2018 Scholarly Project Manual

Guide to the Preparation of the Scholarly Project for the
Master of Science in Biomedical Sciences
With a Concentration in Physician Assistant Studies

Department of Physician Assistant Studies
College of Medicine and Life Sciences
University of Toledo

Initially adapted from:

- *1999-2000 Research Manual for the Department of PA Studies, Medical College of Ohio*
- *1999-2000 School of Nursing Graduate Student Handbook, Medical College of Ohio*
- *1999-2000 Research Manual for the Department of Occupational Therapy, Medical College of Ohio*

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Purpose of the Scholarly Project

One of the goals of the Physician Assistant Program is that graduates of the program have the ability to use and contribute to the literature of the profession (see the Program Manual). Graduates of the program will be able to:

- understand and apply of the principles of scientific inquiry and research design
- critically read and interpret the professional literature in order to enhance their delivery of health care

These skills are developed throughout the curriculum, with the scholarly project as the culmination of the student's development in achieving this goal. In conducting an individualized project, the student learns to appreciate the process of scientific inquiry. **Successful completion and presentation of a scholarly project is a requirement of the Master of Science in Biomedical Sciences with a concentration in Physician Assistant Studies.** ***Students must successfully complete and present the scholarly project in order to be eligible to sit for the NCCPA Certification Examination.***

A Significant Academic Challenge

Successful completion of the scholarly project is a major achievement for the graduate-level physician assistant student. It is an individualized learning experience that is truly graduate in character, with the student and faculty member engaging in a mentoring relationship. The student collaborates with the major advisor in designing his/her own learning experiences and assumes responsibility for learning in a self-directed manner without the structure provided by the typical classroom course. There are many options from which to choose in terms of the form, topic, and methodology of the scholarly project. The requirements to ensure student learning and a high quality project are:

1. The topic must be relevant to the physician assistant profession, including clinical topics and professional or educational issues for PAs.
2. The methodology must be recognized as appropriate in relevant professional literature.
3. The topic and the methodology must be compatible with major advisor expertise.

Conducting an original, meaningful, and valid project is a significant challenge for all students. The student must identify and master the relevant literature pertinent to a line of inquiry and, from the literature, conceptualize a problem that is a logical next step in that line of inquiry. Following completion of the project, the student must describe and present the entire project in a professionally appropriate format, achieving a level of excellence in presentation that meets or exceeds the level required for presentations at professional conferences and a level of writing that meets or exceeds the level required for publication in a peer-reviewed biomedical or physician assistant journal.

Throughout the process, the student must provide ethical protection for the rights of human subjects, demonstrate ethical use of others' ideas and work, and be able to participate in a mentoring relationship with the major advisor. While faculty assistance and other resources are available to the student, *the scholarly project is primarily the responsibility of the student.*

Options for the Scholarly Project

The scholarly project may take one of three forms: the literature review, clinical review article or original research; the major advisor and student decide together what is most appropriate for the student.

Comprehensive Literature Review

A literature review critically surveys the literature published on a clinically relevant topic. A review of this type may include such areas as history, current practices, current debates, and areas for future research. Sometimes, comprehensive literature reviews are done in preparation for a grant application.

EXAMPLES:

Colvin, T. N. (2008). *Female survivors of military sexual assault: Living with PTSD* (Unpublished master's scholarly project). The University of Toledo, Toledo, OH. Major advisor: B. McGadney-Douglass. http://utmost.cl.utoledo.edu/record=b3091692

Abdallah, S. (2011). *The effect of vitamin D deficiency on maternal and neonatal health during pregnancy* (Unpublished master's scholarly project). The University of Toledo, Toledo, OH. Major advisor: D. Boardley. http://utmost.cl.utoledo.edu/record=b3164794

Bretl, J. E. (2010). *Student knowledge and attitudes of the use of opioids in nonmalignant pain* (Unpublished master's scholarly project). University of Toledo, Toledo, OH. Major advisor: M. Weiner. http://utmost.cl.utoledo.edu/record=b3091738

Clinical Review Article

A clinical review article is a concise analysis and synthesis of the research literature on an emerging or controversial topic in medicine. For examples, look at clinical review articles in *JAAPA*; selective articles from *JAAPA* are available online through the Mulford Health Science Library (http://utmost.cl.utoledo.edu/record=b2503660). This is perhaps the most common form of publications for practicing PAs; as such, it is a recommended scholarly project option. For an overview of writing a clinical review article, see "How to Write an Evidence-Based Clinical Review Article," published in *American Family Physician* (available online http://www.aafp.org/afp/20020115/251.pdf).

