OVERVIEW OF SCHOLARSHIP

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Scholarship

Definition:
- The character, qualities, activity, or attainments of a scholar. (Merriam-Webster)

Definition of a Scholar: A learned person.

“Scholarship is demonstrated when knowledge is advanced or transformed by application of one’s intellect in an informed, disciplined, and creative manner.” (Fincher et al., 2000; Hansen & Roberts, 1992)

Scholarship Reconsidered

In 1990, Earnest Boyer advocated that if Higher Education is to advance forward, it must broaden the definition of scholarship beyond traditional scholarship (i.e.,“discovery”).

Boyer’s Model of Scholarship:
- Discovery – Bench research, other traditional research
- Integration – Interpret knowledge across disciplines
- Application – Aid society/profession in solving problems
- Teaching – Study teaching models to improve learning

“Your laboratory” for accomplishing scholarship is the clinical site, or other setting where your teaching/experiential oversight occurs.

Examples:
- Evaluating the effectiveness of an intervention to improve IPPE or APPE/learning (Scholarship of Teaching)
- Writing a review article that assimilates literature and addresses a problem/controversy in academic pharmacy (Scholarship of Integration and/or Application)
- Developing educational resources for students or preceptors

OVERVIEW OF SCHOLARSHIP OF TEACHING
What allows an activity/project to be considered as “scholarship?”

- It is publicly shared with peers and
- It is submitted for external peer review.

To promote evaluating the achievement each form of scholarship, Glassick proposed 6 standards.

These 6 standards can be used to evaluate each of the 4 types of scholarship.

Evaluation of Scholarship

To promote evaluating the achievement each form of scholarship, Glassick proposed 6 standards.

These 6 standards can be used to evaluate each of the 4 types of scholarship.

Glassick’s Standards for Effective Scholarship

1. Clear Goals
2. Adequate Preparation
3. Appropriate Methods
4. Significant Results
5. Effective Presentation
6. Reflective Critique

Introduction and Role in Accomplishing Scholarly Projects

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Scholarship: How to Start

Network with those doing Scholarship:

- AERA: American Educational Research Association
  - Division I – Education in the Professions

Read what others are doing:

- American Journal of Pharmaceutical Education
- Currents in Pharmacy Teaching and Learning
- Academic Medicine
- Medical Education
- Medical Teacher
- Teaching and Learning in Medicine
- Journal of Health Professions Education
- Other

Case Study

Educational Research: Introduction and Role in Accomplishing Scholarly Projects

What Is Educational Research?

Research that uses a systematic methodology to explain educational problems and issues.
Why use this design? Is it a good design?

Session Goals
- Discuss how an understanding of educational research can facilitate the initial steps of Glassick’s Standards for Effective Scholarship.
- Compare inductive and deductive approaches to research.
  - Identify when to use an inductive versus a deductive approach.
- Explain the term “causation”
  - Describe why research designs that investigate causation are “confirmatory”.
- Describe the common educational research designs.
  - Discuss when it is appropriate to use the design and skills needed by the researcher to use the design.

Session Goals
- Given Case 1.....
  - Explain “why” the design was used.
  - Assess the strengths/weaknesses of the design.

Educational Research as a Foundation
- Knowledge of educational research methodology will help you accomplish:
  1. Clear goals (problem statement, purpose)
  2. Adequate preparation
  3. Appropriate methods

Approaches to Educational Research
Inductive versus Deductive Research

Approaches to Research
Deductive
- Goal: Identify irrefutable facts & universal truths
  - Make Predictions Based on General Principles
  - Typical of Clinical/Laboratory Research

Inductive
- Goal: New insights from data collected/observations
  - Draw generalizations from a limited number of observations
  - Common in Educational Research
How do you Know Whether to Use an Inductive or Deductive Approach?

Deductive

Inductive

Common Educational Research Designs

Quantitative Research Designs

Qualitative Research Designs

Combined Qualitative and Quantitative Designs

Deductive

Inductive

Both

Causation

Explanation of Terminology

Probable Cause

Independent Variables

Effect

Dependent Variables

Studies that evaluate “causation” are “confirmatory”

Selecting An Appropriate Design

Is the research confirmatory?

