HOW TO PUBLISH YOUR TEACHING INNOVATIONS

CDIM WORKSHOP

SATURDAY, OCTOBER 16, 2010
2:00-3:30 PM
SALON C, 3RD FLOOR

SAN ANTONIO, TX

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DESCRIPTION

This workshop is intended for medical educators who have designed new courses, teaching methods, or who have developed instructional products or new ways of assessing student performance that may be considered innovative. Teaching innovations may generate considerable enthusiasm among faculty and medical students about the results and provide educators the motivation to publish the work in peer-reviewed literature. It is vital for the medical education community to benefit from the experiences learned. It is also important to disseminate innovations for the educators’ promotion and career advancement. We will describe various options for publishing and disseminating teaching innovations.

We will discuss strategies to increase the likelihood of getting an educational innovation accepted for publication. Participants are encouraged to bring examples of innovative work that they are seeking to publish. Working collaboratively, participants will outline responses to important questions to consider as they prepare to publish. In addition, participants will review an annotated bibliography of useful references that may guide their decisions in selecting the appropriate venue for publication.

OBJECTIVES

At the completion of the workshop participants will:

1. Define educational innovations and identify appropriate venues to publish educational innovations.

2. Enumerate how an innovation may be described in a way that is compelling for publication.

3. Discuss criteria that journal editors and peer reviewers may use to decide which educational innovation to publish.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 – 2:10</td>
<td>Introductions and Overview</td>
<td>Klara Papp, PhD</td>
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<tr>
<td>2:10 – 2:20</td>
<td>A Teaching Innovation: One Example</td>
<td>Suma Pokala, MD</td>
</tr>
<tr>
<td>2:20 – 2:35</td>
<td>Activity: Identify and Discuss Innovations</td>
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<tr>
<td>2:35 – 2:45</td>
<td>Large Group Discussion</td>
<td>Beth Bierer, PhD</td>
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<tr>
<td>2:45 – 2:55</td>
<td>What's Reportable vs. Publishable?</td>
<td>Suma Pokala, MD</td>
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<tr>
<td>2:55 – 3:10</td>
<td>Places to Publish in Medical Education</td>
<td>Klara Papp, PhD</td>
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<td>3:10 – 3:25</td>
<td>Resources</td>
<td>Beth Bierer, PhD</td>
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<td>3:25 – 3:30</td>
<td>Wrap-up/Complete Evaluation</td>
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One Example: Suma Pokala, MD

A medical librarian and a physician collaborated to develop a new innovation, which is an informatics sub-I rotation geared to third year medical students. Students completed a pre-and post rotation questionnaire.

    Findings were presented at an Undergraduate Medical Education (UME-21) conference and published in proceedings.

We then surveyed the same students in their fourth year to see whether they continued to use the skills.

    We presented results in a poster at a CDIM Meeting.

    The librarian presented results at the medical librarian conference.

The rotation has continuously evolved. We added a clinical pharmacist to teach students about the use of the drug databases. This optimized the use of the educators’ time in delivering content.

    This innovation was presented as a podium presentation at the International Congress of Medical Librarians in Australia.

We implemented this via v-tel [teleconference at remote clerkship sites] and later on with local faculty at distant sites also.

    Presently, a manuscript is in preparation.
### Reporting Your Teaching Innovations – Getting Started

