Med Ed 2.0

Medical Education and Why It’s Important for Your Career

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Think about your best teacher(s):

What made them great educators?
Perceived Barriers to Being a Successful Educator

- Time commitment
- Value of the time investment
- Preparation
- Keeping up to date, increasing complexity
- Not sure how much it benefits students
- Students learn in different ways
Your best teacher(s):

Enabled you to be engaged and think about the material

Smart
Fund of knowledge
Took time to teach
Approachable
Experienced
Sense of humor
Learning Objectives

- Describe how medical education is rapidly changing
- Describe how being an educator can advance your career
- Define the 4 different types of learners as classified by Kolb
- Identify opportunities to integrate teaching into your daily practice
- Recognize techniques for teaching in various clinical settings
I wonder how many likes my post got?

I hope I don’t get called on today

I’d really like to ask a question

I’m totally lost
Generational Differences

- **Traditionalists (1909-1945)**
  - Favor structured learning programs.
  - Classroom lectures are often preferred
- **Baby Boomers (1946-1964)**
  - Expect a more personally-focused learning structure.
  - They favor in-class participation, reflection, and feedback to bring them into the process
- **Generation X (1965-1979)**
  - Prioritize self-directed educational opportunities
  - Prefer to learn on their own schedule.
- **Generation Y/Millennials (1980-2004)**
  - Web-based learning
  - Information/feedback at the push of a button
MedEd 2.0: change in focus from teacher to the student

- Learner depends on the teacher
- Pedagogy
- Standardized curriculum
- External motivation
- One size fits all
- Onus is on teacher

- Learner is self-directed
- Andragogy
- Application-based
- Internally driven
- No student left behind
- Onus is on student

References:
Schwartzstein et al. NEJM 2017
Prober et al. Academic Med 2013
Kaufman, D. BMJ 2003
Abela, J. Malta Med Jour 2009
Students sometimes learn not because of what we teach, but despite how we teach.

Textbooks

Gross anatomy

Online learning modules

Modern labs...or virtual labs

Study carols

One-way rounds

Team-based learning

Message boards/social media
How Millennials Learn: The 5 R’s

Research
- Collaboration
- Group work

Relevant
- Online tools
- Value relevant information

Rationale
- Authoritarian teaching is ineffective
- Explain instructions

Relaxed
- Laid back
- Empathy

Rapport
- More attention
- Quick to bond with instructors

References:
Example at NYU Long Island SOM:
Mixing PBL cases with lectures

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<thead>
<tr>
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**Hematology-Oncology**

<table>
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<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<tbody>
<tr>
<td>8:30 am - 10:00 am</td>
<td>PBL Case 1 &amp; 2 Presentation</td>
<td>Anemia and Hematopoiesis - Lecture</td>
<td>PBL Case 1 Discussion</td>
<td>Clotting cascade - Lecture</td>
<td>PBL Case 2 Discussion</td>
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<td>10:30 am - 12:30 pm</td>
<td>Anatomy</td>
<td>Hemoglobinopathies - Lecture</td>
<td>Transfusion medicine - Lecture</td>
<td>Pharmacologic approach to bleeding - Lecture</td>
<td>Thrombocytopenia - Lecture</td>
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<td>12:30 pm - 1:30 pm</td>
<td>Lunch</td>
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Making Education “Count” as Scholarship

- Know your institution’s promotional tracks
  - May have specific metrics for advancement
  - Keep track of your teaching activities
- Develop a niche
  - Develop an educational research project
  - Take your teaching on the road (e.g. conference)
- Opportunities for leadership and collaboration
  - Conference planning
  - National education committees of individual societies
  - Administration
  - Consider being involved in faculty development
- Potential for teaching awards
- Increase visibility through social media dissemination

Make it Count Twice (or More): Why Skill as an Educator is Important for Your Career

Clinician-Educator Track
Designed for those who spend time caring for patients (usually 80-90%) as well as supervising trainees (10-20%)

- Often fewer productivity requirements than other research tracks
- May already integrate with your everyday activities
- Adds your value to your institution
- Often recognizes you as an outstanding physician and role model
- Determine your institution’s guidelines for promotion
  - May be more than one track
  - Some have opportunities for tenure
  - You may need to achieve certain milestones

