# Developing Proposals for Medical Education Research

Faculty Development Workshop

March 3, 20005

## Objectives

- Help you get research funds
  - Provide information about the Academy of Distinguished Educator's Medical Education Research Grants
- Help you write better proposals
  - Make suggestions that may improve the quality of your medical education research proposals.

## Schedule

1. Introductions and needs assessment
2. The ADE RFP
3. Some key issues in designing a proposal
4. Example: Designing a proposal
5. Questions and Discussion

## Introductions and Needs Assessment

- Introduce yourself.
- What do you hope to get from the workshop?

## Definition: Educational Research

- The systematic collection and analysis of information (data) in order to develop valid, generalizable descriptions, predictions, interventions, and explanations relating to various aspects of education. (Gall, Gall & Borg, 1999)

## Educational Research

- A Major Discipline
- The Curry School offers Ph.D. Programs in Educational Research and Educational Evaluation lasting 3-5 years.
- We are not going to cover everything today.

## Consultation

- Consult research designers and statisticians at at the beginning in the proposal phase.
- If you consult them only after the study is done, they can only tell you what the study died of.

## Designing the Study

1. Asking the question
2. Measuring the outcomes
3. Imagining the graph

## 1. Asking the Question

- In discussing a research proposals with a researcher (after talk of sample size, power, control groups, confounding factors, and randomization), there comes a time when some expert in the group asks
- ***What question are you really asking in this study?***
- For many researchers, it's a hard question to answer

## 1. Asking the Question

- The first reviewer of your proposal in the study group is probably going to describe your ten-page proposal to the study group in a brief question:
  - *This proposal basically asks the question, "Are web-based lessons as good as lectures for teaching students to diagnose low back pain."*
- Include your version of "the question" in your proposal.
  - It will help you clarify, tighten, and focus your proposal.
  - It will help the reviewer describe your proposal to the study group.

## 1. Asking the Question

- What is the effect of X on Y?
  - *Does pass/fail grading affect the number of volunteer activities that med students participate in?*
- Is X better than Y?
  - *Are a few long patient encounters better than many brief ones in developing students' physical exam skills?*
- What do med students do/think?
  - *How do students actually spend their time during a clerkship?*
- What deficiencies now exist?
  - *What misconceptions do medical students have about physiological processes?*

## 2. Measuring Outcomes

Immediate to Ultimate Outcomes

- Educational Intervention
  ↓
- Immediate Outcome
  - Student Attitude
  ↓
- Ultimate Outcome
  - Health of Patients

## 2. Measuring Outcomes

- Immediate to Ultimate Outcomes
  - Student attitude (attitude survey)
  - Student knowledge (test)
  - Student performance (OSCE)
  - Resident attitude, knowledge, performance
  - Physician attitude, knowledge, performance
  - Care provided to patients (chart review)
  - Health of patients

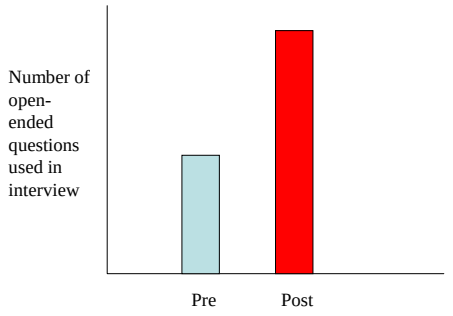
## 2. Levels of Outcome Data

| | Student Self Report | Student Performance | Other's Report About Student | System Data |
|---|---|---|---|---|
| Attitude | Attitude survey | Ranking by peers | Nurse's report of professionalism | Letters in file |
| Knowledge | Self description | Posttest | Attending's evaluation | USMLE |
| Performance | Self description | OSCE | Residency Directors' evaluation | Chart Review |

## 3. Imagining the Graph

- Many published studies present key findings in a graph.
- Designing the graph as part of the proposal process can be helpful in clarifying both the question and the outcome.

## 3. Imagining the Graph



## Educational Research

- The best medical educational research is difficult, expensive, and time consuming.
  - Get IRB approval
  - Create control group: random or historical
  - Sample intervention across different content areas
  - Sample students across medical schools
  - Ensure high student participation rate, low dropout
  - Establish reliability and validity of outcome measures
  - Follow students over time
  - Measure outcome in terms of patient health

## The Ideal Medical Education Research Study

- What is the effect
  - of an educational intervention
  - which is based on theory and past research
  - in a representative sample of students
  - across different medical schools
  - on the future health of people?
- *Does teaching medical students to access evidence-based treatment guides improve the health of their patients 10 years later?*

## The Practical Compromise

- Find an interesting question or observation that you are interested in
- Consider the ideal: the question, the outcome measures, the graph.
- Consult with experts.
- Adapt to limitations of money, time, subjects.
- Consider proposing the first step.
- Conduct the pilot for outside funding.

## Study Group Members

Bob Bloodgood
Tina Brashers
Gene Corbett
Sharon Hostler
John Jackson
Bob Kadner
Karen Johnston
Jim Martindale
Tom Massaro
Richard Pearson
Jerry Short

# Research Teamlet

Beth Bailey
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Pat Brown
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Wendy Cohn
Matt Gurka
Allison Innes
John Jackson
Ryan Looney
Jim Martindale
Lisa Rollins
Jerry Short
Linda Watson

- Meets 2nd and 4th Thursdays
- 9:00 – 10:00 a.m.
- Health Sciences Library
- Administrative Conference Room
- Open Membership