

# Faculty Scholarship in Medical Education

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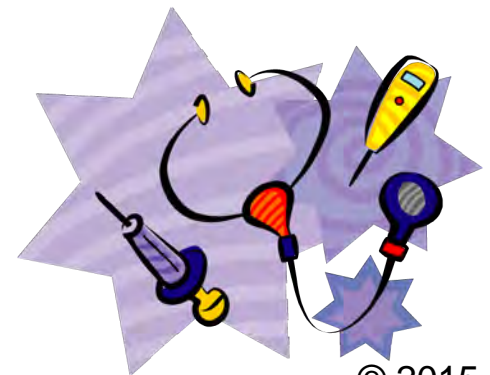
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**CORD Academy  
for Scholarship  
in Education**



# Faculty Scholarship in Medical Education

- **Career development**
  - Opportunities for junior faculty
  - Identifying a pathway for your future
- **Career advancement**
  - Develop a regional reputation
  - Cultivate a national reputation
  - Promotions and academic advancement
- **Career satisfaction**
  - Creating your niche
  - Helping your colleagues
  - Better results from your teaching



# Faculty Scholarship in Medical Education

- **Educational Research**
  - Dr. Lalena Yarris
- **Leadership in Medical Education**
  - Dr. David Manthey
- **Teaching and Evaluation**
  - Dr. Jessica Smith
- **Enduring Educational Materials**
  - Dr. Michael Fitch



# Strategies for Success: Getting Your Education Scholarship Published

Lainie Yarris, MD, MCR

*Journal of*  
Graduate Medical Education

S  
A  
E  
M



Academic Emergency Medicine

Official Journal of the Society for Academic Emergency Medicine



## Objectives

- ▶ Describe categories of scholarship that are commonly published in education research journals
- ▶ Identify strategies for project design, implementation, and writing to improve chances of publication
- ▶ List common reasons for manuscript rejection by education journals

## Plan...

- ▶ DESIGN
- ▶ IMPLEMENTATION
- ▶ WRITING
- ▶ COMMON REASONS FOR REJECTION
- ▶ Q&A

## DESIGN

- ▶ Generate a GREAT question
- ▶ Develop a conceptual framework
- ▶ Select appropriate outcomes
- ▶ Select a study design

## Generating a Research Question

- ▶ Start with a research *problem*  
Current issues, controversies, concerns
- ▶ Sources
  - Experience
  - Literature
  - Theories
  - External sources

## Generating a Research Question

- ▶ Feasible
- ▶ Interesting
- ▶ Novel
- ▶ Ethical
- ▶ Relevant

*Research*

*Policy*



## Develop a conceptual framework

- ▶ A theory, model, or approach for how things work
- ▶ Helps establish the question's importance
- ▶ Allows others to build on and adopt findings
- ▶ Helps you select outcomes and interpret results

## Selecting Outcomes:

*Meaningful, congruent with rationale & objectives*

Behaviors, Performance

Skills, Attitudes

Knowledge

Satisfaction, Confidence

## Selecting a Study Design

- ▶ Systematic Review
- ▶ Instrument Development
- ▶ Curriculum Development
- ▶ Qualitative
- ▶ Quantitative (Descriptive)
- ▶ Quantitative (Analytic)

## Selecting a Study Design

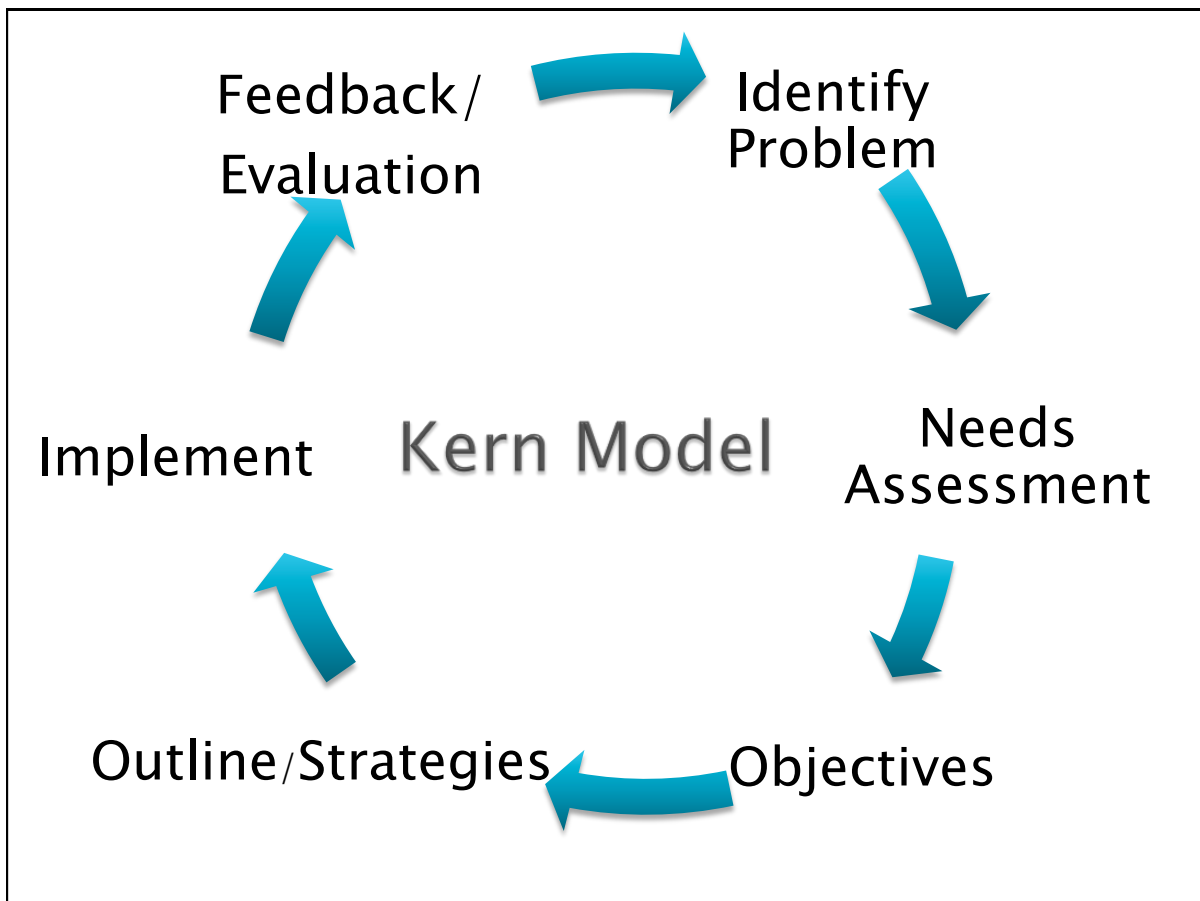
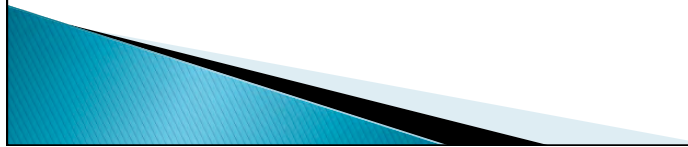
- ▶ Curriculum Development
- ▶ Qualitative
- ▶ Quantitative (Descriptive)
- ▶ Quantitative (Analytic)