Starting Out: Questions to Ask Yourself

▶ What is your favorite teaching activity?
  ▶ Rounding with a team
  ▶ Teaching in a classroom or lecture hall
  ▶ Work with small groups

▶ How can you incorporate innovative techniques?
▶ How can you turn your activity into scholarship?
▶ How much time do you have to prepare and publish your work?
Scholarship in Medical Education

- Annual lecture: make it count twice
  - Review paper
  - Textbook chapter
  - Other specialty grand rounds (locally/nationally)
  - National meetings
  - Social media
- Questionnaires: assess pre/post test knowledge
- Educational intervention
- Quality improvement
- Speak with colleagues/your Chair to see what resources may be available
- Know your institution’s policies for research, including IRB review
Where Can I Publish Med Ed Research?

- Decide journal audience
  - Research question
  - Quality project
  - Approach to teaching
  - Editorial/commentary
- Type of manuscript
- Indexed by Pubmed
- Impact factor
- Potential publication costs
  - Annals of Internal Medicine
  - Academic Medicine
  - Medical Education Journal
  - J of Graduate Medical Education
  - J of Hospital Medicine
  - MedEdPORTAL
  - Medical Teacher
  - BMC Medical Education
  - The Clinical Teacher
  - Advances in Health Sciences Education
THEORY

PRACTICE
Why Education Theory is Important for Your Career

- Academic
- Clinical
- Leadership
David A. Kolb

- Born 1939
- American Educational Theorist
- Founder of Experience Based Learning Systems

"Learning is the process whereby knowledge is created through the transformation of experience." - Kolb (1984)
Kolb’s Cycle - Diabetes Management
Kolb’s Cycle - Diabetes Management
Kolb’s Cycle - Diabetes Management

**Concrete Experience**
- This is the act of having an experience
- If the learner does not have an experience, one can be imparted by the instructor
Kolb’s Cycle - Diabetes Management

Reflective Observation

- This is the act of reviewing or reflecting on an experience to understand the situation from a different point of view.

- Learners are encouraged to review prior experiences in order to explore and debrief.
Kolb’s Cycle - Diabetes Management

Abstract

Conceptualization

- During this stage the learner can learn from specific experiences
- New information is added and re-contextualizes prior experiences
Kolb’s Cycle - Diabetes Management

Active Experimentation

- Learners can plan or try new information that they have learned
- Once this new information is used experientially, then a new concrete experience is formed
Concrete Experience

- This is the act of having an experience
- If the learner does not have an experience, one can be imparted by the instructor
Applied Education Theory and Physician Leadership

- **Real World Example**
  - IM Chief Resident -> APD
  - Medical Student Course Director
    (Medicine ACE and Business of Medicine Quality and Value)

- **Hospital Chief Transformation Officer**
  - Reports to the CMO
  - Leads Hospital wide change initiatives including HIT implementations
  - Founding Director of NYU Winthrop Physician Informatics Team
Learning is a social construct that is interactive and engaging.

Learning styles reflect individual differences based on preference for phases of the learning cycle.

- David A. Kolb
Kolb’s Cycle - Learning Styles and Strategies
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Kolb’s Cycle - Learning Styles and Strategies

- Accommodating (Concrete Experience, Active Experimentation)
- Diverging (Concrete Experience, Reflective Observation)
- Converging (Abstract Conceptualization, Active Experimentation)
- Assimilating (Abstract Conceptualization, Reflective Observation)
Kolb’s Cycle - Learning Styles and Strategies
Leadership Challenge
Engagement - Styles and Strategies

Think’ers

Do’ers
Engagement - Styles and Strategies

- **Divergers** - take experiences and reflect upon them; this group likes to ask the ‘why’ questions
- **Assimilators** - have a cognitive approach and prefer to create organized and structured understanding of the material at hand
- **Convergers** - think about concepts and then try out their ideas to see if they work in practice
- **Accommodators** - have the most hands-on approach, with a strong preference for doing rather than thinking
Leadership Challenge
Why Education Theory is Important for Your Career

- Academic
- Clinical
- Leadership
Introduction to Curriculum Development and Medical Education Scholarship for Resident Trainees: A Webinar Series

Shannon K. Martin, MD, MS | James Ahn, MD, Jeanne M. Farnan, MD, MHPE, H. Barrett Fromme, MD, MHPE
Published: September 16, 2016 | 10.15766/mep_2374-8265.10454

Abstract

Introduction: A common career aspiration among residents is to become a clinician-educator, though standard postgraduate training may not prepare trainees for the academic and scholarly requirements of this career. To address this need, we designed and implemented an asynchronous, interactive webinar series detailing a systematic approach to medical education research and scholarship. The series was piloted as part of a new track at the University of Chicago for residents interested in additional training and completing an educational learning project in medical education.