Do you want to evaluate Causation?

Can you randomize?

Use randomized experimental methods

Use randomized experimental methods

Use correlational methods

Use correlational methods

Example 1: Experimental; focus groups

Example 2: Explanatory; what system questions

Example 3: Explanatory; what system questions

Example 4: Pre- and post-tested

Example 5: RCT

Example 6: Survey
The Randomized Controlled Trial

- "The Gold Standard" if you want to evaluate "causation"
  - Confirmatory
- When to Use:
  - You have a hypothesis to test (supported by a theory, etc).
  - You can randomize subjects to treatment and control groups.
- Skills Needed by the Researcher:
  - Quantitative Research Methods
  - Statistics

Quasi-experimental research

- The Most Common Design in Education
  - RCT not possible when there are logistic issues/not practical to randomize
  - Examples:
    - Non-equivalent control groups
    - Pre-test post-test design
- When to Use:
  - You have a hypothesis to test (supported by a theory, etc).
  - You can NOT randomize subjects to treatment and control groups.
- Skills Needed by the Researcher:
  - Quantitative Research Methods
  - Statistics

Correlational Research

- Examples:
  - Frequently used to correlate academic success with admission criteria.
  - Does not involve an intervention
- When to Use:
  - You want a confirmatory approach but DO NOT want to prove causation.
  - When you want to show how variables are "associated"
- Skills Needed by the Researcher:
  - Quantitative Research Methods
  - Statistics

Selecting An Appropriate Design

- Do you want to evaluate Causation?
  - Yes
    - Use Confirmational methods
    - Example: RCT
  - No
    - Can you randomize?
      - Yes
        - Use randomized experimental methods
        - Example: Pre-test post-test design
      - No
        - Use correlational methods
        - Example: Surveys
  - Is the research confirmatory?
    - Yes
      - Use Inductive/Qualitative methods
      - Example 1: Explanatory correlations
    - No
      - Use quasi-experimental methods
      - Example 2: Observations

Selecting An Appropriate Design

- Do you want to evaluate Causation?
  - Yes
    - Use Confirmational methods
    - Example: RCT
  - No
    - Can you randomize?
      - Yes
        - Use randomized experimental methods
        - Example: Pre-test post-test design
      - No
        - Use correlational methods
        - Example: Surveys
  - Is the research confirmatory?
    - Yes
      - Use Inductive/Qualitative methods
      - Example 1: Explanatory correlations
    - No
      - Use quasi-experimental methods
      - Example 2: Observations

Selecting An Appropriate Design

- Do you want to evaluate Causation?
  - Yes
    - Use Confirmational methods
    - Example: RCT
  - No
    - Can you randomize?
      - Yes
        - Use randomized experimental methods
        - Example: Pre-test post-test design
      - No
        - Use correlational methods
        - Example: Surveys
  - Is the research confirmatory?
    - Yes
      - Use Inductive/Qualitative methods
      - Example 1: Explanatory correlations
    - No
      - Use quasi-experimental methods
      - Example 2: Observations
Survey Research

- **Use in Education:**
  - Frequently used in education; does not involve an intervention.
  - Usually hypothesizes variables

- **When to Use:**
  - When you DO NOT want to evaluate causation
  - When you want to document variables and their relationships
  - Surveys can also be “exploratory” – esp if open ended questions are used

- **Skills Needed by the Researcher:**
  - Survey Design – the survey is your “tool”; validity is essential
  - Quantitative Research Methods
  - Statistics

Note

- Survey research is NOT easy…………………… Make sure you use good survey research methodology

A Few Words about Survey Methodology

- A survey involves more than giving subjects a “questionnaire”
  - Common issues related to survey research:
    - Survey design
    - Poorly written survey items
    - Response rates

  - See recommended references and seek an expert on item writing

Selecting An Appropriate Design

- **Use in Education:**
  - Frequently used in education; does not involve an intervention.