# Curriculum Development

*Create the curriculum with  
publication in mind*

IRB approval

Employ established method





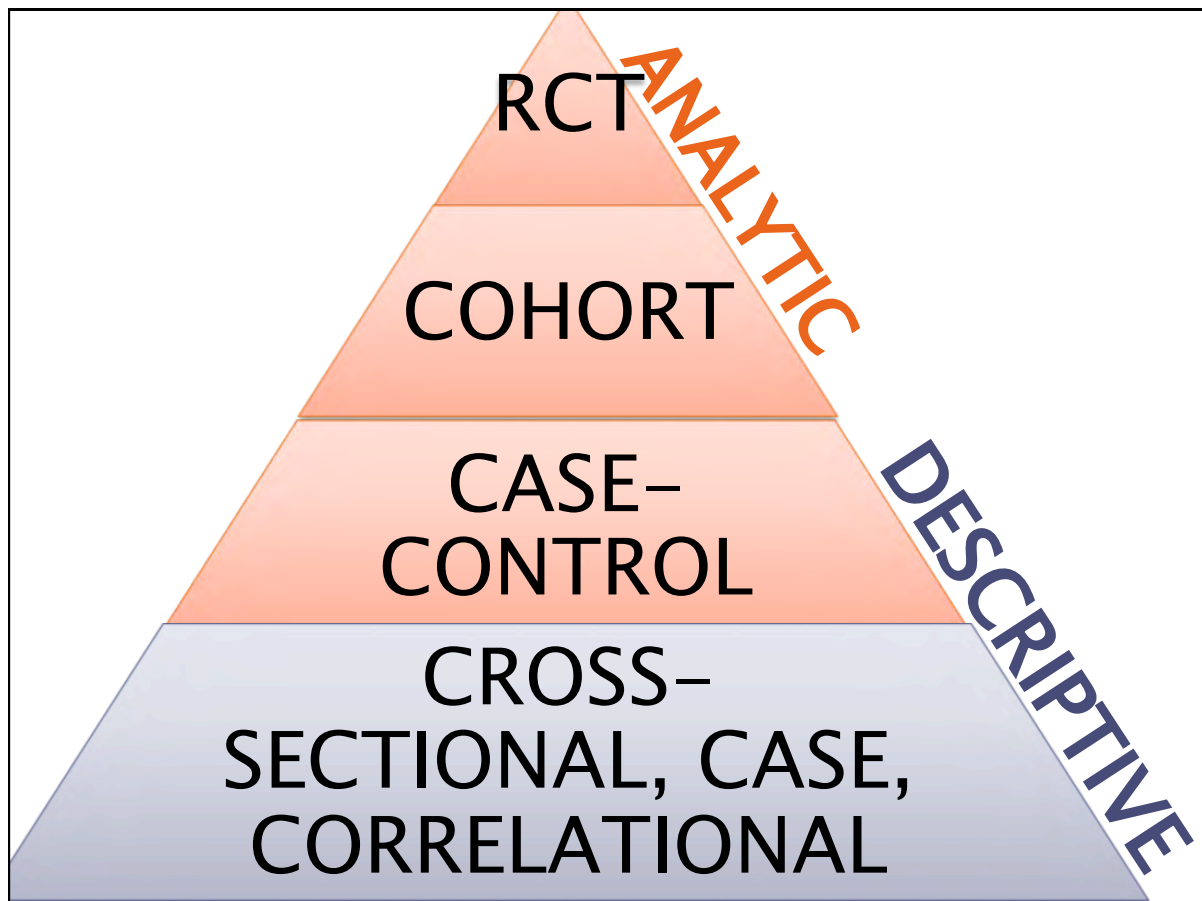
## Selecting a Study Design

- ▶ Curriculum Development
- ▶ Qualitative
- ▶ Quantitative (Descriptive)
- ▶ Quantitative (Analytic)

Quantitative	Qualitative
Positivism	Phenomenology
Describe/Explain Relationship	Explore/Understand a phenomenon
Theory-testing	Theory-building
Deductive Reasoning	Inductive Reasoning

## Selecting a Study Design

- ▶ Curriculum Development
- ▶ Qualitative
- ▶ Quantitative (Descriptive)
- ▶ Quantitative (Analytic)



## IMPLEMENTATION

- ▶ Plan everything out in advance
- ▶ Log everything
- ▶ Keep a file of emails, notes from meetings with statistician, submissions
- ▶ It won't go all as planned

## WRITING

- ▶ Write as you go
- ▶ Select target journal first
- ▶ Select appropriate category
- ▶ Follow instructions for authors
- ▶ Write clearly, succinctly
- ▶ Have a great writer read your paper

## General Recommendations for Publication Success

- ▶ Make sure hypothesis matches the study design and results
- ▶ Limit your Introduction—it's not a literature review
- ▶ Report results before discussing
- ▶ Be honest about limitations
- ▶ Don't overreach in your conclusions

## Lainie's top 10 reasons for rejection

1. Not novel
2. Didn't do homework
3. Doesn't have the potential to change educational practice
4. Wrong fit
5. Methods flaws
6. Poor writing
7. Wrong category
8. Too much spin
9. Learning effect
10. Not enough there

# Strategies for Success: Getting your Educational Scholarship Published

Lainie Yarris, MD, MCR ([yarrisl@ohsu.edu](mailto:yarrisl@ohsu.edu))

## Work-in-Progress Checklist for Education Papers

Step	Done	N/A
Brief literature search		
Identify potential question(s) FINER (Feasible, Interesting, Novel, Ethical, Relevant) & conceptual framework		
Identify mentor		
Identify colleagues		
Identify sites (>1 better). If 1 site, repeat intervention more than once		
Identify statistical help		
Meetings/emails to refine research question		
Determine research approach to best answer the questions: quantitative, qualitative, or mixed methods. <i>Note: these resources mainly address quantitative approaches</i>		
Intervention studies: define intervention operationally (recipe that others can replicate) & identify comparison group (controls with active alternative intervention better)		
Observation or cohort studies: thorough sample recruitment; comparison of responders/participants to non-responders/non-participants, or to total population		
Determine meaningful outcomes; eg, for innovations: <i>feasibility</i> (faculty time, trainee time, training, staff, materials, IT) and <i>acceptability</i> (to trainees, to faculty, to team)		
Determine level of outcomes: Kirkpatrick's (1: reaction/satisfaction; 2: change in skills or knowledge; 3: change in behaviors or practices; 4: change in patients or system)		
Determine instruments to measure outcomes		
Describe validity evidence for instruments used; for 'home grown' outcome instruments describe development, testing, modifications		
Can outcomes be measured objectively (external better than self-assessment)		
Can outcomes be measured distant from intervention (ie not just immediate)		
IRB request for exemption or approval (if humans involved)		
Quantitative study: determine likely effect size (from lit., pilots, minimum change considered of value) & use with type I error ( $p$ ), & type II error ( $\beta$ ) to calculate sample size		
Quantitative study: determine comparisons to be made; adjust $p$ level for #comparisons		
Use MERSQI or BEME scales to rate quality of your project: can you enhance? (for quantitative studies)		
Construct flow chart of study steps and participants, as applicable		
Ongoing: Write everything down at least in outline format Keep references in End Note, Refworks or similar		