Methods: We aimed to use this series to introduce relevant frameworks in curriculum development, program evaluation, and learning theory. Materials associated with this publication include six webinars and corresponding summary reference handouts, discussion assignments, and answer keys. Additional materials include a faculty course director packet and sample feedback for discussion assignments. Each webinar is an 8- to 20-minute narrated presentation with goals and objectives, an overview of each session’s content, and example vignettes. Residents viewed presentations and completed a two-part discussion assignment for each webinar, which included reflection on the educational material and vignettes, faculty feedback on this reflection, and...
Practical Tips: From Theory to Delivery

- There is no one style of teaching that fits all
- Goal is to promote active learning: engage, participate, collaborate
- General rules:
  - Provide context (We have a patient here with a GI bleed...)
  - Prior-knowledge (The first step is to insert a large bore IV...)
  - Outlines/summaries/flowcharts (Here is my approach to GI bleeding...)
  - Present examples (A patient now presents with hematemesis...)
  - Assess learning (What would be your next step...)
Making Learning Interactive

- Workshops/Simulation (e.g. central line placement)
- Games
  - Jeopardy: powerpoint templates available online
- Poll Everywhere
- Interactive modules (e.g. NEJM interactive cases)
- Role playing/standardized patients
- Debates (e.g. target BP in elderly patients)
- Peer learning: Team-based and problem-based learning
Types of Group Learning

Team Based Learning (TBL)
- One teacher with several small teams
- Teacher provides pre-class work
- Teacher identifies content to learn and presents the problem
- Information is progressively disclosed
- Questions are given to teams to work on
- Fosters team debate and discussion, builds toward exam questions
- Better for a single session

Problem Based Learning (PBL)
- One teacher for each small group
- Teacher provides a problem
- All information to solve the problem is not initially given
- Learners identify what they need to know and use appropriate resources
- Learners do most of the teaching
- Fosters self-learning and communication
- Better for multiple meetings over several weeks
Designing Lectures

- Decide/list learning objectives
- Consider teaching one part of a subject rather than covering the entire topic
- Start with an engaging question or a case
- Avoid too much information on slides
- Gamification, such as medical jeopardy
- Include conclusions and review questions
Effective Teaching on Rounds

- Do what works for you, but aim to make it interactive
- Review the patient census, focus on 1-2 patients/conditions
- Sit down rounds are often more convenient for didactics
- Bedside rounds are more effective for demonstration
- Consider giving handouts, such as figures from literature or algorithms to help guide the discussion
- Ask questions to engage learners, let them do the teaching
- Assign focused topics to students and residents
- Everyone has a smart phone, encourage the group to use them to find the information. Can also email slides for everyone to view
Evaluation and Feedback

- Feedback is critical to honing your skills
- Clerkships often end with attending-driven feedback
- This is a chance to receive feedback, hopefully honest:
  - What topics did you feel you learned best?
  - Which teaching techniques were most effective/ineffective?
  - Is there anything we didn’t cover that you wish we did?

- Consider handing out post-session survey
  - Include Likert scale and also open ended questions
If you have no time to prepare...

- It’s perfectly reasonable to teach on the fly
- Never underestimate how much experiential or bedside teaching you can offer
- Practice makes perfect—over time you will accumulate a compendium of recurring topics in your comfort zone

Examples:

- How to ask parts of the history (e.g. social history)
- Bedside exam maneuvers (e.g. reflexes)
- Journal club—assign a paper and review it as a group
- Career topics (e.g. surviving residency, what’s an RVU)
- Go through MSKAP or other question banks
- Review an interesting case from your practice
Thank you!

- Karen Tucker LaBello (NYACP)
- Steve Shelov, MD: Founding Dean of NYU Long Island SOM