- **When to Use:**
  - When you DO NOT want to evaluate causation
  - When you want to document variables and their relationships
  - Surveys can also be “exploratory” – esp if open ended questions are used

- **Skills Needed by the Researcher:**
  - Survey Design – the survey is your “tool”; validity is essential
  - Quantitative Research Methods
  - Statistics

Inductive Research Methods

- **Use in Education:**
  - Interviews (focus groups, individual interviews): observation, think aloud, and simulated recall are methods used to gather information or “observations” from individuals to identify related factors.

- **When to Use:**
  - Little is known about the problem – “Exploratory”
  - There is a need to understand what factors or variables contribute to the problem or issue.
  - Note: These are not confirmatory

- **Skills Needed by the Researcher:**
  - Qualitative research skills: In-depth recording, analysis of words using special software & triangulation of data; Inductive thinking abilities

Inductive (Qualitative) Research Designs

- **Biography**
  - Explore the life of an individual

- **Ethnographic Research**
  - Develop a theory grounded in data from the field

- **Grounded Theory Research**
  - Explore the shared culture of a group of people

- **Phenomenology**
  - Understand the essence of experiences about a phenomenon (eg, learning)

- **Case Study**
  - Develop an in-depth analysis of a single case or multiple cases

Is the research confirmatory?

Do you want to evaluate Causation?

Can you randomize?

Use randomized experimental methods

Example: RCT

Use quasi-experimental methods

Example: Pretest-posttest

Use correlational methods

Example 1: Explanatory correlations

Example 2: Surveys

Use Inductive/Qualitative methods

Example 1: Interviews, focus groups

Example 2: Observation

Example 3: Surveys – open ended questions

Note: If you want to use a quasi-experimental method, but cannot assign subjects to a control group, use "non-experimental methods" such as case-control, cross-sectional, time series, and cohort studies.

Sometimes Both Inductive and Deductive Methods are Used in the Same Project

Mixed Methods

Use in Education:
- A combination of inductive and deductive methods are used. Examples:
  - Begin with an inductive design and then do a deductive design
  - Begin with a deductive design and then do an inductive design

When to Use:
- Methods are usually not used for evaluating "causation"
- When you want to identify and document variables and their relationships
- Surveys can also be "exploratory" – esp if open ended questions are used

Skills Needed by the Researcher:
- Survey Design – the survey is your "tool"; validity is essential
- Quantitative Research Methods
- Statistics

Watch for Bias: Avoid Potential Biases in Research & Evaluation

Study Design
- Issues related to Internal validity
- Issues related to External validity

Instrument Design
- Issues related to Construct validity

Data Analysis
- Issues related to Statistical Conclusion validity

Note

Select the best design given practical considerations.
- Your conceptual framework will guide you in deciding which of the following study designs is best:
  - Inductive (Exploratory)
  - Non-causal (Correlational)
  - Causal (Experimental or Non-experimental)
  - Mixed Methods

IRB: Educational Research is “Research”…seek IRB Approval

Notes about IRB Approval:
- Always safer to submit – even if it will be "exempt"

- Go the easy road….Many institutions with a Health Science Center have an IRB office that handles medical research and another that handles “other research.”
  - It is usually easier to submit thru the IRB office that handles “Other Research”
Case Study

Let's Apply!!

Case

A Quasi-Experimental Design

• Why use this design?
• Is it a good design?

Case

Mixed Methods

• Why use this design?
• Is it a good design?

Goal:
• To quantify benefits of an enhanced community APPE.
• Compare 2 traditional 4-week experiences to an 8-week experience:
  • Care provided by Students
  • Preceptor Perceptions

Summary

Deductive research methods are used when there is already knowledge about the topic and you want to answer a more specific question.
  • Typically, these involve “quantitative research”

Inductive research methods are used when very little is known about the topic; the goal is “to explore.”
  • Typically, these involve “qualitative research”

Research in professional education often involves “Mixed Methods”
  • Uses both “quantitative and qualitative research methods”

Summary

“Causation” can be evaluated when there is a probable cause (independent variables) and an expected effect (dependent variables).

When evaluating causation, the following methods may be used:
  • Randomized controlled trial (however, it is rare that randomization is possible)
  • Quasi-experimental methods (there is no randomization)
    Example: Pre-test Post-test methodology

You can “correlate” what has been reported in prior studies to your project/problem; however, you will not prove a cause and effect (e.g., causation)
  • Methods include surveys
Survey research is NOT easy….use good survey methodology!