EXAMPLES:

Brendan Boyer, *Isolated pulmonary metastasis of prostate adenocarcinoma detected by ProstaScint scan*; scholarly project: http://www.utoledo.edu/med/grad/pa/pdf/Brendan_Boyer_Scholarly_Projec.pdf; published article (JAAPA): http://www.utoledo.edu/med/grad/pa/pdf/Brendan_Boyer_-_JAAPA.pdf

Ashley Finch, *Treating hypertension near the eighth decade of life: Benefit or burden?*; scholarly project: http://www.utoledo.edu/med/grad/pa/pdf/Ashley_Finch_Scholarly_Project.pdf; published article (JAAPA): http://www.utoledo.edu/med/grad/pa/pdf/Ashley_Finch_-_JAAPA.pdf

Karen Hemmer, *Huntington's disease: Where are we and where should we be?*; scholarly project: http://www.utoledo.edu/med/grad/pa/pdf/Karen_Hemmer_Scholarly_Project.pdf; published article (Advance for Physician Assistants): http://physician-assistant.advanceweb.com/Article/Huntingtons-Disease-2.aspx

Original Research Project

A research project involves gathering and analyzing data, resulting in an original contribution to the professional literature. Research projects can be quantitative or qualitative and include methodologies such as surveys, chart reviews, content analysis, and interviews. There are two ways of obtaining data for a research project:

Original Data Gathering/Analysis

Designing and conducting a research study in the "classic" academic research manner, i.e., collecting new original data, analyzing the data, and drawing appropriate conclusions.

Secondary Data Analysis

Students may elect to participate in an ongoing research project that is being conducted by an established investigator or obtain data collected by other investigators. Project would require that the

student presents and analyzes a portion of data obtained in an existing research database. The student must develop a unique research question.

EXAMPLES:

Megan Birkmeier, *The use of the Ottawa Knee Rules in emergency care facilities in northwest Ohio*; http://utmost.cl.utoledo.edu/record=b2544170~S3

AJ Farah, *Investigating the disparity of LDL-C screening and management among health care providers in northwest Ohio and southeast Michigan as compared to NCEP guidelines*; http://utmost.cl.utoledo.edu/record=b2543634~S3

Jeanine Filipek, *The utilization of breast self exam reminder systems in females living in rural southeastern Michigan*; http://utmost.cl.utoledo.edu/record=b2544177~S3

Heather Rohrs, *The effect of skipping breakfast on weight in African American women*; http://utmost.cl.utoledo.edu/record=b2543333~S3

Process for the Scholarly Project

1. Students should start thinking about topics for scholarly projects in the fall semester of the second year (or sooner, if a topic from class strikes their interest). In the Introduction to the Scholarly Project class, a power point presentation will be provided to guide development of topics.

2. During the fall semester, students will be required to submit the names of faculty members whom they want to be considered for their major advisor (see due date in Appendix C). During the Introduction to the Scholarly Project, faculty research interests will be presented, so that students can better determine which faculty members with which to meet to talk about project ideas.

3. After the faculty members' research interests are presented, each student schedules appointments with potential major advisors to explore the possibility of working together in a mentoring relationship. The student should consider the major advisor's interests, methodological expertise, and style of working with students. Some faculty members wish to restrict their advising to topics within a fairly narrow range, whereas others are willing to work with students across a broader range of areas. In attempting to make the best possible match for the student, the faculty member may refer the student to other potential advisors, depending on workload and other factors.