<table>
<thead>
<tr>
<th>Step 1: Identify Opportunities</th>
<th>Steps to Present/Publish</th>
<th>Brainstorm</th>
<th>“To Do” List</th>
<th>Timetable/Deadline</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>What problem, solution, or innovation are you engaged in?</td>
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<td>Choose area of focus</td>
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<td></td>
<td>What is your role in this area?</td>
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<td>Identify stakeholders</td>
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<td></td>
<td>How interested are you in this topic/area?</td>
<td></td>
<td>Determine feasibility of studying problem/topic</td>
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<thead>
<tr>
<th>Step 2: Write Purpose Statement/Question</th>
<th>Steps to Present/Publish</th>
<th>Brainstorm</th>
<th>“To Do” List</th>
<th>Timetable/Deadline</th>
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<tr>
<td></td>
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<td>Choose area of focus</td>
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<td>Review the literature</td>
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<td>Identify reported strengths and weaknesses</td>
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<td></td>
<td>Talk with others</td>
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<td></td>
<td>Determine how this problem/solution generalizes to others/different venues</td>
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<tr>
<th>Step 3: Review Literature/Identify Angle</th>
<th>Steps to Present/Publish</th>
<th>Brainstorm</th>
<th>“To Do” List</th>
<th>Timetable/Deadline</th>
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<tbody>
<tr>
<td></td>
<td>What are others doing at other schools/institutions?</td>
<td></td>
<td>Choose area of focus</td>
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<tr>
<td></td>
<td>What have others reported?</td>
<td></td>
<td>Review the literature</td>
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<td></td>
<td>What MeSH terms will you use to search the literature?</td>
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<td>Identify reported strengths and weaknesses</td>
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<td></td>
<td>How will your project contribute to what is already known/reported?</td>
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<td>Talk with others</td>
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<td>Determine how this problem/solution generalizes to others/different venues</td>
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<tr>
<td><strong>Step 4: Describe Project/Program</strong></td>
<td><strong>Steps to Present/Publish</strong></td>
<td><strong>Brainstorm</strong></td>
<td><strong>“To Do” List</strong></td>
<td><strong>Timetable/Deadline</strong></td>
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<tr>
<td><strong>How would others describe specifically what you did/plan to for your project/program?</strong></td>
<td>How is your program/solution different from what others have done/reported in the literature?</td>
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<td><strong>Describe program/solution in detail as ACTUALLY implemented so others can replicate</strong></td>
<td><strong>Describe why this approach/solution was chosen over others</strong></td>
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<tr>
<th><strong>Step 5: Data Collection Methods/Tools</strong></th>
<th><strong>Steps to Present/Publish</strong></th>
<th><strong>Brainstorm</strong></th>
<th><strong>“To Do” List</strong></th>
<th><strong>Timetable/Deadline</strong></th>
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<tbody>
<tr>
<td><strong>What methods/tools will answer the questions posed?</strong></td>
<td>How can you demonstrate the innovation/solution “works” or “doesn’t work”?</td>
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<tr>
<td><strong>Complete training in human subjects research</strong></td>
<td><strong>Identify needed resources (design, statistical assistance, collaborators, etc.)</strong></td>
<td><strong>Develop questionnaires, instruments, etc.</strong></td>
<td><strong>Obtain IRB approval</strong></td>
<td><strong>Collect/code data</strong></td>
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<tr>
<th><strong>Step 6: Anticipated Findings/Lessons</strong></th>
<th><strong>Steps to Present/Publish</strong></th>
<th><strong>Brainstorm</strong></th>
<th><strong>“To Do” List</strong></th>
<th><strong>Timetable/Deadline</strong></th>
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<tbody>
<tr>
<td><strong>What do expect to discover?</strong></td>
<td><strong>What does this solution/innovation add?</strong></td>
<td>How can the innovation/solution affect practice?</td>
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<td><strong>Analyze data in relation to questions</strong></td>
<td><strong>Consider intended and unexpected outcomes</strong></td>
<td><strong>Compare how findings are similar/different from other studies</strong></td>
<td><strong>Determine areas for future research/improvement areas</strong></td>
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</table>
WHAT’S REPORTABLE VS. PUBLISHABLE?

Checklist

☐ Yes ☐ No  Is there a clear and thorough description of the problem?

☐ Yes ☐ No  Is there a statement about the degree to which the problem is generalizable?

☐ Yes ☐ No  Have the key issues of the stakeholders been stated?

☐ Yes ☐ No  Is there a delineation of the array of potential solutions?

☐ Yes ☐ No  Are details provided of why a particular solution was selected and/or developed and presented?