Select the best research design given practical considerations.
- Your conceptual framework will assist you in selecting the best research design

Avoid potential biases in research design
- If using confirmatory designs, anticipate “threats to validity.”
- Instruments (eg. exams, surveys) are your “tools”….make sure they have evidence of “validity.”
- Accurate statistical analysis is also critical

Educational research is “research”….seek IRB approval.

Educational Research References

1. Core References:

2. More Indepth References:

3. Survey Research:

4. What Editors/Reviewers Look for:
   A. Review Academic Medicine, September 2001 Issue (free access):

5. Development of a Conceptual Framework is “key to success”:

Thank You !!!

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Other Types of Scholarship

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Everyday Scholarship

1. Classroom
2. Practice Site
3. Practice
4. Education
5. Continuing Education

Audience

1. Student
2. Preceptor
3. Peer
4. Health Professions colleagues
5. Patient
6. Other

Format

• Written
  – Syllabi
  – Activities
  – Articles
  – Chapters
  – Books
  – Technology
    • Software, webpage,

• Audio/Visual
  – Video
  – Podcast, MP3
  – Interactive course online
  – Training
    • http://www.nova.edu/hpdtesting/ctl/fia.html

Where

• Journals
  – American Journal Pharmacy Education
  – Currents in Pharmacy Teaching and Learning

• Open Access
  – Directory of Open Access Journals
Where

• Books
  – McGraw-Hill
  – Access Pharmacy
  – Lippincott Williams Wilkins
• MedEdPortal
• CES4health

Payoff

• Promotion
• Network
• Learning

Where Do I Begin?

• Not Here

• Approach
  – Falls in your lap/Right Place Right Time
  – Determined
  – Ya gotta have Friends!

What’s on your Mind?

National Geographic

What’s Important?

• Reading
• Making time
• Organization
• Keeping commitment
• Follow-up
• Slow and Steady
Establishing Clear Goals & A Conceptual Framework

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Introduction

If you are a sports fan, you know very well the importance of a “Clear Goal.”
The same is true for accomplishing educational research.

SESSION OVERVIEW

LEARN:
1. Outline how to write a purpose statement for any project.
2. Define the goal or intent of a review article manuscript.
3. Write a research question statement, hypothesis, and research goals for a research project.

How This Applies to You

Get published
1. Reflect on How to Improve the works/research
2. Adequate Preparation
3. Appropriate Methods
4. Significant Results
5. Effective Presentation
6. Reflective Critique

Getting Published

For Review Articles or Research:

Topic

Problem or Issue
Statement of a Problem
Purpose Statement
Goal or study Intent

If this is a Research Project: The study intent will be a research question, Hypothesis, Study Goal.
We will discuss all steps in the following slides.

However, you will need to stop and do a literature review before writing your Statement and the components that follow.

Literature Review will be covered in the next presentation: Adequate Preparation

### Selecting a Problem or Issue

Your problem or issue will be considered FINER if it has promise for leading to... Significant Results:

1. Will fill a gap or void in current literature.
2. Replicates another study but you plan to conduct with different participants & different learning settings.
3. Will examine the topic more thoroughly than prior research.
4. Give voice to learners silenced, not heard, or rejected by society.
5. Will inform practice.

### Statement of the Problem

- Both your Statement of the Problem and your purpose statement will form your “Introduction” section of your manuscript.

- For either a review article or a research article... Your purpose statement will be the last sentence of your “Statement of the Problem.”
  - The purpose of the review is...
  - Or...
  - The purpose of this project is....

