

## **Thinking of Turning your Educational Innovations into Scholarship**

*Corey Heitz, MD  
Nicholas Kman, MD  
David A. Wald, DO*

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For this session, we will review the literature as it pertains to educational scholarship and provide the audience with specific examples of published curriculum and educational innovations. We will also review a number of publication venues for educational scholarship such as MedEdPORTAL, Journal of Education & Teaching in Emergency Medicine and Academic Emergency Medicine Education and Training. We will conclude the session with a consolidated review of how to approach curriculum development and provide the audience with a roadmap as to how they can translate their own educational innovations into educational scholarship.

After this session participants should be able to:

1. Define educational scholarship citing specific examples.
2. Utilize publication venues such as MedEdPORTAL, JETem, AEM E&T, etc. for your curricular innovations and education research.
3. Describe an approach to curricular development and innovation as it pertains to education scholarship.

### ***Educational Scholarship***

Educational scholarship can take many forms, according to the Association of American Medical Colleges (AAMC) definition; Educational Scholarship can be “Any material, product or resource originally developed to fulfill a specific educational purpose that has been successfully peer-reviewed and is subsequently made public through the appropriate dissemination for use by others”. The key to achieving this level of quality in scholarship is that the product must be peer-reviewed allowing for open critique and evaluation, publically disseminated and be available for other educators to build upon. An alternative definition put forth by the Canadian Association for Medical Education (CAME) is that Educational Scholarship is “An umbrella term which can encompass both research and innovation in health professions education”.

In the context of educational innovations a challenging perhaps even a daunting task is the transformation from teaching to achieving scholarship. First, identify a teaching activity (faculty development, undergraduate or graduate medical education, allied health professions, etc...) that you are currently or planning on working on. Are you developing a new lecture, workshop, problem based learning activity or are you revising and updating a previously implemented activity? Think about who you will be teaching, what will you be teaching and how are you going to be teaching this material? You should incorporate a scholarly approach to the task of developing the activity. What is the best method to teach the material (pedagogy)? (Active or self-directed learning, team based learning, peer learning, an audience response system, etc...) It is important to both draw from and build upon the work of others. This approach often

prevents one from having to reinvent the wheel. Employing a scholarly approach can extend beyond developing the teaching material and methods into learner assessment and program evaluation.

Scholarship can take many forms, maybe the pilot of a brief educational innovation, an abstract leading to a poster or oral presentation, a book chapter or an online or journal publication.

As many of us are educators, identify opportunities that develop in your role as an educator. As mentioned build on the work of others to develop a new teaching activity or build / expand on a previous teaching activity. It is also important and often productive to collaborate with your colleagues (departmental, institutional and beyond). Lastly, kill two birds with one stone. If you develop an educational innovation, write up an abstract, submit the abstract for a poster or oral presentation and write up and submit the innovation for publication.

Transforming teaching to scholarship.

Teaching Activity	Scholarly Approach	Scholarship
<b>Developing new... Updating...</b> <ul style="list-style-type: none"> <li><b>Medical student workshop on managing hypertensive emergencies</b></li> </ul>	<b>Incorporate a SDL or TBL experience</b>  <b>Assessment / evaluation data</b> <ul style="list-style-type: none"> <li><b>Checklist</b></li> <li><b>Pre/post questionnaire</b></li> <li><b>MCQ test</b></li> </ul>	<b>Write up your findings</b> <ul style="list-style-type: none"> <li><b>Submit an abstract</b></li> <li><b>Present your innovation / findings</b></li> <li><b>Publish...</b></li> </ul>

Participating in educational scholarship is beneficial. It is certainly beneficial to the main stakeholders, the learners. Beyond this, there is professional recognition from your peers and supervisors. It reflects well on your department and institution. Educational scholarship also serves as a record of achievement and a cornerstone for promotion and career advancement for many of us who call ourselves clinician educators. There are a number of challenges and obstacles that many of us have to overcome to achieve scholarship in education. To name a few; the lack of time and resources, lack of expertise or faculty development, difficulty writing, not sure where to publish, even lack of interest and motivation are challenges that some will need to overcome. Identify the obstacle, why is it an obstacle and what are you going to do about it to overcome the obstacle. Start small, walk before you run. Your first venture into educational scholarship is not likely going to be a multicenter study evaluating the effectiveness of one verse another teaching modality. It is more likely going to be describing a brief educational innovation that has a novel approach to teaching with pilot data.

References:

1. Advancing Educators and Education: Defining the Components and Evidence of Educational Scholarship. AAMC publication 2007.
2. Toward a Common Understanding. Advancing Education Scholarship for Clinical Faculty in Canadian medical Schools. CAME publication 2012.
3. Simpson D, Fincher RM, Hafler J, et al. Advancing Educators and Education by Defining the Components and Evidence Associated with Educational Scholarship. Med Educ. 2007;41:1002-1009.