☐ Yes ☐ No  Is the implementation of a particular innovative solution described?

☐ Yes ☐ No  Is there a critical analysis of the quality of the innovative solution?

☐ Yes ☐ No  Is there an assessment of the innovation’s potential influence on the field, discipline, or area of study?

☐ Yes ☐ No  Is there an account of the degree to which the innovation is sustained within the program or curriculum?

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1 Adopted from Kanter SL. Toward better descriptions of innovations. Acad Med 2008; 83: 03-4.
PLACES TO PUBLISH MEDICAL EDUCATION RESEARCH

Peer-reviewed Venues for Medical Education Projects/Reports

Brief Report: A peer-reviewed collection of reports on innovative approaches to medical education -- 500 words description (no abstract, no references) in the journal titled Medical Education—“Really Good Stuff”

Full Article Descriptions

- Academic Medicine
- Advances in Health Sciences Education: Theory and Practice
- BMC Medical Education
- Evaluation and the Health Professions
- Journal of Continuing Education in the Health Professions
- Journal of the International Association of Medical Science Educators
- Medical Education
- Medical Education Online
- Medical Teacher
- Postgraduate Medical Journal
- Teaching and Learning in Medicine
- The Clinical Teacher

Journals with Issues Devoted Medical Education

- JAMA
- NEJM
- British Medical Journal
- Specialty (Advances in Physiology Education, Journal of General Internal Medicine, Annals of Internal Medicine, Journal of Investigative Medicine, etc.)

Peer-reviewed Venues to Disseminate Curricula/Educational Products

- AAMC MedEdPORTAL
EXAMPLES OF PUBLISHED TEACHING INNOVATIONS

1. MedEDPortal: Aagaard E. Title: Giving Effective Feedback: A Faculty Development Online Module and Workshop MedEdPORTAL ID#: 8119 Description: This resource was created as a series of faculty development modules designed to teach residents, fellows and faculty how to effectively give feedback. This submission includes the content from an online module as well as an elective workshop.


   Authors outline a 3-step process (with subcomponents/examples) of how to design scholarly projects. This article provides specific suggestions on how to design the introduction of a manuscript. It introduces research designs and framework to help identify outcomes.

   Only an estimated 50% of articles in medical education provide conceptual frameworks for their studies. He describes three scenarios in medical education to demonstrate how to apply frameworks to common problems and states several principles about the value of conceptual frameworks.

   This article describes missing elements in titles and abstracts of 105 medical education articles in six journals. It lists abstract components for experimental or quasi-experimental designs.

   Medical education submissions should have clear questions, methods that match questions, insightful interpretation, and transparent reporting. The authors discuss standards for educational innovations, survey research, needs analysis studies, development/evaluation of assessment tools, evaluation studies, and qualitative research. Article cites several sources.

   Medical educators wear two hats when collecting program evaluation data. On one hand, educators want to use data to monitor and improve curricular offerings. On the other, they want to disseminate knowledge using these data to advance their careers. The authors argue that investigators do not have the authority to decide if research involving human subjects is exempt (meaning informed consent has been waived). Instead, investigators must submit their projects to the IRB to determine whether such projects require review and approval using the exemption criteria outlined in 45 CFR 46 (federal regulation).

   Authors describe scholarship in health professions (Part 1) using Glassick’s six criteria, and then devote remainder of paper (Part 2) with specific advice on how to publish scholarship (i.e., What’s important and reportable, suggestions for planning and preparation, writing suggestions, tips regarding manuscript submission and review, etc.). Paper concludes with 21 tips for career advancement (Part 3).

   This article describes the submission process to MedEdPORTAL, a repository of peer-reviewed educational resources, and reports publication trends.

   This article provides a step-by-step outline on how to write a curriculum/educational innovation for publication in medical education.
PUBLISHING MEDICAL EDUCATION RESEARCH: RULES OF THUMB

1. **Read**
   What are you doing/can do that is worth publishing?
   Which journals publish work like yours?