### Problem or Issue: How to Select

Your problem or issue should be FINER:

1. Feasible (access or participants, time, resources and research skills)
2. Interesting (to both you are peers)
3. Novel (has not been done, unknown)
4. Ethical
5. Relevant
   1. Important & Has Generalizability

Ref: Morrison 2002 & Hodgson

### Statement of the Problem: How to Write

**Statement Components**

1. **The Topic** – Start your first sentence with a “narrative hook” about the Topic. Examples:
   - Statistical data
   - Provocative questions
   - Trends that infer need for research
   - A question

2. **The Research Problem**— After introducing the topic, introduce the research problem or issue.
   - Usually 1-2 sentences.
Statement of the Problem: How to Write

Statement Components

3. Justification of the Problem – Examples:
   A. Literature reports from other researchers/experts.
   B. Experiences cited by others in the learning setting.
   C. Personal experiences

4. Deficiencies/Gaps in What We Know
5. The Audience
Qualitative Purpose Statement

Sample Script

The purpose of this qualitative study will be to (explore, discover, understand, describe) (the central phenomenon) for (participants) at (research site).

Let’s Apply

See:

The Introduction Section of this article:


INSTRUCTIONAL DESIGN AND ASSESSMENT
An Enhanced Community Advanced Pharmacy Practice Experience Model to Improve Patient Care
Kostas Karastamis, BSc (Pharm), (Parrell), and Mona Kong, BSc, Pharm, MS
Faculty of Pharmaceutical Sciences, The University of British Columbia
Accepted March 28, 2009; accepted April 11, 2009.

Objective. To quantify the benefits of an enhanced advanced pharmacy practice experience (APPPE) community pharmacy model compared to the traditional program by comparing basic and comprehensive pharmacy care provided by students and assessing perceptions of the APPPE.

Methods. A pilot study consisting of 1 enhanced APPPE model and Traditional APPPE control arm was conducted. The enhanced APPPE consisted of a preceptor education program, a 1-day clinical module orientation, and an 8-week experience compared to 1 rather than 2 community sites.

Results. The total cost of the intervention provided by students in the enhanced APPPE was significantly greater, primarily due to the time and financial commitment of the project.

Conclusion. The enhanced APPPE model provided an increased level of patient care (as compared to the control site) and improved preceptor satisfaction with the APPPE.

Reminder

- Development of a Statement of the Problem from the problem or issue you have identified will require doing a literature review and reading the literature.
  - Therefore, after you will learn how to do educational literature searches........
  - Come back to this handout and use the resources to refine your Statement of the Problem and Problem Statement.

References

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INTRODUCTION
• Authorship designates:
  • Credit to individuals who contributed to an intellectual work
  • Individuals who accept responsibility for publicly defending the content of the work.

ETHICS OF AUTHORSHIP
• Participation in one of the following does not qualify an individual for authorship:
  • Data collection
  • Providing technical help
  • Performing statistical analysis
  • General support as an administrator of a department or clinic

THE POLITICS
• Pressures to publish in academic promote the addition of names to the authorship line who really do not meet the established criteria.
  • Example:
    • A senior faculty member who has power related to promotion decisions infers his name should be on the paper.
    • A junior faculty member asks a senior colleague to be an author thinking that this nationally recognized individual will improve the credibility of the work.

POLITICS - - - EVEN WORSE.....
• Individuals who meet the criteria to be author can have different assumptions about authorship. For example:
  • Whose name should be first?
  • What is the order of authors?

• Unless such issues are clearly established when a project or paper begins, misunderstandings and hurt feelings can result.
  • Such issues can cause significant disruption within a group or department.
CRITERIA FOR AUTHORSHIP ARE WELL ESTABLISHED

• Many journals have established criteria for authorship and these criteria are typically based on recommendations by one of the following:
  • International Committee of Medical Journal Editors
  • American Psychological Association

ICMJE PRINCIPLES FOR AUTHORSHIP

1. Each author should have participated sufficiently in the work represented by the article to take public responsibility for the content.

2. Participation must include 3 steps:
   a. Conception or design of the work or analysis and interpretation of the data, or both.
   b. Drafting of the article or critical revision
   c. Final approval of the version to be published

3. Participation solely in the collection of data does not justify authorship.

4. Each part of the article must be attributable to at least 1 author.

5. Persons who contributed intellectually to the article but whose names do not justify authorship must be named and their contribution described at the end of the paper. Technical help should be acknowledged in a separate paragraph.

Note: There are guidelines for specific kinds of articles

SOLUTIONS

• Develop a plan for discussing authorship and establishing agreement about authorship before a project or paper begins.