Potential advisors can be from outside the Department of PA Studies (such as someone who lectured in class or who has expertise in an area of interest). If a student requests a major advisor from outside of the department, the scholarly project coordinator – Dr. Hogue will ascertain that the faculty member has Graduate Faculty status. All advisors must have regular or associate Graduate Faculty status and must be fully informed concerning the philosophy, policies, and procedures of the Physician Assistant program.

TO DO: Meet with potential major advisors to discuss your scholarly project ideas as soon as possible.

Students must complete a Scholarly Project Advisor Request Form and forward to the department secretary by the deadline (see Appendix C for date). Department faculty will recommend advisor assignments to the department chair, who will then approve the recommendations. The scholarly project coordinator will communicate the decisions to the advisors and advisees via email (see Appendix C for the date).

TO DO: Complete the Scholarly Project Advisor Request Form that you received via email and email it to the departmental secretary before the deadline.

TO DO: Once you are notified of your major advisor assignment, meet with him or her as soon as possible to begin planning your project.

For more information about working with a major advisor, see page 10 of this manual.

4. The student and major advisor discuss and sign the Department of PA Studies Authorship Agreement form. Copies of the form will be made available to the major advisor. Two copies are made of the signed form, one for the student's files and one for the major advisor's files. The signed original must be submitted to the department secretary.

TO DO: Together with your major advisor, complete the Authorship Agreement, make copies, and get them where they need to go.

5. Under the guidance of the major advisor, the student develops a research question and develops a proposal including identification of potential methodologies for the scholarly project (for clinical review articles, this means what databases and terms will be searched, what types of research studies will be included, etc.).

The research proposal is the contract that governs the execution of the project. The research proposal documents (a) the theoretical significance of the proposed project; (b) the state of current knowledge in the area of study; (c) the specific problem or hypothesis under study; and (d) the methods used to investigate the problem or hypothesis. (For details about what belongs in a proposal, see Appendix A.) The methodology used must conform to accepted authorities as cited in a reputable published source, and that the student must be familiar with examples of previously published work that used the proposed methodology.

*TO DO: With the help of your major advisor, develop the research proposal for the scholarly project. (A note on proposals: There are different types of proposals – they are **not** interchangeable. The approved proposal is **not** the same as the proposed research protocol that is to be submitted with an IRB application. Be aware that you will be tailoring the proposal for these different purposes.)*

TO DO: If you need help searching the literature, make an appointment with Jolene Miller, MLS; x4959; jolene.miller@utoledo.edu.

6. An approved scholarly project proposal is required for successful completion of the scholarly project. (The major advisor will have a copy of the form.) Make two copies of the signed form. One copy is retained by the student for his/her records. The other copy is submitted with a copy of the approved proposal to the major advisor. The original signed copy of the approval form, with a copy of the approved proposal, is submitted to the department secretary.

TO DO: Finish the scholarly project proposal by the date given in Appendix C. If your major advisor agrees that it is acceptable, he or she will sign the Proposal Approval form. Once the form is signed, copied, and distributed, you can proceed with the project. (Note: You cannot proceed with your IRB application, if applicable, until the scholarly project proposal is accepted.)

7. All students are required to have training on the protection of human research participants in research. This will take place within the context of Principles of Research and Statistics.

TO DO: Complete the assigned human research participants protection online tutorial. When complete, print out copies of your completion certificate. Copies will be needed for your own files, your major advisor's files, and for inclusion with the IRB application (if you are doing research with human subjects). Even if you are not doing research with human participants, you will still complete the online training because it is a requirement for PHYA 613.

8. All student research *involving human subjects* (surveys, chart reviews, etc.) must be approved by the University of Toledo Human Subjects Institutional Review Board (IRB). The student should consult the major advisor concerning this important aspect of research. ***Research cannot begin until the major advisor receives written IRB approval of the project.*** See page 12 of this manual for more information. Copies of official IRB materials for each student's research project are kept on file in both the major advisor's files and the departmental files.

