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Pursuing Scholarship in Medical Education

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Goals

- Define the opportunities for generating medical education scholarship from your medical education work
- Define the major obstacles to generating meaningful scholarship in medical education
- Describe the key characteristics of an environment supportive for medical education scholarship

Boyer's Typology of Scholarship

- Discovery – original research to advance knowledge
- Integration – synthesis of information across disciplines, topics, time
- Application/engagement – use of research findings to solve problems
- Teaching – systematic study of teaching and learning processes (not just doing it)



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Scholarship of Discovery

original research to advance knowledge

Research Questions

- What is professionalism?
- How are basic and clinical sciences integrated in physician problem solving?
- How do physicians make decisions about continuous, self-directed learning?
- What are the unique characteristics of international care and education?

Good Scholarship Starts with a Good Question

- Know the literature before going too far
- Embed question in a theory or model
 - Connects results to larger framework
 - Link to prior results
- Make your question detailed and precise
 - Almost always too large at first



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Scholarship of Integration

synthesis of existing research findings and
results across disciplines, topics, time

Examples

- Systematic reviews of research
 - “The effectiveness of self-assessment on identification of learner needs”
- Synthetic reviews of innovations
 - “The effectiveness of case-based learning”
- Theoretical integrations across multiple disciplines
 - “Chaos and complexity theory in medical education”



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Integration

- Requires breadth of knowledge of the domain, literature, issues
 - Theoretical
 - Practical
- Identify themes and problems
- Link concepts and findings



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Scholarship of Application

use of research findings to solve problems
“evidence-based education”

Examples

- Educational technology studies to design computer-aided instruction
- Efficacy of Team- or Problem-based Learning in the curriculum
- Factors in career choice to design rural training programs
- Relative effectiveness of high- and low-tech simulation in allocating resources

Scholarly Application

- Master the literature
 - Literature reviews (integrations) are critical resources
- Critically appraise the evidence
- Cautious generalization

- Avoid faddishness – “everyone else is doing it”



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Scholarship of Teaching and Learning

systematic study of teaching
and learning processes

Examples

- Faculty development
- Curriculum design
- Teaching methods
- Giving feedback
- Correcting misconceptions
- Assessment practices



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What Makes It Scholarship?

- Address a generalizable problem
- Literature context
- Rigor and reproducibility
- Evidence!
- Thoughtful analysis
- Dissemination



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Common Obstacles to Good Scholarship

Scholarship That Makes a Difference

- Investigates important questions
- Connects study to prior research and to theory
- Measures the right thing the right way
- Uses appropriate research design & data analysis procedures
- Disseminates results

Finding the Literature

- Health sciences librarians
- Literature reviews
- Increasing numbers of textbooks in medical education
- Colleagues – near and far
- Medical education listservs
- Social media

Measurement Development

- Most educational outcomes don't have perfect (or even good) measures
- Need to develop new & better measurement tools
 - Reliability
 - Validity
 - Feasibility
 - Utility



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Measurement Methods

- Record Review
- Chart Stimulated Recall
- Checklist
- Global Rating
- Simulated Patient
- OSCE
- Simulations & Models
- 360° Global Rating
- Portfolios
- Exam (Multiple Choice)
- Exam (Oral)
- Procedure or Case Logs
- Patient Survey

Study Quality Problems

- Small sample sizes
- Weak interventions
- Many confounding variables
 - Prior experience
 - Other educational interventions
 - Student motivation and goals
 - Free will

Disseminating Med Ed Scholarship

- Specialty journals & meetings
- Medical education journals & meetings
 - Academic Medicine, Medical Education, Teaching and Learning in Medicine, Advances in Health Sciences Education, Medical Teacher, ...
 - Assoc. of American Medical Colleges, Ottawa Conference, Assoc. for Medical Education in Europe, ACGME, and many more



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Supportive Environment

Institutional Priority

- Scholarly approach to education (like clinical care)
 - Focus on evidence
 - Rigorous questions
- Incorporate research evidence in educational decisions
- Recognizing educational scholarship in promotion and tenure decisions

Research Education

- Faculty development programs
 - Online seminars (e.g., IAMSE)
 - Courses at AMEE conference
- Mentoring (if mentors available)
- Masters programs

Community Building

- Celebration of Educational Scholarship
- Journal clubs or discussion groups
- Academies and related groups of designated faculty
- Regional, national, and international professional societies (Asia-Pacific Medical Education Conference, etc.)

Collaborations

- MER has small numbers at individual schools
- Joining forces across institutions
 - Strength in numbers
 - Complementary strengths
 - Broader perspective (international)
 - E.g., Learning Environment Collaborative, Best Evidence Medical Education

Take Home Points

- Know the literature before going too far
- Embed question in a theory or model
- Connect with prior results
- Medical education scholarship is both very easy and very difficult
 - No special lab or equipment
 - Very complex problems and mechanisms



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