**WRITING STEPS**     WHEN COMPLETED

1	€ <u>Re-do literature search</u> ; hand-search bibliography of ‘best’ paper on topic
2	€ <u>Review stated aims</u> of journal of interest and skim an issue; does project/study fit?
3	€ <u>Read author guidelines</u> and choose category that best fits article. Follow author guidelines <i>exactly</i> .
4	€ <u>Adhere to word count</u> and #tables/figures. If not possible, explain why in your cover letter to journal.
5	€ <u>Set deadlines</u> ; don’t disappoint your colleagues. € If writing is difficult, make outline, jot phrases, organize. Try dictating (voice-recognition software).
6	€ If English <i>is not</i> your first language, have someone who is <u>review and proof</u> your paper. € If English <i>is</i> your first language, have someone review and proof your paper.
7	€ <b>Title</b> : usually <15 words. Include intervention, type of study, trainee type, setting - if possible - to help reader decide if should read further/click on link
8	€ <b>Abstract</b> : may be only part of paper that is read. Usually introduction, methods, results, conclusions but follow author guidelines. Always include sample size.
9	€ <b>Introduction</b> : 1-2 sentences introduce the topic: why important and relevant to journal’s readership. Set your research purpose or hypothesis within a conceptual framework (why should it work?)
10	€ <b>Introduction</b> : 1-2 paragraphs outlining the research or evidence gap that exists. This justifies why your project needs to be done, published, and read. The introduction is not a review of the topic.
11	€ <b>Introduction</b> : end with a sentence (or two if complicated study) that is your study hypothesis (question) or purpose.
12	€ <b>Methods</b> : organize. Relevant sections are: Setting and Participants, Intervention, Outcomes, Analysis, IRB statement (1 sentence only).
13	€ <b>Methods</b> : include all steps so your intervention could be replicated. If long, put in table or box. If still too long, label as appendix (online supplemental material) and keep brief description in paper.
14	€ <b>Methods</b> : describe validity of outcome measures or cite literature. At minimum provide who developed/expertise, any testing/piloting, modifications if ‘home grown.’
15	€ <b>Methods</b> : describe all planned analyses, in terms that a non-statistical expert (the average reader) can understand.
16	€ <b>Results</b> : report in same order that hypotheses stated (if >1). Usually general information (number of participants, demographic info) goes first.
17	€ <b>Results</b> : if many numbers or hard to follow – put into Table or Figure, to enhance clarity (and manage word count)
18	€ <b>Discussion</b> : first 1-3 sentences summarize the most important, unique, or surprising results of your study. <i>Do not repeat justification for the study, which is in the Introduction. Do not put Results here.</i>
19	€ <b>Discussion</b> : next 1-2 paragraphs compare/contrast your findings with those of others, analyzes why similar or different, and what your findings may imply. Label opinions as such; limit these.
20	€ <b>Discussion</b> : next 1 paragraph analyzes how your study’s limitations may have impacted the results, in either direction; full evaluation of limitations enhances chance of publication. <i>Don’t list.</i>
21	€ <b>Discussion</b> : then brief statement of next steps to study this area
22	€ <b>Conclusion</b> : 1-3 sentences that describe strictly your study findings, without speculation

Handout Adapted from AAMC/GEA JGME Sponsored Workshop, Nov 5, 2012 (The Personal Trainer Approach to Writing for Education Journals: Ready, Set, Go), developed by JGME Editor Facilitators (Artino A, Lybson M, Simpson D, ten Cate TJ, Opas L, Sullivan G, Chretien K, Philibert I, Yarris L, DaRosa D, Sargent J) and used with permission.

## RESOURCES

### References

#### Education Research – Getting Started & General Resources

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6. Bordage G, Dawson B. Experimental study design and grant writing in eight steps and 28 questions. *Med Educ.* 2003;37:376-85.
7. Cook DA, Beckman TJ, Bordage G. Quality of reporting of experimental studies in medical education: a systematic review. *Med Educ.* 2007;41:737-45.
8. Sullivan GM. Deconstructing quality in education research. *J Grad Med Educ* 2011; 3: 121-124.
9. Sullivan GS. Using effect size – or why the p level is not enough, and 10 FAQs about effect size. *J Grad Med Educ* 2012;4(3):279-282, 283-284.
10. Sullivan GM. IRB 101. *J Grad Med Educ* 2011; 3: 5-6.
11. Norman, Geoff. Data dredging, salami-slicing, and other successful strategies to ensure rejection: twelve tips on how to not get your paper published. *Advances in Health Sciences Education* 2014. 19:1-5.
12. Gail M. Sullivan (2014) Is There a Role for Spin Doctors in Med Ed Research?. *Journal of Graduate Medical Education: September 2014, Vol. 6, No. 3, pp. 405-407.*
13. Rebecca D. Blanchard, Anthony R. Artino Jr, and Paul F. Visintainer (2014) Applying Clinical Research Skills to Conduct Education Research: Important Recommendations for Success. *Journal of Graduate Medical Education: December 2014, Vol. 6, No. 4, pp. 619-622.*

#### Education Research – Curriculum Development

1. Green ML. Identifying, appraising, and implementing medical education curricula: a guide for medical educators. *Ann Intern Med* 2001; 135: 889 -896.
2. Kern DE, Thomas, PA, Howard DM, Bass EB. *Curriculum Development for Medical Education: A Six-Step Approach.* Johns Hopkins University Press: 1998.
3. Reznich CB, Anderson WA. A suggested outline for writing curriculum development journal articles: the IDCRD format. *Teach Learn Med* 2001; 12(1): 4-8.

#### Education Research – Qualitative Approaches

1. Kuper A, Reeves, S, Levinson W. An introduction to reading and appraising qualitative research. *BMJ* 2008;337:404-407.
2. Lingard L, Albert M, Levinson W. Grounded theory, mixed methods, and action research. *BMJ* 2008; 337:459-461.
3. Reeves S, Kuper A, Hodges BD. Qualitative research methodologies: ethnography. *BMJ* 2008;337:512-
4. Sullivan GM, Sargeant J. Qualities of Qualitative Research: Part I. *J Grad Med Educ* 2011;3:449-452.
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6. Turgeon J. Appraising qualitative research articles in medicine and medical education. *Med Teach.* 2005;227:71-5.
7. O’Brien BC, Harris IB, Beckman TJ, Reed DA, & Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine* 2014. 89(9), 1245-1251.

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## Education Research – Surveys

1. Ricards G, Magee C, Artino Jr, AR. You can't fix by analysis what you've spoiled by design: developing survey instruments and collecting validity evidence. *J Grad Med Educ* 2012; 4(4): 407-410

## Education Research – Systematic Reviews

1. Cook DA, West CP. Conducting systematic reviews in medical education: a stepwise approach. *Medical Education* 2012; 46: 943-952.

## Education Research – Instrument Development and Validity studies

1. Sullivan GM. A primer on the validity of assessment instruments. *J Grad Med Educ* 2011; 3: 119-120.
2. Cook DA, Beckman TJ. Current Concepts in Validity and Reliability for Psychometric Instruments: Theory and Application. *Am J of Medicine* 2006; 119: 166e10-199.e16.
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(<http://www.apa.org/science/programs/testing/standards.aspx>)
4. Downing S. Validity: on meaningful interpretation of assessment data. *Medical Education*. 2003;37:830-837.

## Writing and Reviewing

1. Bordage G. Reasons reviewers reject and accept manuscripts: the strengths and weaknesses in medical education reports. *Acad Med*. 2001; 76: 889–896.
2. Roediger HL. Twelve tips for reviewers. *Assoc Psychol Science*. Apr 2007.  
[www.psychologicalscience.org/observer/getArticle.cfm?id=2157](http://www.psychologicalscience.org/observer/getArticle.cfm?id=2157)
3. Sullivan GS. Writing education studies for publication. *J Grad Med Educ* 2012;4(2): 133-137.