*TO DO: If you will be doing research with human participants, get IRB forms completed **as soon as possible, preferably by the end of the research practicum**. It takes time (sometimes six weeks or more) for IRB review.*

WHAT TO DO WHILE YOU ARE WAITING FOR IRB APPROVAL: Update and expand your literature review, review information on the statistical tests you plan to do, practice using SPSS (or Excel or SAS, whatever you'll be using for data analysis, etc).

*TO DO: **Everyone** needs to complete and sign the GRAD form, even if you are not doing research involving human participants. It is available at:*
http://www.utoledo.edu/graduate/files/GRAD_Form_fillable_03_05_2012.pdf

9. The next stage of the research process involves carrying out the project as described in the approved proposal. This takes place during the Research Practicum (PHYA 660), Scholarly Project I (PHYA 661), Scholarly Project II (PHYA 662) and Scholarly Project III (PHYA 663). If the student must make changes from the plans described in the approved research proposal, the advisor(s) must approve these changes ***in writing***.

TO DO: Begin work on this part of the project as soon as you can (as soon as you have received IRB approval, if relevant).

TO DO: In August of the second year, run an updated literature search to make sure that there are no new research findings that will influence your project.

10. The scholarly project is written according to the guidelines published in this scholarly project manual.

TO DO: Follow the guidelines in this manual. If the project is incorrectly formatted, your major advisor may choose to refuse to accept the project until it is formatted corrected. If you have questions about formatting, ask your major advisor. (Note: While we use APA format for some aspect of format, we do not use it for all aspects.)

11. In the fall of the third year, there is a deadline midway through the semester for the final draft of the paper to be given to the major advisor (see Appendix C for the date). This gives the major advisor time to review the final draft for last minute tweaks before the paper must be approved for presentation.

12. The Acceptance of Scholarly Project for Presentation form, available from and signed by the major advisor, is due to the departmental secretary before the presentations (see Appendix C for the deadline). Two copies of the signed form must be made: one for the student's files and one for the major advisor's files. The signed original is submitted to the department secretary.

It is the major advisor's prerogative to determine if the project is defendable. ***If the project is not deemed defendable, the major advisor will refuse to sign the form. In this case, the student***

will not present with his/her classmates, but instead will be required to register for a credit hour of PHYA 696 during spring semester and will present during spring semester.

13. When the project is finished and *approved by the major advisor*, submit the finished project on a disk or via email in MS Word format to the department secretary (see Appendix C for the date by which the copies must be received). The department is responsible for getting the file to the College of Graduate Studies and into the student's file. Submit a copy of the finished project to the major advisor, print or electronic, according to advisor preference.

TO DO: Make sure you have your major advisor's explicit approval to submit copies before submitting them!

14. A copy of the final ***structured*** abstract must be emailed to the scholarly project coordinator (patricia.hogue@utoledo.edu) for inclusion in the presentation abstract books. See p. 17 for more information about how to structure your abstract; if it is not in the correct format or is the correct length, it will be sent back for revision. See Appendix C for the date by which the abstract must be emailed.

*TO DO: Email your **advisor-approved** structured abstract to the scholarly project coordinator by the deadline.*

15. The scholarly project concludes with a formal research presentation similar to a presentation at a professional conference. Presentation days are scheduled the week after the preceptorship is completed; see Appendix C for the scholarly project presentation dates for the current year. All members of the College of Graduate Studies are eligible to attend. Faculty members will be present to evaluate each student's presentation for the quality of the research and the presentation. See page 19 of this manual for presentation guidelines.

TO DO: With your major advisor's guidance, prepare your presentation using PowerPoint. The day before the presentations, there will be an opportunity to practice your presentation in the room where the presentations will be held.

16. After a satisfactory presentation, the Final Approval of Scholarly Project Form will be signed. The departmental secretary will send the signed form to the College of Graduate Studies along with the flash drive or electronic containing a copy of the final project as a record of successful completion.

NOTE: The Department schedules two days for PA student presentations. Only in cases of extreme hardship will PA student presentations be scheduled at other times. The major advisor and the Department Chair must approve requests for extensions.

TO DO: Following your presentation, meet with your major advisor to talk about your presentation. The department secretary will get a copy of the Final Approval form to the major advisor, who will sign the form. After that, you can relax and celebrate your accomplishment!

