

Welcome
to the
IAMSE Webcast Audio Seminar

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- *Be conscious of your background noise*
- *Speaker phones use mute button or *6*
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**Doing Medical Education
Research Without (Much)
Time or Money**

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Let's Get Going

Judy Shea

Objectives

1. Formulate a Research Question
2. Define the Research Project – “Real Life Labs”
3. Different Types of Data/Research tools
4. Funding
5. Practical Suggestions

Formulate a Research Question

1. Identify an issue that you really like
2. Brainstorm how the issue could be studied
3. Turn it into a general question
4. Select a general method/design
Who will be observed? How will 'variables' be studied?
5. Make the question specific
Write the specific aims for a paper

1. Identify an Issue

Mentoring

It is important for residents' professional development.
There are many models of mentoring, presumably some more effective
Want to understand beneficial outcomes
Need to know more about process and structure

2. Brainstorm

Ask residents to describe their experiences

Find faculty who are mentors and ask them what they do

Develop an intervention

Find out what residency programs actually provide

3. Turn it into a General Question

What do program directors think about mentoring and what is the nature of the mentoring programs provided?

4. Select a General Method

Ask program directors what they think about mentoring and to describe their formal mentoring programs.

Survey all program directors.

5. Make the Question Specific

What are the attitudes of program directors regarding the importance of mentoring?

How many programs have formal mentoring programs?

What are the structural characteristics of formal mentoring programs?

Define the Research Project – “Real Life Labs”

- ◆ General Issue: What’s really happening in the clinics regarding feedback to students?
- ◆ Motivation: General perception on the part of faculty and students that students are not receiving enough feedback. If it exists it is too distal, too general, and not constructive.
- ◆ Setting: In 1999 wanted to assess the quantity and quality of feedback received by medical students in core medicine clerkships. Students are spread among multiple, diverse sites.
- ◆ The Research Question: Study the feasibility of using an electronic email questionnaire to regularly assess the feedback received by medical students, and look at the sources and types of feedback received.
- ◆ Plan: Survey students weekly about the quantity and quality of feedback received.

“Real Life Labs”

- ◆ What We Had:
 - People interested in the topic
 - Students savvy with email
- ◆ What we needed:
 - Permission from Vice Dean and clerkship directors
 - Develop an instrument
 - Decide mode/design of survey delivery
 - Way to track response rate
 - Data collection and analysis
- ◆ Results: Responses rates were initially 73% but fell to 34%. Students received feedback on average 3 times a days, with 84% receiving positive feedback and 56% receiving corrective feedback.
- ◆ Outcomes: Presentation at CDIM, Brief report in *Academic Medicine*

Types of Data

1. Performance Assessments

Examinations (in house, ITEs, shelf exams, USMLE), OSCEs, SPs, chart reviewed, mini-CEX

2. Ratings

Faculty/student course evaluations, patient satisfaction questionnaires, preceptor evaluations, program evaluations

3. Surveys

Performance Assessment

Data Source: student write-ups

Type of Question One Could Ask:

are they documenting what they have been taught?

Pluses: data are often available

Minuses: someone has to code

Examples

◆ Mini-Cex

- Feasibility
- Reliability and validity

◆ Oral presentations

- Randomized trial with clerkship students

Ratings

Data Source: end-of-course evaluations

Types of Questions One Could Ask:

- relationships between grades & evaluations
- impact of interval between event & evaluation
- delivery issues: scale, order
- number of items needed
- comparisons of subgroups of "teachers"

Pluses: Data are readily available

Minuses: Less interesting to many audiences, data analyses needs

Example

◆ Compare student to resident ratings

- same faculty
- time of year

Survey

Data Source: survey

Types of questions one could ask:

- residents' opinions about some facet of program
- learners' attitudes (confidence) before and after some experiences

Pluses: can be quick, might have captive audiences

Minuses: can be expensive when large/interinstitutional, time-consuming to develop good instrument

Examples

- ◆ Mentoring – all program directors
- ◆ Residents – burnout, depression
- ◆ Students - depression
- ◆ Students – time/motion before and after 80 hour workweek
- ◆ Program directors and residents – faculty practices vs. traditional clinics

More Tips

Jan Carline

Get Familiar with the Literature

- ◆ Medical Education Journals
 - Academic Medicine
 - Teaching and Learning in Medicine
 - Advances in Health Sciences Education, Theory and Practice
 - Medical Education
 - Medical Teacher

More Literature

- ◆ Education journals
 - Evaluation and the Health Professions
 - Review of Educational Research
 - New Directions for Teaching and Learning
- ◆ Discipline journals with education sections

Research Databases

- ◆ Core databases
 - PubMed
 - ERIC
 - PsychINFO
- ◆ PubMed – lack of mesh terms
- ◆ Seek review articles first
- ◆ Check terms and links to similar articles

Skills in Education Research

- ◆ Individuals with training in education / education research
 - Office of Medical Education
 - Educators in medical school departments: Family Medicine, Internal Medicine, Surgery
 - Schools of education on campus
 - Analytic methods specific to education

Skills in Education Research

- ◆ Expertise needed
 - Research designs and analytic methods specific to education
 - Quantitative and qualitative approaches
- ◆ SOTL – Scholarship of Teaching and Learning
 - Carnegie Foundation
 - Groups on campus

Identify Colleagues

- ◆ Teaching academies or scholars, MERC
- ◆ Education sections in discipline societies
- ◆ Major meetings
 - Association of American Medical Colleges (AAMC)
 - American Educational Research Association
- ◆ AAMC regional meetings
 - Group on Educational Affairs
 - Group on Student Affairs

AAMC Groups

- ◆ Groups on Educational Affairs
 - <http://www.aamc.org/members/gea/>
 - <http://www.aamc.org/members/gea/membership.htm>
- ◆ Research in Medical Education
 - majordomo@aamcinfo.aamc.org
 - subscribe gearschmail [your e-mail address]
- ◆ Undergraduate Medical Education
 - Subscribe geaugmemail [your e-mail address]

Human Subjects Issues

◆ Potential Exemption

- Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods."

Human Subjects Issues

◆ Potential Exemption 2

- Research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior unless: (i) information obtained is recorded in such a manner that human subjects can be identified ; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk...

Human Subjects Issues

- ◆ Expedited review – minimal risk
- ◆ Even if exempt – file a form
- ◆ Departmental or school review authority
- ◆ ALWAYS CHECK IN ADVANCE

Resources ?

- ◆ Piggy-back on ongoing activities
 - Regular surveys / interviews of students and faculty
 - Medical school initiatives
- ◆ Tools supplied by university
- ◆ Student researchers
- ◆ Collaboration between departments

Grants

- ◆ Seed / innovation grants from your school or university
- ◆ Grants - community resources
- ◆ Large grants –
 - NBME Stemmler
 - NSF
 - FIPSE
 - NIH K series for faculty development

Final Suggestions

Strategies

- Collaborate with colleagues
- Be creative
- Think of an outlet/audience for every type of data – who else would be interested?
- Play on strengths
- Barter/share
- Think retrospective to prospective
- Think pilot/in-progress to evaluation/complete
- Find 'free' help

Set Yourself Up for Success

- Set realistic goals
- Break down goal into small, manageable tasks
- Set aside time to work – and do it
- Use contingencies
- Go to a different setting to work
- Make your project portable
- Keep (get) organized
- Keep a small notebook handy for ideas, reminders, references
- Talk to people about your project
- GET STARTED!
