

Reading, Using (and maybe even Doing) Educational Research

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Reading, Appraising and Using Educational Research



Educational
Research Funnel



Doing Educational Research



How is educational research different from clinical research?



How should we think about outcomes for educational research?



Where can I find good quality educational research to apply to my teaching?

Questions for the Hour

Use of Film to Sensitize Medical Students to Issues of Family Caregiving

Background and Objective: Families are the backbone of our long-term care system, managing complicated illnesses, providing direct care, and assisting with the day-to-day functioning of elderly patients. Medical education, however, provides students with little, if any, exposure to the challenges faced by family caregivers or how best to communicate with them to optimize patient care. We assessed the value of an educational program combining film and discussion as a means of sensitizing third-year medical students to caregiver issues. During their family medicine clerkship, third-year medical students at Northeast Ohio Medical University view the film, *No Roadmap: Caregiver Journeys* and discuss issues of family caregiving.

Methods: A mixed-methods approach was used to evaluate the program, including a qualitative focus group with clerkship preceptors and ongoing quantitative student evaluations.

Results: Preceptors reported that students related to the film in highly personal ways, often recounting experiences within their own families, and gained a greater appreciation of caregivers. Three years of student evaluations (n=403) were used to validate preceptor comments. Students agreed that the program helped them establish a comfortable relationship with caregivers, increased their awareness of caregiver challenges and rewards, and provided valuable insights into caregiver experiences.

Conclusions: Film depicting compelling narratives of caregiver journeys, coupled with guided discussion, is a valuable strategy for increasing student awareness of the important role of caregivers.

Reorienting Orientation: Introducing the Social Determinants of Health to First-Year Medical Students

Introduction: Medical students rarely learn about the intersection of socioeconomic and environmental effects on access to health care and maintenance of health. Case-based discussion can cohesively highlight the social determinants of health to complement preclinical education. Our modules can foster future interest in working with vulnerable populations, help students recognize barriers to care, and identify strategies to help these patients.

Methods: The Social Determinants of Health Orientation Program (SDHOP) introduced students to the nonbiomedical factors that contribute to patients' health. Key topics were presented in small discussion groups led by faculty facilitators. The subjects addressed included access to care; immigration/language barriers; lesbian, gay, bisexual, and transgender health; human trafficking; race/ethnicity; and women's health.

Results: The SDHOP initiative was integrated into the formal curriculum and successfully implemented in its first year at our institution. Pre- and post- surveys were administered to assess student satisfaction with the course, as well as changes in knowledge and attitude regarding the topics covered. Of the 186 SDHOP participants, 111 medical students responded to both surveys and reported improvements in both knowledge of and comfort level with these topics and specific related terms. Ninety-one percent rated the overall quality of SDHOP and its individual modules as good or excellent.

Discussion: SDHOP contributes to medical education by providing an all-inclusive model for teaching students about the social determinants of health. Our results suggest that presenting these topics in a small-group discussion model improves medical student cultural competency and comfort level with patients of diverse backgrounds.



Educational Research:
How does it differ from
clinical research?

Let's hear your thoughts...

Educational Research: Differences

Methods

- Evaluation designs
- Study designs and control
- Qualitative methods and Mixed Methods

Outcomes

- Kirkpatrick Model

Educational context-specific

- FERPA
- Researching while educating
- IRB

Methods



Evaluation Designs



Study Designs



Control Groups



Qualitative Methods and Mixed Methods



Experimental/Observational

"Traditional" designs, can be qualitative

RCT, Cohort studies

Problem-based learning vs. Traditional Curriculum

Validity and generalizability



Quality Improvement

Implementing evidence-based practice or best practice

Measured parameter to improve

Implementing active learning strategies to improve performance on authentic assessments.