## **On Line Courses for Reviewing Skills** (not specific to medical education)

1. Annals of Emergency Medicine course <http://www3.us.elsevierhealth.com/extractor/graphics/em-acep/>
2. Cochrane Collaboration sponsored: <http://eyes.cochrane.org/launch-online-course-journal-peer-review>

## **Websites**

1. *BEME* – Best Evidence in Medical Education. International group, like Cochrane Collaboration, that does high quality systematic reviews of education research. Great resource for information and also instruments with validity evidence for your own studies. <http://www2.warwick.ac.uk/fac/med/beme/>
2. *MedEdPortal* – repository of medical education products, funded by AAMC, for medical, dental, and (adding) other health professions education. These materials are peer-reviewed.  
<http://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/>
3. [www.biosemantics.org/jane](http://www.biosemantics.org/jane): enter your title or abstract and get suggested journals; usually will generate a lot of suggestions, some quite relevant

## **Education Journals to Consider**

One approach is to Google “Medical Education Journals List” which yields links to University of Ottawa [www.med.uottawa.ca/aime/eng/journals.html](http://www.med.uottawa.ca/aime/eng/journals.html); *Stony Brook University Libraries* <http://guides.library.stonybrook.edu/content.php?pid=222136&sid=1843907> and *Medical Journals Links* <http://www.medical-journals-links.com/medical-education-health-education-journals.php>

A few journals are listed below to get you started.

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1. *Academic Medicine* – 12 issues/yr; MD training; targeting faculty/administrators of medical institutions
2. *Advances Health Sciences Education* – 5 issues/yr; all health professions; research linking theory to practice
3. *Annals of Behavioral Science and Medical Education* – targeted to professionals teaching the integration of behavioral science knowledge and skills in medicine
4. *BMC Medical Education* (online) – open access, fee for submitting article; all health professionals
5. *Canadian Medical Education Journal* (online) - open-access; explores new developments and perspectives in the field of medical education from premedical to postgraduate and CME
6. *Journal of Continuing Education in the Health Professions* – 4 issues/yr; innovations in CME
7. *Journal of Graduate Medical Education* – 4 issues/yr; GME research, innovations, reviews, brief reports
8. *Medical Education* – 12 issues/yr; all health professions; research, reviews, 'really good stuff'
9. *Medical Science Educator* (online) - focuses on teaching the sciences fundamental to modern medicine and health
10. *Medical Teacher* – 12 issues/yr; all health professions; general articles, short articles for teachers
11. *Teaching and Learning in Medicine* – 4 issues/yr; MD training; basic, applied, & research methods

### **Usual Calendar for Education Abstract Submissions**

1. *Early January*: abstracts due for the Assoc. for Medical Education in Europe (AMEE) annual conference in Aug.
2. *Late February*: abstracts due for Research in Medical Education (RIME) track of AAMC Annual Meeting in Nov. Full papers that are accepted will automatically be published in *Academic Medicine*
3. *Early March*: deadline for Medical Education Theme Issue of JAMA published in September.
4. *March*: deadline for submissions for the International Conference on Residency Education (ICRE) in fall.
5. *April*: deadline for Group on Educational Affairs (GEA) presentations at AAMC Annual Meeting in Nov.
6. *September*: abstracts due for Canadian Conference on Medical Education sponsored by the Canadian Association for Medical Education (CAME) in April.
7. *November*: poster deadline for Accreditation Council for Graduate Medical Education (ACGME) meeting, Mar.

**TABLE 1. Modified Newcastle-Ottawa Scale – for quantitative studies**

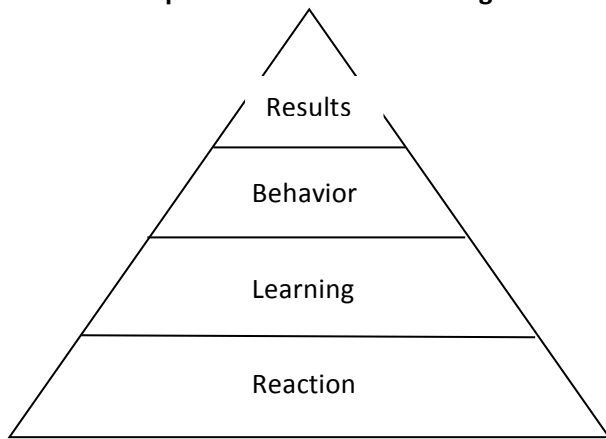
Category		1 Point Each	Max. Score
Representativeness		Intervention group “truly” or “somewhat” representative of average learner in this community	1
Selection		Comparison group drawn from same community as the exposed cohort	1
Comparability	a) Non-randomized 2-cohort studies	Controlled for baseline learning outcome (e.g., baseline pretest scores)	2
		Controlled any other baseline characteristic	
	b) Randomized studies	Randomized	
		Allocation concealed	
Blinding		Blinded outcome assessment*	1
Follow-up		Subjects lost to follow-up* unlikely to introduce bias: small no. lost (75% or greater follow-up) or description provided for those lost	1
Maximum Total Score			6

\* Blinding and completeness of follow-up are reported as Yes if this was true for *any* reported outcome.

Modified from supplementary content [http://jama.ama-](http://jama.ama-assn.org/content/suppl/2008/09/05/300.10.1181.DC1/jama0910_JWE80022.pdf)

[assn.org/content/suppl/2008/09/05/300.10.1181.DC1/jama0910\\_JWE80022.pdf](http://jama.ama-assn.org/content/suppl/2008/09/05/300.10.1181.DC1/jama0910_JWE80022.pdf) & and Wells GA, Shea B, O’Connell D et al. The Newcastle–Ottawa Scale (NOS) for assessing the quality of non-randomised studies in meta-analyses. [http://www.ohri.ca/programs/clinical\\_epidemiology/oxford.asp](http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp)

**FIGURE 1. Kirkpatrick's Levels of Learning**



4. Results=Change in patients or the system/organizations practices
3. Behaviors=Change in behaviors or practice
2. Learning=Change in attitudes, knowledge, or skills
1. Reaction=Satisfaction

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Adapted from BEME Guide No 8. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education. Steinert et al.

<http://www2.warwick.ac.uk/fac/med/beme/reviews/published/steinert/>

**TABLE 2. Medical Education Research Quality Instrument - for quantitative studies**

Domain	MERSQI Item	Score	Max Score
Study design	Single group cross-sectional or single group posttest only	1	3
	Single group pretest & posttest	1.5	
	Nonrandomized, 2 groups	2	
	Randomized controlled trial	3	
Sampling	<i>Institutions studied:</i>		3
	1	0.5	
	2	1	
	3	1.5	
	<i>Response rate, %:</i>		
	Not applicable		
	<50 or not reported	0.5	
	>75	1.5	
Type of data	Assessment by participants	1	3
	Objective measurement	3	
Validity of evaluation instrument	<i>Internal structure:</i>		3
	Not applicable		
	Not reported	0	
	Reported	1	
	<i>Content:</i>		
	Not applicable		
	Not reported	0	
	Reported	1	
	<i>Relationships to other variables:</i>		
	Not applicable		
	Not reported	0	
Reported	1		
Data analysis	<i>Appropriateness of analysis:</i>		3
	Inappropriate for study design or type of data	0	
	Appropriate for study design & type of data	1	
	<i>Complexity of analysis:</i>		
	Descriptive analysis only	1	
Beyond descriptive analysis	2		
Outcomes	Satisfaction, attitudes, perceptions, opinions, general facts	1	3
	Knowledge, skills	1.5	
	Behaviors	2	
	Patient/health care outcome	3	
<b>Total possible score*</b>			<b>18</b>

\*Scores range from 5 to 18. Adapted from Reed DA et al. Association between funding and quality of published medical education research. JAMA 2007;298:1002–9.

