped-classroom/

Just-in-Time (JiT) Training

Resources on Demand
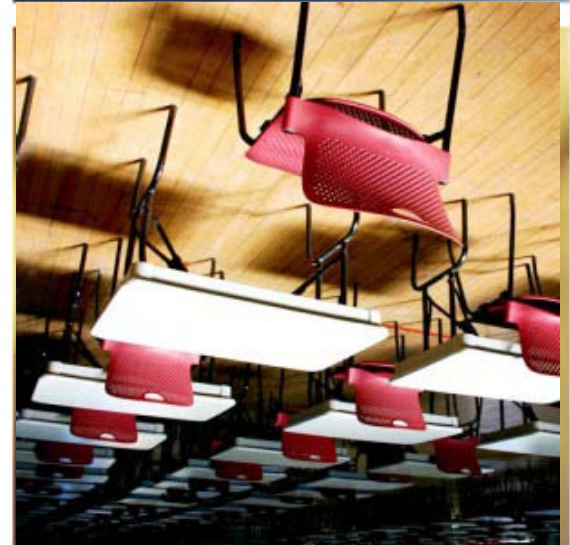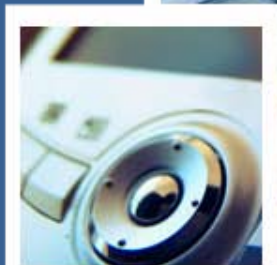
Presenters

Nancy Spector, MD

St. Christopher's Hospital for Children

Teri Turner, MD, MPH, MEd

Baylor College of Medicine/Texas Children's Hospital

JiT Training

- "Just-in-Time Teaching" asks the question: "How can the web, a new tool, help students take more responsibility for their learning under mindful expert supervision?"

Novak & Middendorf, 2004

Framework for JiTT

- Upfront needs assessment
  - What topic(s) do I teach frequently to my residents
  - How much time do I realistically have for teaching
  - How much time do the learners realistically have to spend learning
  - What is the learners preferred modality in learning
- Upfront creation of the materials

JiTT Strategies

- Ingest information best in chunks or bites of information (5-15 minutes optimal)
- Prefer being actively engaged when learning
- Need repeated exposures over time
- Appreciate being "primed"
- Learning is a social activity
- More likely to participate when learning is "pushed" to them

Benefits to the Teacher

- **Efficient**: these methods are efficient to use in a time limited setting
- **Reusable**: these methods provide an electronic repository for recurrent use
- **Real-time Feedback**: obtain data from the learners to shape teaching "in-the-moment"
- **Re-energizing:** stretch yourself as a teacher

Instructional Themes for "JiTT"

- Pushing information to the learner with technology
- Efficiently sharing information
- Getting feedback from the learner to shape learning "in-the-moment"

JiTT – A Personal Story

- Its not about the tools, its about the content

- It's not about the answers. It's about the questions. Don't focus on the solutions because they change so rapidly. Focus on the questions

Examples of Push Technologies

- MedEdTweets
- Biaboard App
- Q-stream (spaced education)
- Email study groups (PREP study group)
- Medical Education texting

Sharing and Collaboration

- Wiki
- Dropbox
- Facebook
- Online learning links (Check out the Handout)
  - Procedures
  - Images
  - Modules

Get Real-Time Feedback

- QuizEgg or written quiz
- Poll Everywhere or Poor Man's ARS
- Survey Monkey or "Show of Hands"
- In-class discussion boards or 5x7 note cards

Summary

- Create online or cloud repositories and share with your learners

- Develop teaching tidbits – think about all your clinical pearls and tweet them

- Repetition, repetition, repetition at frequent intervals

- Utilize real-time audience feedback to be more learner-centered

Using Videos

To Enhance Your Teaching Sessions and Expand Your Teaching Repertoire

Presenters

Matthew D. Eberly, M.D.

Walter Reed National Military Medical Center

Theodore C. Sectish, M.D.

Boston Children's Hospital

Objectives

- List the types of teaching sessions conducive to the use of videos

- Demonstrate the application of video in a teaching session

- Provide some practical tips for using videos and technological pitfalls

- Access an app for video editing on your smart phone before you leave the workshop

Why use Video ?