Program Evaluation

Based on stakeholder outcomes

Multi-method evaluation – cost, satisfaction, implementation, qualitative

Evaluating the implementation of PBL in the medical school

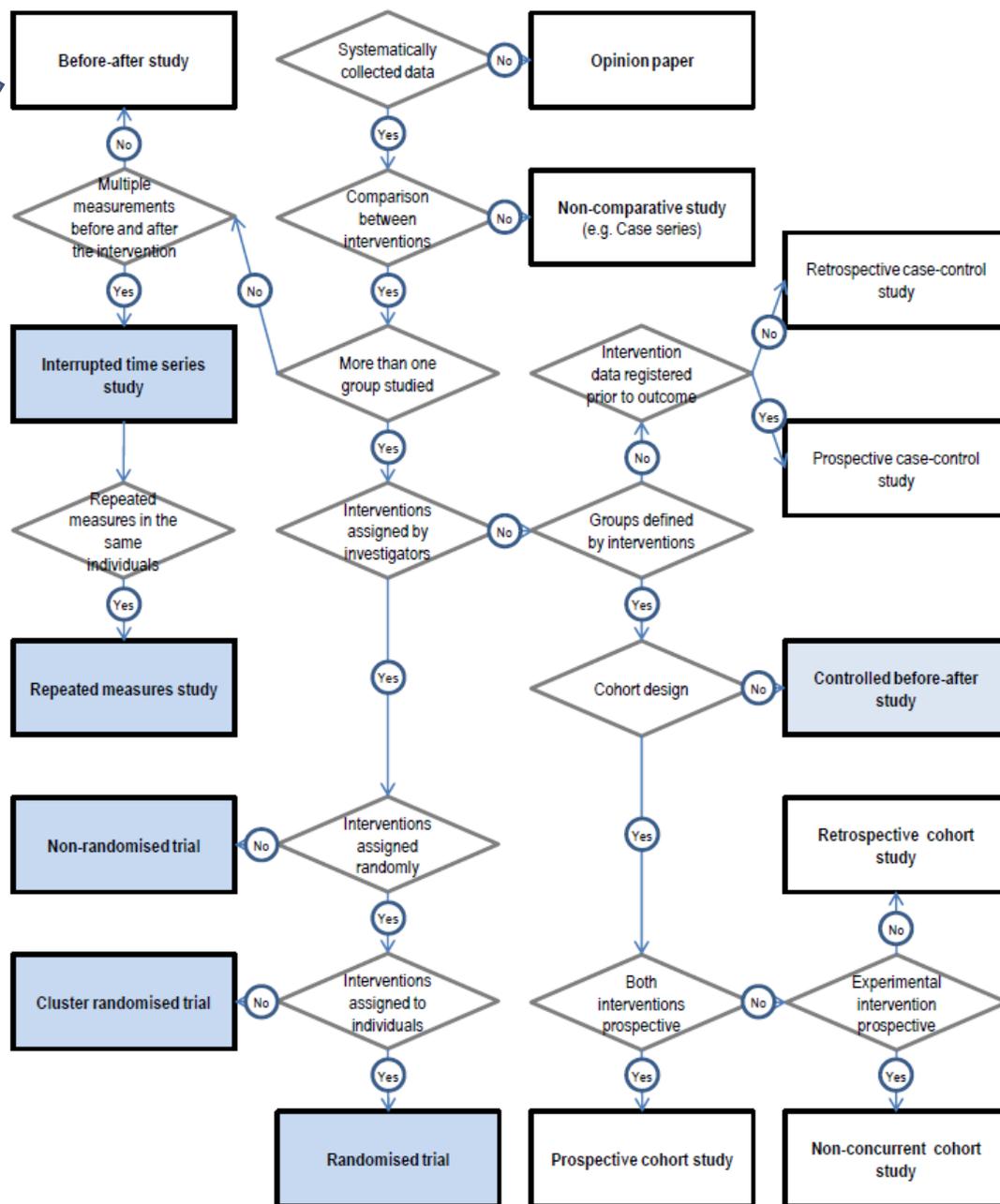
Methods – Evaluation Designs

Methods – Study Designs

- Usually "traditional" research
- Sensitivity to academic constraints
- Importance of control
 - Account for secular trends
 - Account for student self-instruction
- Cluster design
- Stepped wedge design

Study designs for evaluating the effects of healthcare interventions

(Shaded boxes are study designs that should be considered for inclusion in EPOC reviews.)



Methods – Qualitative and Mixed methods

- Qualitative research (the very basics)
 - **Phenomenological**, Ethnographic, **Grounded Theory**, **Case Study**, Historical, **Narrative Models**
 - Analysis of text, transcript, images, etc.
 - Finding "meaning", seeking understanding
 - Understanding and accounting for researcher bias is important.
 - Validity is important
 - Choice of model appropriate to question, member checking, immersion in data
 - Not hypothesis testing, not necessarily generalizable.
 - Often hypothesis-generating.
- Mixed methods
 - Quantitative and qualitative methods to complement each other

Rural Women Family Physicians: Strategies for Successful Work-Life Balance

PURPOSE Women family physicians experience challenges in maintaining work-life balance while practicing in rural communities. We sought to better understand the personal and professional strategies that enable women in rural family medicine to balance work and personal demands and achieve long-term career satisfaction.