**TABLE 3. Best Evidence in Medical Education Global Scale**

<b>STRENGTH of EVIDENCE</b>	
1	No clear conclusions can be drawn
2	Results ambiguous, may be a trend
3	Conclusions can probably be based on the results
4	Results are clear and very likely to be true
5	Results are unequivocal
<b>OUTCOMES*</b>	
Level 1	<b>PARTICIPATION</b> Learner feedback on the learning experience (e.g., organization, presentation, content, teaching materials, quality of instruction)
Level 2a	<b>ATTITUDES or PERCEPTIONS</b> Changes in attitudes towards intervention or simulation
Level 2a	<b>KNOWLEDGE and SKILLS</b> <i>Knowledge</i> : acquisition of concepts, procedures, or principles <i>Skills</i> : acquisition of thinking and problem solving, psychomotor, or social skills
Level 3	<b>BEHAVIORAL CHANGE</b> Transfer of learning to the workplace or willingness to apply new knowledge and skills
Level 4a	<b>ORGANIZATION PRACTICE</b> Wider changes in organization or delivery of care, attributable to educational program
Level 4b	<b>PATIENT BENEFITS</b> Improvement in health or well-being of patients as a direct result of educational program

\* Hierarchy of increasing importance.

Modified from Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T. Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ* 2005;331:387–91.

<b>TABLE 4: Grid for Critical Appraisal of Qualitative Research Articles</b> <i>from Coté L, Turgeon J. Medical Teacher. 27 (1): 71-75, 2005</i>	<b>Yes</b>	<b>Unclear</b>	<b>No</b>
<b>Introduction</b>			
1. The issue is described clearly and corresponds to the current state of knowledge.			
2. The research question and objectives are clearly stated and are relevant to qualitative research (i.e., are exploratory in nature).			
<b>Design and methods</b>			
3. The context of the study and the researchers' roles are clearly described (e.g. setting in which the study takes place, consideration of bias).			
4. The design is appropriate for the research question (e.g., phenomenology, grounded theory, ethnography).			
5. The selection of participants is appropriate to the research question and design.			
5.1 Sample participants are able to inform the research question (purposive/ purposeful sampling)			
6. The method for collecting data is clear and relevant (e.g. interview, focus group).			
6.1 Relevant groups are represented.			
6.2 It appears that adding additional participants would not yield new data (saturation)			
7. Data analysis is credible and rigorous.			
7.1 The steps are clearly described:			
a. Transcription			
b. Transcription review			
c. Selection of units of significance or meaning (codes)			
d. Identification of themes			
e. Comparison and contrasting of themes			
f. Process for resolving discrepancies			
7.2 Team members' roles in analysis are described.			
<b>Results</b>			
8. The main results are presented clearly			
9. The quotations make it easier to understand the results			
<b>Discussion</b>			
10. Results are interpreted in credible and innovative ways.			
11. The limitations of the study are presented (e.g., transferability)			
<b>Conclusion</b>			
12. The conclusion presents a synthesis of the study and proposes avenues for further research.			

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# Educational Leadership

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Department of Emergency Medicine  
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## Educational Leadership

- How to get involved
- How to position yourself to be a leader
- How to be an effective leader once you get position

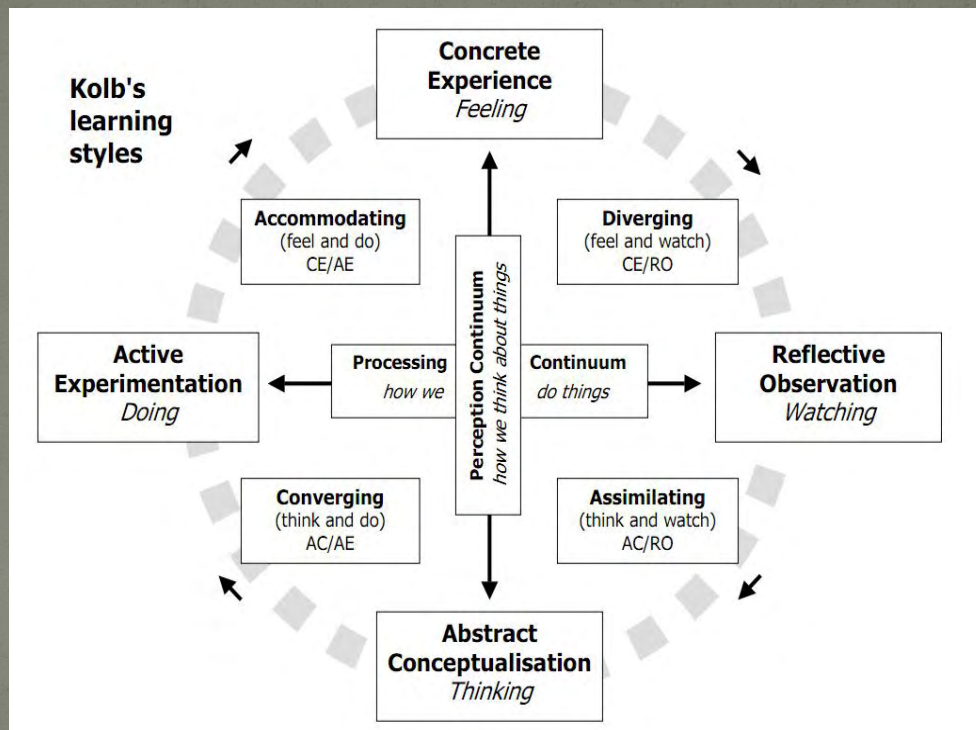
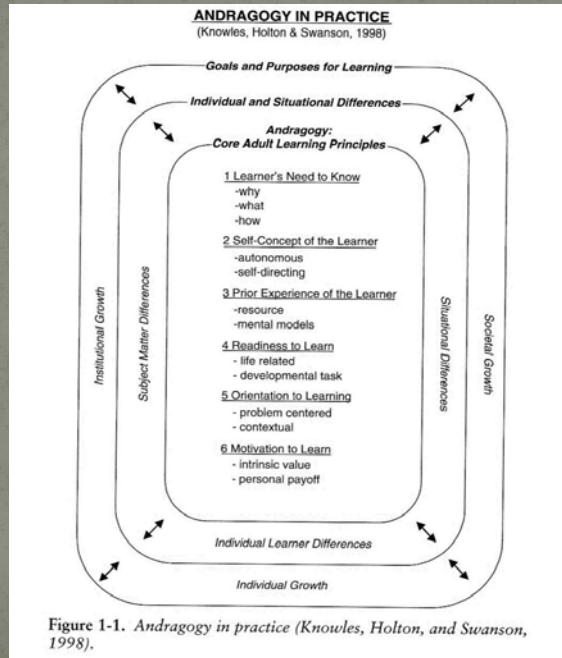
**GET INVOLVED...**  
**The world is run by**  
**those who show up**

## How to position yourself to be a leader

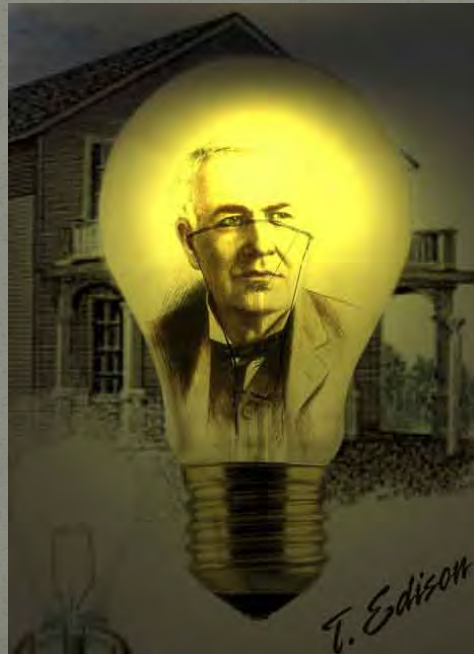
- Find a relevant niche that has not been addressed
  - Or do it better than anyone else
    - E-Learning
    - High Stakes Testing
    - Social Media
- Develop the ability to problem solve
  - Transparent communication
  - Break down silos
  - Open minded people
  - Solid Foundational Strategy



# Learn Andragogy / Educational Theory



## Gain Experience



How to be an effective leader  
once you get the job:

## Promote the success of all by:

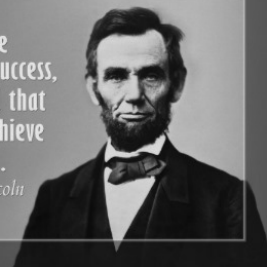
- Facilitating
  - Development, articulation and implementation
- Advocating
  - For learners, new educational techniques, and faculty development
- Environment
  - Conducive to instructional technique
  - Political, Social and Economic Climate
- Collaboration
  - Sharing resources
  - Many educators do the same basic things

## Promote the success of all by:

- Medical Education Research
- Medical Education Scholarship
- Enduring Materials
- Faculty Development

That some  
achieve great success,  
is proof to all that  
others can achieve  
it as well.