2. **Select the appropriate journal**
   Who reads the journal?
   How are articles formatted in the journal?
   What articles in the journal should you cite in your paper?

3. **Read and follow instructions for authors closely**

4. **Select the appropriate section of the journal**
   What do colleagues know about the journal's habits/preferences?
   Where does your article fit (research report, review article, short report)?

5. **Before writing, articulate your main point in one sentence**
   Why would others want to read about your work?

6. **Write the first draft**
   How should you frame the paper based on journal requirements (i.e., IMRaD) and word count restrictions (3,000 words)?
   What writing approach works for you (write/revise, outline, etc.)?
   - Write one section at a time
   - Keep main point in mind
   Other tips when writing first draft of manuscript?
   - State the problem clearly in introduction
   - Cite 5-15 references to embed project in literature
   - Describe methods in sufficient detail that others can replicate
   - Avoid conversational language/jargon
   - Use simple language (“use” vs. “utilize”) and write in active voice
   - Give highlights of results in text if include tables/figures
   - Format tables/figures like others in journal
   - Write abstract last
   - “Construct” title (informative and indicative)

7. **Edit and shorten – always too long**

8. **Check spelling and grammar**
   Will this manuscript make an excellent first impression?
   Are references accurate/complete?

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2 Modified from workshop conducted by Terrill Mast, PhD.
9. **Have colleagues critique**
   Get feedback on all components of manuscript
   Listen – don’t argue or explain
   Revise

10. **Put it away – reread and revise**
    Did you follow the instructions to authors closely?

11. **Submit to journal – mostly electronic**
    Are you proud of the “final” draft of the manuscript?
    Did you follow the instructions to authors closely?
    Should the manuscript be submitted as one document or separate parts?
    Does the cover letter to the editor include essential information?
    Are other disclosure forms required?

12. **Review process**
    - Screening then sent to 2-5 reviewers with expertise
    - Editor decides
    - Decision in 3-6 months
      - Accept pending revision (5-20%)
      - Revise and resubmit (15%)
      - Reject (80%)
    - Call or e-mail if you don’t get response
    - Make revisions if resubmit; revise manuscript if submit elsewhere

13. **Respond to reviewers**
    - Make changes you’re comfortable with
    - Explain other comments you do not want to make
    - Send detailed cover letter addressing all comments/revisions
    - Resubmit article within deadline

14. **Review proof sheets sent by copy editor**
    - Respond quickly
    - Don’t get defensive
    - Accept changes you can live with
How to Publish Your Teaching Innovations

CDIM Workshop
San Antonio, Texas
October 16, 2010

Objectives

- Define educational innovation & identify appropriate venues to publish them
- Enumerate how an innovation may be described that is compelling for publication
- Discuss criteria editors may use to decide if an innovation should be published
- Identify venues to publish innovations

Agenda

- One Example
- Identify and Discuss Innovations: All
- What’s Reportable vs. Publishable?
- Places to Publish
- Great Examples
One Example
Suma Pokala, MD

SGIM/CDIM Clinical Core Competency:
Self-Directed Learning

“Master and practice self-directed life-long learning, including the ability to access and utilize information systems and resources efficiently”