METHODS Women family physicians practicing in rural communities in the United States were interviewed using a semistructured format. Interviews were recorded, professionally transcribed, and analyzed using an immersion and crystallization approach, followed by detailed coding of emergent themes.

RESULTS The 25 participants described a set of strategies that facilitated successful work-life balance. First, they used reduced or flexible work hours to help achieve balance with personal roles. Second, many had supportive relationships with spouses and partners, parents, or other members of the community, which facilitated their ability to be readily available to their patients. Third, participants maintained clear boundaries around their work lives, which helped them to have adequate time for parenting, recreation, and rest.

CONCLUSIONS Women family physicians can build successful careers in rural communities, but supportive employers, relationships, and patient approaches provide a foundation for this success. Educators, employers, communities, and policymakers can adapt their practices to help women family physicians thrive in rural communities.

Educational Research - Outcomes

THE KIRKPATRICK MODEL

Level 1: Reaction

To what degree participants react favorably to the learning event

Level 2: Learning

To what degree participants acquire the intended knowledge, skills and attitudes based on their participation in the learning event

Level 3: Behavior

To what degree participants apply what they learned during training when they are back on the job

Level 4: Results

To what degree targeted outcomes occur as a result of learning event(s) and subsequent reinforcement

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Self-report of confidence, ability, comfort, attitudes?

Practice with Kirkpatrick Model and Outcomes

- You're designing two studies:
- Testing a new way of teaching the Krebs cycle
- Testing a new way of teaching cardiac auscultation

Education Specific Issues

- FERPA
 - Family Educational Rights and Privacy Act
 - "Schools must have written permission from the parent or eligible student in order to release any information from a student's education record"
- Researching while educating
 - Cannot result in different educational outcomes for a cohort

Education Specific - IRB

- Should be exempt:
 - Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
 - research on regular and special education instructional strategies, or
 - research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- May not be exempt:
 - Interviews, observations, and surveys where the questions and subject matter go beyond the scope of the educational activity being studied.
 - Collecting privileged information such as socio-economic status, physical abuse, etc.
 - Educational activities involving procedures that are rarely used and are not considered “best practice” in the field.
 - Studies that may involve normal educational practice, but pose greater than minimal risk to the students. Such decisions are made by the Board based on possible risks to the participants in the research. The Board may also determine that a study cannot be classified as normal educational practice based on the proposed methodology for the study.

Educational Research: Example Journals

- Academic Medicine
 - <https://journals.lww.com/academicmedicine/pages/default.aspx>
- Medical Teacher
 - <https://www.tandfonline.com/toc/imte20/current>
- Medical Education
 - <https://onlinelibrary.wiley.com/journal/13652923>
- STFM – Family Medicine and PRiMER (disclaimer)
 - <https://journals.stfm.org/familymedicine/>
 - <https://journals.stfm.org/primer>

Educational Research: Example Sites

- BEME Collaboration
 - <https://www.bemecollaboration.org/>
- Campbell Collaboration
 - <https://campbellcollaboration.org/library.html>
- Med Ed Portal
 - <https://www.mededportal.org/>
- Family Medicine Digital Resource Library
 - <https://resourcelibrary.stfm.org/home>
- SGIM Resource Library
 - <https://www.sgim.org/resource-library?k=ResourceLibrary>
- Pediatric Program Directors Share Warehouse
 - <https://www.appd.org/shareWarehouse/index.cfm>

Getting Started in Educational Research

- Get the TOC for Academic Medicine emailed to you monthly
- Peer Review
 - Med Ed Portal
 - Specialty Academic Meeting Proposal Reviews
 - Specialty Educational/Academic Journal
 - AAMC reviews (RIME, GEA grants)
- Find a buddy (or group of buddies)
- Choose higher Kirkpatrick Outcomes
 - At least try to change an observable behavior
- Choose study design
 - practical but appropriate to your question and outcomes

Objectives

At the conclusion of this session, the attendees should be able to:



Discuss the important differences in critical appraisal between educational research and clinical research.



Describe the Kirkpatrick framework for education and training outcomes and use it to evaluate and create educational research.



Locate and use sources of high-quality educational research to improve your own teaching.