• Establish agreement about authorship by meeting with colleagues you will be collaborating during your project/paper.

  • See “Plan for Authorship”

REFERENCES


Developing a Conceptual Framework: The Comprehensive Literature Review

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A Conceptual Framework: Adequate Preparation

- A conceptual framework is essential for achieving “Adequate Preparation” and “Appropriate Methods”

A Conceptual Framework: Adequate Preparation

1. Clear Goals
2. Adequate Preparation
3. Effective Presentation
4. Appropriate Methods
5. Significant Results

Glassick’s Standards for Effective Scholarship

How to get ready for a search........

How to locate educational literature using effective search strategies........

Learn:

DEVELOP A CONCEPTUAL FRAMEWORK

- Essential for Developing your Problem Statement
  - Definition: Your understanding about the problem based on what is known in the literature/via research.
  - A conceptual framework is
    - Developed by explaining “putting all the pieces together” about a problem that is complex/difficult to understand.
    - Is developed using theories, models, and best practices.

Steps To Getting Published

Step 1: Develop a Purpose Statement/Hypothesis
Step 2: Perform a Comprehensive Literature Search
Step 3: Organize the Literature
Step 4: Prepare First Draft of Manuscript
Step 5: Revise - Revise - Revise
Step 6: Revise - Revise - Revise
Step 7: Prepare Final Manuscript

A Comprehensive Literature Review

Literature relevant to educational issue you are exploring may be found in a variety of sources:
- within your own discipline
- in other health professions
- in the field of education
- in other disciplines

Valuable information may be found in Encyclopedias, Books, Journals, Grey Literature, and the Web.

Therefore, searches must be broader than using just Pubmed and the Web.
HOW TO GET READY FOR A SEARCH: Construct Your Search Query

CONSTRUCT YOUR SEARCH QUERY

• The following iterative process is used to construct a search query:
  1. Define the search query by writing a purpose statement, research question or hypothesis
  2. Identify and expand essential concepts
  3. Establish the scope of your query (inclusion and exclusion criteria)

Define the Search Query
Identify & Expand Concepts
Set the Scope of the Query

How to Define the Search Query by Refining Your Research Question

Use your purpose statement/intent to write a research question with the following components:
1. Participants (e.g., Students)
2. Intervention (e.g., educational strategy)
3. Comparison or alternate intervention (if relevant)
4. Outcome

How to Identify and Expand Concepts

Identify words or phrases that are similar to each of the 4 components of your search statement:
1. Synonyms
2. Alternate spellings
3. Related terms

How to Define the Search Query by Refining Your Research Question

Let’s Look at Each Step of this Process…..
CONSTRUCT YOUR SEARCH QUERY
How to Identify and Expand Concepts

Example: Thesaurus available for ERIC
Free Site: www.eric.ed.gov

HOW TO DEFINE THE SEARCH QUERY
Your Purpose Statement/Research Question should contain the following components:
1. Participants:
   Students
2. Intervention:
   IPPE experiences
3. Comparison or alternate intervention:
   No IPPE experiences
4. Outcome:
   Better prepared for APPEs
   Relevance of coursework
   Professionalism

CONSTRUCT YOUR SEARCH QUERY
Establish the Scope of your Query

Identify inclusion or exclusion criteria:
1. Example: Limit the type of student/learner

Note:
1. Often, the first search will be performed without using exclusion criteria. The criteria can be added if the number of "hits" are large or too small.

Reference:

HOW TO IDENTIFY AND EXPAND CONCEPTS

Example:
IPPE Experiences – Have they improved the educational experience of students?

<table>
<thead>
<tr>
<th>Students</th>
<th>IPPE experiences</th>
<th>Intervention: N/A</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PharmD Students</td>
<td>Introductory</td>
<td></td>
<td>Relevance of coursework</td>
</tr>
<tr>
<td>Student Pharmacists</td>
<td>Pharmacy</td>
<td></td>
<td>Professionalism</td>
</tr>
<tr>
<td></td>
<td>Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Experiences</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Boolean Operators

- Boolean operators: And, Or, and Not

Example:
Establish the Scope of your Query

Identify inclusion or exclusion criteria:
1. Example: Limit the type of Practice Experience

Note:
1. Often, the first search will be performed without using exclusion criteria. The criteria can be added if the number of "hits" are large.