- ## Millennial Generation
  - Visual Learners
  - Role of Social Media and Digital Technology
- ## Illustrate or describe better than words alone
  - A child in respiratory distress (retractions, whooping cough)
  - A poor handoff
- ## Global reach: Available anytime, anywhere!
  - Clone yourself!
  - Canned narrated lectures for nighttime curriculum
    - Fever and neutropenia

Why use Video ?

- **Promote observation skills**
  - Students, residents or faculty
  - Opportunities not limited to personal clinical encounters
  - Provides more diverse exposure
- **Demonstrate a procedure or physical exam maneuver**
  - Circumcision
  - Lumbar puncture (NEJM site)
  - Albuterol nebulizer assembly
  - Rapid IV bolus
  - Knee exam
- **Save time in describing complex processes**
  - Oral presentation guide
  - Resident advisor briefing

Teaching Session Types

- Faculty development for levels of Entrustable Professional Activities (EPAs)
- Working through a math problem for rehydrating a patient with dehydration on a white board
  - Khan Academy screencast
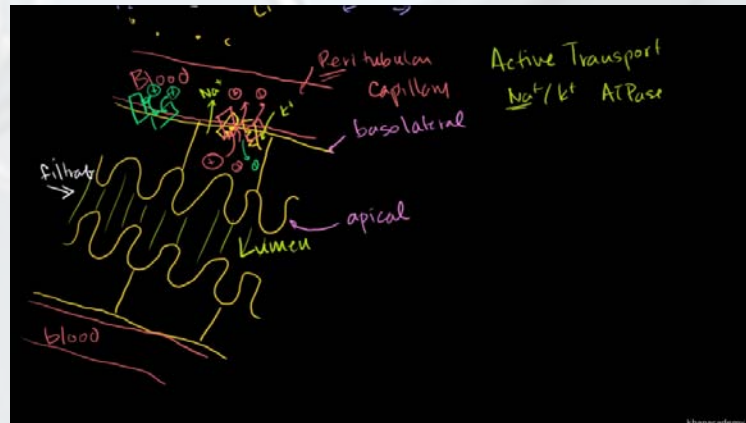
Other Uses

- Allows you to insert humor without having to be a comedian yourself
  - Professional clips available from movies or television
    - German Coast Guard clip
    - Keyboard Cat

Where Can You Find Videos?

- **Make your own!**
  - **Smart phones**
  - **Tablets**
  - **DSLR cameras**

Practical Tips

- Update the version of video player on your computer

- For embedded videos in PowerPoint
  - Place the actual video file in the same location as PowerPoint presentation
    - Desktop or flash drive

- When presenting in a conference room
  - Practice and work through glitches well in advance of presentation
  - Connect to sound system audience can hear the

Home Grown Video Tips

- **Cameraman**
  - 16:9
  - Tripod (lessen the shakiness)
  - Avoid pan and zoom
  - Multiple angles
- **Quality Audio**
  - Lavaliere microphone
  - Eliminate background noise
- **Good Lighting**
- **Movie Editing Program**

Standardized Actors

For Teaching and Assessing Skills
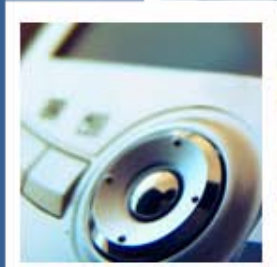
Presenters

Suzanne Reed, MD

Nationwide Children's Hospital/Ohio State University

Clifton Yu, MD

Walter Reed National Military Medical Center

What's an SP?

A non-physician who has been trained to depict a patient (or family member) with or without a specific problem in a consistent way

- Used to assess physician behavior based on fixed criteria
- Frequently used in OSCEs to objectively measure various areas of clinical competence
- USMLE requires a clinical skills exam using SPs (Step 2 CS)

What can SPs be used for?

- To evaluate physical exam skills and behaviors
- To evaluate verbal and non-verbal communication skills
- To evaluate and practice difficult conversations and breaking bad news
- To give feedback concerning these skills

*The use of SP in medical education has grown over the past few decades as institutions have invested in this modality of training

The literature speaks!