*Abraham Lincoln*



# Teaching and Evaluation

Jessica L. Smith, MD, FACEP

## ARTICLE

### Integrating Clinician–Educators into Academic Medical Centers: Challenges and Potential Solutions

Wendy Levinson, MD, and Arthur Rubenstein, MBBCh

#### ABSTRACT

During the last decade academic medical centers (AMCs) have hired large numbers of clinician–educators to teach and provide clinical care. However, these clinician–educators often do not advance in academic rank, since excellence in clinical care and teaching alone is not adequate justification for advancement. The authors articulate the problems with the present system of recognition for clinician–educators—i.e., the requirement for regional and national reputation, the lack of reliable measures of clinical and teaching excellence, and the lack of training opportunities for young clinician–educators. They call for solutions, including fundamental changes in

promotion criteria (e.g., focus criteria for promotion on clinician–educators’ accomplishments within their institutions) and the development of valid and feasible methods to measure outcomes of teaching programs. Further, they recommend the development of a new faculty position, a “clinician–educator researcher,” to foster the scholarship of discovery in medical education and clinical practice. Investments in clinician–educator researchers will ultimately help AMCs to achieve their threefold mission—excellence in patient care, teaching, and research. *Acad. Med.* 2000;75:906–912.

# The Scholarship of Teaching and Evaluation

- As PDs we are in charge of the EducaTION, not necessarily the EducaTING of our residents
- We have (used to have) an expectation of Scholarly Activity according to the EM Program Requirements
- Scholarly Activity is useful for personal and professional development AND promotion
- How do we fulfill our teaching and evaluation mission in a meaningful way?

# The Scholarship of Teaching and Evaluation

- Demonstrate significant quality, quantity, and breadth of teaching & evaluation experience
- Measureable outcomes mirror what you need for P&T
- Step 1: teach learners
- Step 2: collect evaluations from learners
- Step 3: organize your CV by grouped activities so you can track progress
- Bonus: evaluate all learners and/or evaluate the evaluations

# Homework: Learn the ACGME Guidelines

2/2015 update: **Specialty-specific References for DIOs: Program Director Scholarly Activity**

Specialty	Specialty-specific Program Requirements
Emergency Medicine	None
Emergency Medical Services	None
Pediatric Emergency Medicine	II.A.3.e) Qualifications of the program director must include a record of ongoing involvement in scholarly activities, including peer review publications, and mentoring

<p>What are examples of acceptable scholarly activity for faculty members?</p> <p>[Program Requirement: II.B.6.d)]</p>	<ol style="list-style-type: none"> <li>1. PEER REVIEW-This would include original contributions of knowledge published in journals listed in Thomson Reuters (formerly ISI) Web of Knowledge or MEDLINE®. Abstracts, editorials, or letters to the editor would not qualify. Submissions to online venues, with the exception of Med Ed PORTAL, would not qualify.</li> <li>2. NON-PEER REVIEW-This would include all submissions to journals or online venues that do not fulfill peer-review criteria. This would also include abstracts, editorials, or letters to the editor submitted to peer-reviewed journals and which have not undergone the rigorous, blinded, multiple peer-review process. This category also includes educational videos, DVD's, and podcasts.</li> <li>3. TEXTBOOKS/CHAPTERS-This would include submissions for which the faculty member served as editor, section editor, or chapter author.</li> <li>4. PRESENTATION AT LOCAL/REGIONAL/NATIONAL ORGANIZATIONS-This would include invited presentations at meetings, such as abstracts (posters), expert panel discussions, serving as a forum leader, or grand rounds presentations. Grand rounds presentations at the home institution, unless at an outside department, would not qualify.</li> <li>5. COMMITTEE MEMBERSHIP/LEADERSHIP-This would include elected or appointed positions in nationally recognized organizations. Membership alone would not qualify.</li> <li>6. EDITORIAL SERVICES-This category would include services as an editor, editorial board member, reviewer, or content expert. Serving as an abstract reviewer or grant reviewer would also qualify.</li> <li>7. GRANTS-This criteria can only be satisfied by the awarding of a grant.</li> </ol>
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# Homework: Learn Your P&T Guidelines

- There's always a timeline
- They require teaching logs and evaluations
- They require scholarly activity
- They require publications
- There may be more expectations that are institution specific

# Homework: Investigate Your Options

Educational Activity
<b>Undergraduate and Graduate Programs</b>
Brown University undergraduate or Master's program course presentation
<b>Medical Student Programs</b>
EM562 didactic presentation, simulation session, or skills lab (suturing or splinting) instructor
PEM elective didactic presentation, simulation session, or skills lab session instructor
AMS Doctoring course presentation
AMS preclinical course presentation
AMS clinical elective course presentation (i.e. US elective, Wilderness Course, Sports Medicine, etc)
AMS Clinical Skills Clerkship (CSC) course presentation
AMS ACLS course presentation
<b>EM Residency Program</b>
Orientation-core content presentation, simulation session instructor, cadaver lab or skills lab presentation
Didactics-core content presentation, CPC, grand rounds, workshop, small group session, or simulation
Mock oral boards instructor
Airway course presentation, simulation, or animal lab instructor
PGY-2 critical care transition course presentation
PGY-3 "teaching to teach" course presentation
Journal Club presentation
ACLS/PALS/ATLS course presentation
<b>Fellowship Programs</b>
Any fellowship program didactic presentation, core content lecture, skills lab/workshop/small group
<b>Faculty Development/CME Programs</b>
AMS Program in Educational Faculty Development (PEFD) core series presentation
Local, regional or national presentation
<b>Other Programs</b>
Presentation, skills lab, workshop, or small group exercise for IM or OB rotators, MLPs, or other professional group

## Step 1: Teach Learners

- Show up (then document):
  - duration and frequency of lectures
  - number of learners and/or groups taught
- Try out different styles/formats/courses
  - Vary the levels of learners
  - Teach at home and away
  - Everything from bedside teaching to faculty development to mentoring counts





# Action: review recent evals



## Rhode Island Hospital Medical Simulation Center Faculty Evaluation Summary

-Faculty: Dr. Jessica Smith

Evaluation Summary Period: Jun. 1 – Dec. 31

-Course evaluations: (available data from simulation courses in which faculty had a significant educational role)

total # evaluations: 56

5-point Likert scale scores (mean; 1 strongly disagree / poor; 5 strongly agree / excellent)

Date	Course	Role <sup>†</sup>	n <sup>‡</sup>	Course impact on learner practice	Course organization			Course content (Simulations)				Course content (Lectures)			
					Objectives clear	Objectives met	Course educational	Relevance to duties	Scenario realism	Sim.envt realism	Debrief quality	Overall	Relevance to duties	Lecture quality	Overall
9.28	EM Res. Conf.	D	31	4.5	4.5	4.5	4.5	4.7	4.5	4.5	4.7	4.7	4.7	4.7	4.6
10.5	AMS EMIG	D	21	4.4	4.8	4.9	4.7	4.8	4.6	4.7	4.7	4.9	4.8	4.8	4.8
11.9	SimCode A+L	I	4	4.5	4.8	5	5	5	5	5	5	5	5	5	5

