

How to Select a Topic for Research in Medical Education

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To teach is an art. Medical Education is a field in which novice require direction in which he should go. Here is the editorial from Dr. Avinash Supe, who is the legend in the field of Medical Education. We look forward to get a series of editorial from him- Editor NJIRM [Supe A NJIRM 2012; 3(3) : 1-2]

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Any educational scholarship activity involving research or evaluation design requires deeper knowledge as well as skills to use that knowledge creatively to identify a relevant question or hypothesis, and to gather data that will provide an informative answer. Health Professions faculty and students spend lot of their time, resources and energy to create scholarship. The most important part of an education scholarly activity is to formulate an important question. The most rigorous study, if not focused on an important question, will fail to attract much interest.

Research or Evaluation study?

Any activity can be Research or Evaluation. Research refers to the systematic process of collecting and analyzing information to increase our understanding of the subject under study. (Is web learning as effective as classroom learning in biochemistry?) Evaluation refers to the systematic endeavor to acquire, analyze and interpret information to provide useful feedback about a programmed, policy or activity. (Program evaluation of new fellowship program in rheumatology)

The factors that should facilitate to select a topic for scholarship activity are as follows

Clinical Dilemma or Equipose :

Every research must begin with a dilemma or equipose. If you scan the published literature and there is clear-cut evidence for or against a hypothesis then there is no need to spend energy or time on that topic. We must select a topic where we need answers to dilemmas and questions. A thorough literature survey must be done prior to decide your topic. (Case based learning – does it improve deeper clinical learning?)

Your efforts must either study the current system in systematic way to solve a dilemma and provide solutions or research that must make a contribution to the field.

Work on what gets Published? – What sells?

Faculty is very busy in clinical work and time for research is limited. Therefore one must survey what is commonly published. The hot topics published in Medical education literature are given below. One must usually concentrate on these topics if you are a beginner and want to publish. (List enclosed)

Gap in Understanding :

It is important to know what is understanding of that topic in literature. You can build on facts or studies of others. You may not spend energy again to start from scratch. Build on what others have done. The more clearly you can identify gap in understanding (also known as a problem statement) and the larger the gap, the easier it will be to see how answering your question will advance the field. If you try to solve the gap it is more accepted. (High fidelity versus Low fidelity simulation for laparoscopic skills)

Frame your questions on Broader Conceptual Frameworks :

Conceptual frameworks (theories, models for how things work, or study approaches) allow you to develop hypotheses about expected results, and help you to interpret results by suggesting potential explanations for why something worked or failed. Ask Questions that will enable improvements and applications in new context. Laparoscopy was introduced in 1990. It changed paradigm of Surgery. All your research questions can be asked in newer context. (Framework- Assessment drives education.

Question – Does assessment of project work improve student’s confidence and understanding of a subject?)

Classification of Scholarship Questions :

Classify education questions or studies into three groups: description, justification, and clarification. Description studies describe what was done, often with little or no evaluation. Such studies are useful when a field is in its infancy (as e- learning was 5 years ago), but people quickly demand more than just a description. Justification studies compare the new approach (intervention) to no intervention (a control group) or the current standard (an active comparison group). While such studies demonstrate the utility of a given intervention for a specific context and learner group, they do not tell us what might happen with different learners, contexts, or comparison interventions, or how to improve the current course. Thus, justification studies have limited value to people at other institutions. Clarification studies, by contrast, help explain why or how things work and how to make them better. Clarification studies are difficult to conduct and are very few. (Example- Descriptive- How do we do implant supported restoration (ISR)? Justification- Is ISR working? Is it better than other methods? Clarification- How, Why ISR works?)

FINER Questions:

Criteria for good research question¹ -

F- Feasible,

I-Interesting,

N-Novel,

E-Ethical,

R-Relevant – Question should be important to you.

Write your questions clearly stating what can be exactly measured.

Time line :

After studying feasibility and relevance also see whether you have adequate time. Some projects are time bound- Thesis, projects. If time line does not fit you may not complete project.

If possible contribute to the field rather than just repeating. Discoveries are many times unintended – look out for interesting patterns, results and reflect.

“Hot topics” in Medical Education Research:

- 1) Characteristics of good teachers, teacher retention and development
- 2) Transitions in medical education
- 3) Graduates’ preparedness for independent practice
- 4) Adequacy of the educational experience, including the effect of duty hour limits
- 5) Teaching Learning techniques and technology
- 6) Simulation, objective structured clinical examinations (OSCEs), and standardized patients
- 7) Whether competency-based education and assessment benefits independent practice
- 8) Social Accountability in Health Professions education
- 9) Community oriented medical education
- 10) Physician Migration.

So, Start thinking of topic which suit you best in your own settings and contribute to the field of medical education.

Reference:

1. Hulley, SB & Cummings SR (ed), Designing clinical research, Williams & Wilkins, 1988; 184-196