Findings in studies using SPs:

- Residents valued the importance of communication training and of use of SPs

- SPs scenarios were effective in assessing communication skills

- A significant increase in positive attitude toward physician–patient communication

- Feedback from SPs was informative

More literature

SPs have been used
- To simulate allergic reaction in allergy offices
- To assess history taking with adolescents
- For clear health communication training (health literacy)
- For resident training on disclosure of medical errors
- To evaluate breaking bad news skills

Among many others

ACGME stamp of approval

The ACGME also endorses the use of SPs in training and as an outcome assessment tool to measure residents' competency in various areas

APPROVED

Rules for SPs

- Get expert help from your Med School
  - Recruit
  - Train
  - ASPE
- Be available to consult
  - You are the expert
- Pilot

So what about clinical scenarios?

- Utilize existing cases
  - MedEdPortal
  - ASPE
  - Med School Sim Center
- Create your own
  - Templates
  - Blueprints

PRESENTING SITUATION

Patient Information

Name:

Setting: Clinic, Ward, ED, PICU, NICU (circle one)

You are working in the _____ Clinic (or ED , ward or nursery). You have been asked to see *Patient Name*, who is complaining of *Chief Complaint*.

Age:

Vital Signs

BP:

Pulse:

Resp.:

Temp.:

O2 Sat:

Student Instructions

Tasks: (Add to or delete this list as needed for this station)

- **Take a relevant history.**
- **Perform an appropriate physical exam.**
- **Discuss assessment and plan.**

Time Limit: ____ Minutes

SP Training Materials

Case Information

Domain: Acute/Subacute/Chronic condition (circle one)

Most Likely Diagnosis:

Other Diagnoses (differential diagnoses):

Gender:

Age:

Race:

Setting:

General appearance: Patient in gown or street clothes? In exam room chair, or on table?

SP Chief Complaint:

SP Opening Statement: "write opening sentence here, see page 4….."

Case Details:

History of Present Illness: (Include timing, duration, frequency and location of any symptoms):

Patient's Emotional Affect (how will they look and speak?):

Standardized Patient History Checklist

List here the answers likely to be given by the SP during the case. Then provide 2-3 potential questions likely to be posed by the learner. For example: SP Response = I have had a fever for 2 days. Question item = Have you had any fever? Did you take your temperature in the last few days? "Have your felt warm?

The SP Response	Potential Questions asked by the learner
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	

Physical Exam Checklist

General Guidelines

List the maneuvers you want to see performed by the learner in this case. The first maneuver is usually: Washed Hands!!

E.g. Washed hands, Listened to my lungs on the skin, palpated the abdomen in four places, etc….

MANEUVER	DID DO	DID NOT DO	DID NOT DO CORRECTLY
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Faculty checklist:

You may use your own faculty rating form or use the **Mini-CEX form**. Have faculty rate as they see cases live or as they view video recordings.

Mini-Clinical Evaluation Exercise (CEX)

Encounter Complexity: ☐ Low   ☐ Moderate   ☐ High

Focus: ☐ Data gathering   ☐ Diagnosis   ☐ Therapy   ☐ Counseling

1. Medical interviewing (☐ Not observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

2. Physical Examination Skills (☐ Not observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

3. Humanistic Qualities/Professionalism

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

4. Clinical judgment (☐ Not observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

5. Counseling Skills (☐ Not observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

6. Organization/Efficiency (☐ Not observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

7. Overall Clinical Competence

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

Other ways to craft SP scenarios....

- Patient Note
  - Hx, PE, Reasoning, Plan
- Review X-Rays
- Review Labs
- Advance the clock…
- Oral presentation

Summary

- SPs can be a useful way to assess a variety of skills and behaviors

- SPs come in a variety of shapes and sizes
  - Use experts at your med school!

- Templates are a good way to ensure case quality

Commitment to Action

- How will you incorporate what you have learned?

- How will you create faculty learning communities?

- How can you develop a mentoring network?

Summary

- Its not about the tools, its about the content
- Don't focus on the technologies/methods because they change so rapidly. Focus on the objective
- It will take time up front to develop

Just Do It...
Seen on HumorPix.com

Don't forget the Feedback

https://www.appd.org/amsurvey/

Got Feedback?