<sup>†</sup> D = course director; I = instructor    <sup>‡</sup> number of evaluations completed (n<3 excluded from table)

-Individual Faculty evaluations: (data from evaluations designating faculty by name)

total # evaluations: 56

5-point Likert scale scores (mean; median)

[1 poor; 5 excellent]

Individual Faculty Scores	
Staff knowledge in course content	Staff effectiveness at conveying course content
<b>4.9; 5</b>	<b>4.9; 5</b>

## Step 3: Organize your CV

- Document EVERYTHING somewhere
- Follow your institutional guidelines at first pass
- Then organize yourself within the sub categories
- Example:
  - Invited Presentations (\*note the number of learners in each session)
  - Invited Presentations
    - Faculty Development
    - Resident Development
    - Medical Student Development

# Action: Update your CV

Updated 03/06/15

## JESSICA L. SMITH, MD, FACEP

131 Fruit Hill Avenue #5 | Providence, RI 02911 | (401) 623-0170 | JessicaSmithMD@gmail.com

### ACADEMIC AND HOSPITAL APPOINTMENTS

<b>Rhode Island Hospital and The Miriam Hospital</b> , Providence, Rhode Island <i>Associate Professor (Clinical), Department of Emergency Medicine</i>	2014–Present
<b>The Warren Alpert Medical School of Brown University</b> , Providence, Rhode Island <i>Program Director, Emergency Medicine Residency</i>	2013–Present
<b>The Warren Alpert Medical School of Brown University</b> , Providence, Rhode Island <i>Associate Program Director, Emergency Medicine Residency</i>	2009–2013
<b>The Warren Alpert Medical School of Brown University</b> , Providence, Rhode Island <i>Assistant Program Director, Emergency Medicine Residency</i>	2008–2009

## A Few Practical (personal) Examples

- Teaching: sim cases, mock oral boards, teaching rounds, grand rounds lectures, med student elective sessions, procedural teaching for residents and med students, EMIG sessions, Orientation programming, ACLS for med students
- Faculty Development: development and distribution of practical teaching tools for the faculty, participation on faculty and resident evaluation committees, distribution of best practices from national conferences
- Mentorship: revised resident mentorship program, developed career toolbox and job series for seniors, AAMC CIM mentor, undergrad mentorship, alumni networking
- Evaluation: revision of evaluation materials for semi annual reviews, annual program review, end of rotations, reinstated the SDOT coaching program, needs assessment of the curriculum

## Bonus: Evaluate All Learners

- Residents
- Faculty
- Off-service colleagues
- Self-reflection
- Document your efforts somewhere
- Collate results or themes to share

## Bonus: Evaluate the evaluations

- Are your current evaluation methods adequate?
- Review/Revise/Rethink what you do for people and experiences:
  - Residents
  - Faculty
  - Rotations
  - Electives
  - Semi Annuals
  - APRs

# Massive Action: Do a Needs Assessment

- For your residents
- For your faculty
- For yourself

## Example: from a 10 Q Survey Monkey...

- 2. *What's one piece of advice you want to give all faculty to improve your education in the ED?*
- 3. *What's something that one of your favorite attendings does on shift that impresses you or that you learn from?*
- 4. *What's something that one of your least favorite attendings does on shift that drives you crazy?*

# Massive Action:

- Turn those survey results into a didactic:
  - Present it as a faculty development session at home
  - Present it at your alma mater and take it on the road
  - Write it up as a poster and submit it nationally
  - Write it up as an abstract and publish it

# Parlay, parlay, parlay

- Get credit for what you do
- Goal: achieve PD, P&T, and personal career goals
- Find a career baby (even if it's only temporary)
  - Sim: good stage for teaching cred, evaluation ingrained, holds opportunities to publish on MedEd Portal
  - Remediation: applicable as an APD, there's opportunity to spin it into scholarly work for myself and for my CODD colleagues, and that also earns P&T credit
  - Pubs = promotion

## Take Advantage of Local and National Resources:

- Med School Activities/Faculty Development Sessions
- Your Chair for Faculty Development Opportunities/Faculty Retreat presentations
- CORD = join a committee or task force
- MERC at CORD Scholarship Program
- ACEP
- SAEM
- AWAEM

## Final Thoughts: Apply for Awards

- It keeps you honest (with your achievements)
- It helps organize your priorities
- You deserve it!
- ACEP Junior Faculty Teaching Award
- ACEP Faculty Teaching Award
- CORD Distinguished Educator Award

# Your T&E Scholarship To Do List:

- Homework:
  - Read the Levinson article, learn the ACGME rules, learn your P&T guidelines, and investigate the local teaching and evaluation opportunities
- Step 1: Teach learners in different venues
- Step 2: Track and collect evals for everything you do
- Step 3: Organize your CV in a way that makes sense for you
- Bonus: Evaluate all learners and the evaluation process
- Apply for an Award

Thank You!\*

JessicaSmithMD@gmail.com



\*Please remember to fill out an evaluation

# Enduring Educational Materials

Take your teaching to the next level!

**Michael T. Fitch, M.D., Ph.D.**

Professor and Vice Chair for Academic Affairs

Deputy Editor, MedEdPORTAL Publications

Department of Emergency Medicine

Wake Forest School of Medicine

Winston-Salem, North Carolina



# Enduring Educational Materials

## Overview

- **The scholarship of teaching**
  - Peer review
  - Public dissemination
  - Platform for further development
- **Finding opportunities in what you already do!**
  - Innovative teaching methods or materials
  - Opportunities for research
  - Identifying places to publish your work
- **Peer review of educational materials**
  - Formal peer-review process
  - Publish your educational materials





# Enduring Educational Materials

## Boyer's Model of Scholarship

- **Scholarship of Discovery**
  - Research paradigm – finding new knowledge
- **Scholarship of Integration**
  - Analysis, review, and synthesis of information
- **Scholarship of Application**
  - Solving problems by applying knowledge
- **Scholarship of Teaching**
  - Creative use of knowledge to teach others
  - A systematic approach to enhancing education
  - Encompasses more than just being a great teacher

Boyer, E. L. (1997). *Scholarship reconsidered: Priorities of the professoriate*.

# Enduring Educational Materials

## Scholarly Products from Education

- **Peer review**
  - Important aspect for demonstrating scholarship
- **Public dissemination**
  - Publication for other educators to review and use
- **Platform for further development**
  - Creating a product that others can use and build upon



# Enduring Educational Materials

## Scholarly Products from Education

- **Opportunities for teaching faculty**
  - Published abstracts
  - Posters at professional meetings
  - Presentations at local, regional, and national meetings
  - **Books and other scholarly publications**
  - **Peer reviewed journal articles**
  - **Peer reviewed electronic resources and materials**



# Enduring Educational Materials

## Scholarly Products from Education

- **Publication opportunities with editorial review**
  - Books
  - Book chapters
  - Invited review articles
  - Online clinical reviews



# Enduring Educational Materials

## Traditional Publication Venues

- **Educational innovations**

- Creation of novel materials
- New approaches to teaching
- Perspectives on educational methods
- Implementation of a unique curriculum
- Advances on interactive learning techniques
- Scholarly reviews of the educational literature



# Enduring Educational Materials

## Traditional Publication Venues

- **Find the right audience to share your work**

- Find journals that publish your kinds of articles
- “Really Good Stuff” in *Medical Education*
- “Innovation Reports” in *Academic Medicine*
- Don’t limit yourself to Emergency Medicine publications