## ***A Roadmap to Education Scholarship***

### *Pick your venue*

Consider whether you would like to publish your curricular materials en masse, for others to use, or publishing the description/results of your curricular innovation

### *Publication en masse*

#### AAMC MedEdPORTAL ([www.mededportal.org](http://www.mededportal.org))

Venue for peer reviewed publication of all curricular materials

Soon to be indexed in MEDLINE

Free to register/use

Free to download others' resources

Two ways to publish:

1) Full peer-reviewed *Publications*

2) No peer review, want to get the information out/get input: *iCollaborative*

Different editors for different collections, ie EM simulation, pediatrics, etc

Tips for publishing on MEP

1) Prepare well: literature/prior publication review

2) Adequate objectives: SMART terminology; able to be measured/assessed

3) Full methodology: materials needed, presentation items, personnel listings,

4) Assessment tools. *Other instructors need to be able to "plug and play" as much as is possible*

5) Outcomes measures: feedback, performance data. *Most rejections are due to inadequate outcomes data*

6) Reflective critique: what have you changed? what would you do differently?

#### JETem ([www.jetem.org](http://www.jetem.org)) Journal of Education and Teaching in EM

Peer-reviewed educational materials ("like MedEdPORTAL specifically for EM")

Publish full curricula in a variety of formats

TBL sessions, workshops, simulation, oral board cases, innovations, visual case reports

Future plans to host a question bank

Double blind peer review process (reviewers and authors blinded)

Applying for open access journal indexing this year, PMC and MEDLINE early 2018

Publish four online issues per year (first was Jan 2017)

\$150 acceptance fee

Similar publication tips to MedEdPORTAL re: making it worthy of acceptance

#### MERLOT ([www.merlot.org](http://www.merlot.org))

Free, open access, similar in nature to MedEdPORTAL

**Not** health-sciences oriented

Peer reviewed

Members have access to a content builder

Numerous disciplines including faculty development

#### AEM Education and Training, AEM E&T

([http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2472-5390](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2472-5390))

Offshoot of Academic Emergency Medicine

Open access, peer reviewed, online only quarterly publication

*Not* for publication of full curricular documents

- Brief Contributions: reports less than 1,500 words of original/novel educational scholarship relevant to emergency medicine education and training
- New Ideas in B-E-D-side Teaching: educational case reports
- Education Case Conference: diagnosis and discussion of a problem commonly encountered between teacher and learner or as part of faculty development
- Educational Downloads: a snapshot view of a topic important to academic emergency physicians.
- Commentary and Perspectives: commentary, letters to the editor, perspectives, or opinions covering timely or important topics related to educational theory or advances that are relevant to emergency medicine
- Book Media Review
- Canvas/Transitions: poetry, essays, creative photographs, original artwork, personal narratives; writings about transitions for med student/resident/fellow / attending/researcher

Several other journals accept curricula, innovations, or educational research

Medical Teacher  
 Teaching and Learning In Medicine  
 Simulation in Healthcare  
 Western Journal of Emergency Medicine

Critical questions to ask yourself:

- 1) Is this specialty specific or general teaching methodology/materials?
- 2) Are you sharing the full content, or the results of innovative work/research?

### ***Curricular Development with a dash of Education Scholarship***

#### **Curricular Development: A 6 Step Approach (Kern)**

1. Problem Identification and General Needs Assessment (consider conducting a literature search here, has someone already created your curriculum?)
2. Needs assessment for targeted learners
3. Goals and objectives
4. Educational Strategies (teaching and learning methods, these may be your innovations)
5. Implementation
6. Evaluation and Feedback (This is where you get your data for publication)

#### **Building Educational Experiences around Competencies: Using the Backward Design Framework (Understanding by Design)**

1. Define the ends
  - What students know and will be able to do
  - What are your goals, objectives and enduring understandings
  - Can you prepare learners to use what they learn in other settings (application)?
2. Determine the evidence
  - What evidence will prove students' understanding (possible metrics for publication)
  - What is your assessment
3. Plan the activities
  - What activities will lead students to understanding

- The textbook is NOT the curriculum
- Teachers must be facilitators and coaches, can't just be the lecturer

**Homework Activities:**

1. Describe your learning environment (do your problem identification and needs assessment):
2. Build your curriculum accordingly:

<b>Content/Skill</b>	<b>Goals/Objectives</b>	<b>Assessment</b>	<b>Activity</b>
<b>Example: Mass Casualty Triage</b>	<b>Execute a Mass Triage Protocol (SALT) for multiple victims of a coordinated terrorist attack (bomb and chemical release).</b>	<b>Simulation: Students triage every simulation patient. Accuracy is recorded.</b>	<b>Coordinated Terrorist Attack Simulation</b>

**References:**

1. Kern DE, et al: Curriculum Development for Medical Education – A Six-Step Approach. Baltimore: The Johns Hopkins Univ. Press. 1998.
2. McTighe and Wiggins, Understanding by Design <http://www.ascd.org/research-a-topic/understanding-by-design-resources.aspx>
3. Huba and Freed (2000) Learner Centered Assessment on College Campuses