Reference:
**SUMMARY: CONSTRUCT YOUR SEARCH QUERY**

- The following iterative process is used to construct a search query:
  1. Define the search query by writing a question or hypothesis
  2. Identify and expand essential concepts
  3. Establish the scope of your query (inclusion and exclusion criteria)

**REFERENCES:** The Foundation

References Relevant to Your Searches
1. International Handbook on Research in Medical Education, (Norman and Van der Vleuten, Editors), 2002.
2. Teaching and Learning in Medical and Surgical Education, (Distelehorst and Dunnington, Editors), 2000.
8. Handbook of Distance Education, (Moore, Editor), 2003.

**BOOKS**

Search the Library Catalog

**JOURNAL ARTICLES**

How to Find Journal Articles
1. Database Search
   a. Search multiple databases (see next slide)
2. Ancestry Search
   a. Search the bibliographies/reference list of relevant papers to identify references missed by other methods.
3. Hand Search
   a. Search either print or electronic journals by personally examining volume by volume, issue by issue, article by article, (a standard for systemic reviews)
JOURNAL ARTICLES

Search the Core Bibliographic Databases
1. EBSCOhost (Select Academic Search Premier, CINAHL, Pre-CINAHL, Health Source, Professional Development Collection, and Psych Info)
2. ERIC:
   a. Via Cambridge Scientific Abstracts (includes links to fulltext)
   b. Via FirstSearch (includes links to fulltext)
3. Education Full-Text (Wilson Web)
4. Gale (Searches the Academic OneFile, Expanded Academic ASAP, General ONEFile, Professional Collection, Academic ASAP, and others)
5. Web of Science/Web of Knowledge
6. TIMEITS (www.timeit.org)
7. PubMed
8. Other Databases:
   a. OVID
   b. Proquest
   c. Cambridge Scientific Abstracts

EARLY STAGE MATERIALS

Definition
Information that is not yet in Grey literature, Journals, Books, and Encyclopedias

Sources
1. Web – (will also locate grey literature and other stages of materials)
   a. Google Scholar (can link into UF libraries if you are logged in via the UF network)
2. Manual Searching of Professional Associations Relevant to the Topic

GREY LITERATURE

Definition
Literature that is not controlled by commercial publishers. It is produced by government, academics, business, and industry in both print and electronic formats.

Examples
1. Academic papers
2. Committee reports
3. Conference papers
4. Dissertations
5. Government Reports
6. Newsletters
7. Research Reports
8. Technical Reports

Sources
1. Web
2. ERIC (via Cambridge Scientific Abstracts) – Includes grey literature
3. The Grey Literature Report (Published bimonthly by the New York Academy of Medicine)
   a. Includes AAMC documents
4. Dissertation Abstracts (available via library databases)
5. Library of Congress
   a. [catalog.loc.gov](catalog.loc.gov)
6. National Library of Medicine
   a. [www.locatorplus.gov](www.locatorplus.gov)

LITERATURE SEARCHES ARE AN ITERATIVE PROCESS

YOUR NEXT STEP IN “GETTING PUBLISHED”

- Using your problem statement/research question:
  1. Document the following before your first search:
     a. Your search query (problem statement/research question) (Make sure your statement meets the PICO criteria)
     b. Your list of initial and expanded the concepts (For each component of your search query statement [research question], identify similar terms or synonyms)
     c. The scope of your query (list your inclusion and exclusion criteria)
YOUR NEXT STEP IN “GETTING PUBLISHED”

3. Perform your literature search
   a. Refine your search inquiry and perform additional literature searches as needed.

4. Document the 3 components of search query each time you do a new search.

Steps To Getting Published

Step 1: Develop a Purpose Statement/Hypothesis
Step 2: Perform a Comprehensive Literature Search
Step 3: Read, Evaluate, & Select Literature
Step 4: Organize the Literature
Step 5: Prepare First Draft of Manuscript
Step 6: Revise – Revise - Revise
Step 7: Prepare Final Manuscript

GOOD LUCK!