# Enduring Educational Materials

## Where can you peer review and publish?

- **Medline indexed medical education journals**
  - Medical Education
  - Academic Medicine
  - Adv in Health Sciences Education
  - Medical Teacher
  - Simulation in Healthcare
  - BMC Medical Education
  - Journal of Cont Ed. in Health Prof.
  - Teaching and Learning in Medicine
  - Education for Health
  - The Clinical Teacher
  - Medical Education Online
  - Medical Science Educator
  - Perspectives on Medical Education
  - Canadian Medical Education Journal
  - Journal of Graduate Medical Education
  - International Journal of Medical Education



# Enduring Educational Materials

## Where can you peer review and publish?

- **Non-indexed medical education journals**
  - Medical Education Development
  - The Open Medical Education Journal
  - The Internet Journal of Medical Education
  - Journal of Advances in Medical Education and Practice



# Enduring Educational Materials

## Where can you peer review and publish?

- **Specialty journals and specialty issues**

- Academic Radiology
- Academic Emergency Medicine
- Advances in Physiology Educ.
- Am. Journal of Pharmaceutical Education
- Annals of Emergency Medicine
- Family Medicine
- JAMA (Education issue every fall)
- J of Cont. Ed. in the Health Prof.
- Journal of Cancer Education
- Journal of Emergency Medicine
- Journal of Surgical Education
- Yale Journal of Biology and Medicine
- Western Journal of Emergency Medicine



# Enduring Educational Materials

## How can you disseminate your materials?

- **Repositories for educational materials**

- MERLOT [healthsciences.merlot.org](http://healthsciences.merlot.org)
  - Not all materials peer reviewed
  - Does not house the materials – links only
  - Wide variety of health sciences



- HEAL [www.healcentral.org](http://www.healcentral.org)
  - Multimedia teaching materials
  - Images, animations, videos, audio
  - Not all materials peer reviewed
  - **No longer accepting new materials**



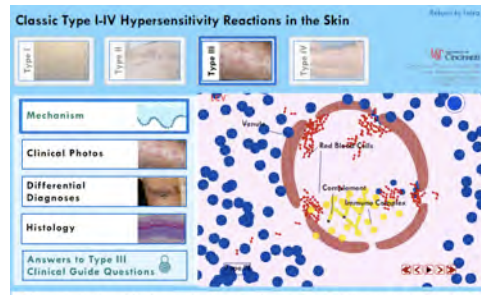
- AAMC MedEdPORTAL [www.MedEdPORTAL.org](http://www.MedEdPORTAL.org)
  - Association of American Medical Colleges
  - Formal peer review process prior to publication
  - Publishes, maintains, and distributes materials



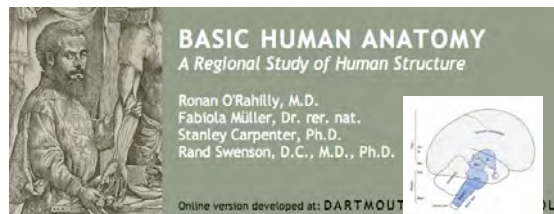
# Enduring Educational Materials

## What can you peer review and publish?

- PBL Cases
- Virtual Patients
- Video Resources
- Simulation Cases
- Graphical Images
- Model Curriculum
- Web-based Courses
- Faculty Development
- Lecture Presentations
- Standardized Patients
- Laboratory Resources



Sheth PB, Choi EM, Marsh KR, Slinay KM, Schirmer A, Classic Type I-IV Hypersensitivity Reactions In The Skin. MedEdPORTAL; 2009. Available from: <http://services.aamc.org/jsp/mededportal/retrieveSubmissionDetailById.do?subId=1666>



Swenson RS, Basic Human Anatomy. MedEdPORTAL; 2009. Available from: <http://services.aamc.org/jsp/mededportal/retrieveSubmissionDetailById.do?subId=1137>

# Enduring Educational Materials

## MedEdPORTAL

- **Formal peer review process**
  - Similar to journal submission and review process
  - Opportunities for authors and peer reviewers
- **Public dissemination**
  - Materials hosted online by the AAMC
  - Other educators can view and download your materials
- **Collections of specialty specific resources**
  - Materials you can use at your institution
  - Inspiration for resources you may want to create

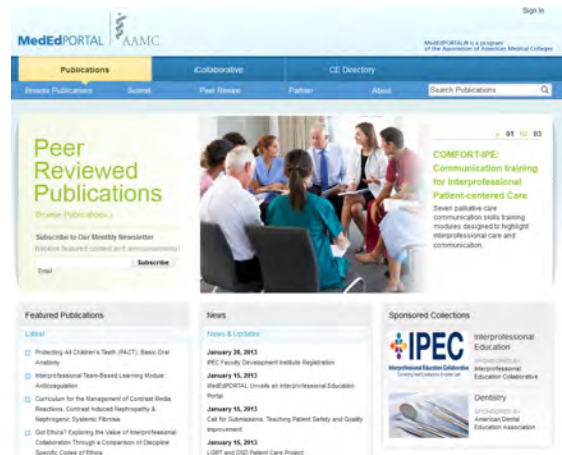
# Enduring Educational Materials

## MedEdPORTAL

- **Submission guidelines to consider**
  - Original and complete educational materials.
  - Must have been implemented with learners.
  - Include the actual content and material to implement.
  - Demonstrate evidence of scholarship.
  - Include an instructor's guide.

## MedEdPORTAL *Publications*

1. **Free** online publication
2. **Open** to the general public around the world
3. **Peer reviewed** health education teaching & assessment materials
4. **Learning modules** including instructor guides and all educational tools



[www.mededportal.org](http://www.mededportal.org)



# Educational Scholarship Guide

Mechanism for Sharing  
Educational Material

Promotion & Tenure for  
Education Faculty



<http://tinyurl.com/MEPScholarshipguide>

## MedEdPORTAL *Publications*

### Glassick's Criteria

Clear Goals

Adequate preparation

Appropriate methods

Significant results

Effective presentation

Reflective critique

Adapted from Glassick  
Criteria for Scholarship to  
accommodate “educational  
products,” a non-traditional  
form of scholarship.



# Formal Peer-Review Process



**Editor in Chief**  
**Deputy Editor**  
**Managing Editor and Staff Editors**  
**40 Associate Editors**  
**1000+ Peer Reviewers**



# Enduring Educational Materials

## MedEdPORTAL

- **Resource utilization**
  - Free account at MedEdPORTAL.org
  - Download and use educational modules for teaching
- **Peer reviewer**
  - Educational expertise
  - Clinical or basic science expertise
  - Opportunities for self-improvement
- **Author**
  - Submit your materials for peer-review
  - Collaborate with other faculty
  - Build your CV with academic publications

# Enduring Educational Materials

## Where are your opportunities?

- **Evaluate your current activities**
  - Graduate student and medical student education
  - Resident education
  - CME and education of colleagues
- **Innovative methods, materials, or information**
  - Educational research – also publish your materials!
  - Distribution of unique materials you have created
  - Clinical or educational reviews and commentary
- **Where can you peer review and publish?**
  - Education journals
  - Specialty-specific journals
  - Electronic publications and repositories

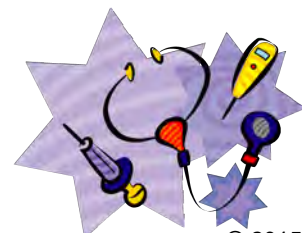
# Enduring Educational Materials

Take your teaching to the next level!

## Michael T. Fitch, M.D., Ph.D.

Professor and Vice Chair for Academic Affairs  
Deputy Editor, MedEdPORTAL Publications

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Wake Forest School of Medicine  
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