Table 3: CDIM/SGIM General Clinical Core Competencies

<table>
<thead>
<tr>
<th>Competencies</th>
<th>Version 3.0</th>
<th>Version 2.0/1.0</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and Interpersonal Skills</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<tr>
<td>History and Physical Examination</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Psychological &amp; Social Functions</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Prevention of Clinical Infections</td>
<td>5</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Microbiology &amp; Virology</td>
<td>6</td>
<td>6</td>
<td>1</td>
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<tr>
<td>Neonatology &amp; Pediatrics</td>
<td>7</td>
<td>7</td>
<td>1</td>
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<tr>
<td>Cardiology</td>
<td>8</td>
<td>8</td>
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<td>Endocrinology</td>
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<td>Gastroenterology</td>
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<tr>
<td>Geriatrics</td>
<td>11</td>
<td>12</td>
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<tr>
<td>Basic Procedures</td>
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<tr>
<td>Gynecology</td>
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<tr>
<td>Community Health Care</td>
<td>14</td>
<td>14</td>
<td>3</td>
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<tr>
<td>Continuity Improvement in System of Medical Care</td>
<td>15</td>
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<td>3</td>
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<tr>
<td>Oncological and Environmental Health Care</td>
<td>16</td>
<td>16</td>
<td>5</td>
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<tr>
<td>Advanced Approaches</td>
<td>17</td>
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<td>3</td>
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Category 1: Should be taught in every instance when appropriate
Category 2: Should be taught in most but not all cases
Category 3: Should be taught in some but not all cases.
AAMC Medical School Objectives Project

“Support of life-long learning with information technology requires more than computer literacy. Other requirements include cognizance of the broad range of medical information resources available and their relative value for particular needs, the know-how to use them, and the motivation to use them routinely.”

IM Clerkship Informatics Rotation

Students –
• Formulate Clinical Questions
• Search for evidence to answer the clinical questions
• Critique a research article
• Develop presentation using checklists & guidelines

IM Clerkship Informatics Rotation

• Small groups (3-5)
• Own clinical questions
• Select article to critique
• Collaborative teaching
Data Collection
• Pre- and post assessments
• Student comments
• Faculty comments
• Survey of 4th year students

From Idea to Publication
• 2 posters at national meetings
• 2 oral presentations (1 national, 1 international)
• 1 oral presentation in October
• Manuscript in preparation

A Teaching Innovation
Step 1 Identify opportunity
Step 2 Write purpose
Step 3 Review literature/Identify angle
Step 4 Describe project/program
Step 5 Collect & analyze data
Step 6 Report findings & lessons learned
Identify and Discuss Innovations

Work in Pairs
10 minutes

Large Group Discussion

Consider Examples

Published Innovations (What journal editors are looking for)

Suma Pokala, MD

From: Kanter SL. Acad Med. 2008; 83: 3-4
Clear and Thorough Description

• Why is the problem important or relevant
• General context of education/research/pt care
• How and why the problem was identified
• How does the problem affect the organization

Statement about Generalizability

• Same problem in other places?
• Different stakeholders’ views

Stakeholders’ Perspectives

• Who is affected and how?
• Who are decision makers?
• What are decision makers’ objectives?
Delineate Potential Solutions

• Full range of solutions available
• Solutions available locally
• Solutions in other environments
• Theoretical basis for each solution

Why this Solution Selected?

• Qualitatively better?
• A more reasonable and feasible idea?
• Assumptions underlying the selection of solution
• Why other solutions rejected?
• Co-existing factors that support solution
• Evidence to support this over other solutions

Describe Implementation

• How was innovation implemented?
• Guiding principles, concepts or theories
• Barriers
• What did and did not work?
• Changed the participants in some way?
• Changed the environment?
• Timeline & costs
• Lessons learned along the way
Critical Analysis

- What have others done that is similar?
- What distinguishes this from similar efforts?
- What added value?
- Political and legislative perspectives
- Unforeseen events - implementation and results
- Necessary preconditions

Assessment of Potential Influence

- How can it change education/research/pt care?
- Assumptions uncovered or debunked
- New directions
- Change the definition of a discipline
- Incremental step forward
- Eventually alter the practice

Account of Impact & Sustainability

- Generates new ideas
- Identifies new problems and solutions
- Opens new avenues for further exploration
Places to Publish Innovations

Klara Papp, PhD

Consider the Options

• MedEd Portal
• Poster Presentation
• Brief Report
• Full Descriptive Paper
• Other…

Consider the Options (cont’d.)
Your Turn…

• Pair with another person
• Identify the venue for your innovation

Resources
Beth Bierer, PhD

Comments/Closing