17. The faculty of the Department of PA Studies encourages students to submit scholarly projects for publication in the professional literature. Together with the major advisor, the student should review the instructions for authors for relevant journals. Follow these instructions precisely. Some journals request a query letter be sent first, in order for the editor to decide if he or she would like to see the manuscript. Note: only submit the manuscript to one journal at a time. If it is rejected from

one journal, then submit it to the next journal. (A database of online instructions to authors is available from the Mulford Health Science Library's web page: http://mulford.utoledo.edu/instr/)

Research Sequence for the Physician Assistant Program

In summary, the required sequence of research classes and associated goals are as follows:

PHYA 6130: Principles of Research and Statistics (2 credit hours) Year 2, Fall Semester

- to understand principles of research design and evaluation of the research literature
- to complete IRB human subjects protections training

Power point Introduction to the Scholarly Project Year 2, Fall Semester

- to learn about the scholarly project process
- to talk with potential major advisors about potential topics
- to complete project proposal

PHYA 6600: Research Practicum (1 credit hour) Year 2, Spring Semester

- to complete and submit IRB paperwork (if applicable)
- to begin the scholarly project, if not already begun
- **See appendix B for the course syllabus, including the requirements of satisfactory completion**

Note: this course has one class meeting, then requires meetings with the major advisor and self-directed research time).

PHYA 6610: Scholarly Project I (1 credit hour) Year 2, Spring Semester

- to continue work on the scholarly project
- **See appendix B for the course syllabus, including the requirements of satisfactory completion**

PHYA 6620: Scholarly Project II (1 credit hour) Year 2, Summer Semester

- to continue work on the scholarly project
- **See appendix B for the course syllabus, including the requirements of satisfactory completion**

PHYA 6630: Scholarly Project III (1 credit hour) Year 3, Fall Semester

- to continue work until the scholarly project is completed
- to formally present the results of the project to students and faculty
- **See appendix B for the course syllabus, including the requirements of satisfactory completion**

Important Notes:

1. Eligibility to sit for the NCCPA Certification Examination depends upon completion of all academic requirements, ***including the successful presentation of the scholarly project***.
2. To receive a satisfactory grade in courses graded S/U, you must achieve the goals that you set with your major advisor. If you do not make satisfactory progress, you will receive an unsatisfactory grade, which you will be required to make up. This may result in additional tuition and/or delay of graduation.

3. Following the initial 1-credit hour Scholarly Project III (PHYA 6630) course, the student must register for at least one credit each semester until the project is completed. Unlike other courses, PHYA 6630 may be repeated for credit. **(In this course, an S only indicates that satisfactory progress has been made, not that the project has been completed.)** It is expected, however, that the student will complete the scholarly project with one hour of Scholarly Project III. Only in extenuating circumstances, with the permission of the major advisor, will a student be permitted to take additional course hours.

4. According to College of Graduate Studies' policy, *the student must be registered in the semester in which s/he presents the scholarly project*. **If the project is not completed by the fall of the third year, the student must enroll for another hour of PHYA 6630 in the spring. A in progress (PR) in the fall session does not constitute registration for the spring semester.**

Balancing Clinical Experiences with the Scholarly Project

The latter half of the PA program is a challenging one because of the need to balance many activities: finishing didactic course work, learning and honing clinical skills, studying for examinations and boards, as well as the scholarly project. The key to balancing this wide range of activities is planning ahead. With the 27-month curriculum, you will complete the scholarly project proposal (and ideally, start work on the project) before you'll begin clinical experiences.

With some clinical rotations, it is fairly easy to find time to work on the scholarly project, while with others, it is almost impossible to do so. Take advantage of free time while it is available. Setting deadlines with the help of the major advisor may help. A commonly set deadline is having all of the research done (including statistical analyses) before the end of the summer semester; that way, the only major work left is the writing, revising, and formatting – all processes that can be done over email between the student and advisor. **Procrastination on the scholarly project can lead to a very stressful clinical year and can postpone graduation and sitting for your certification examination; manage time wisely!**

Working with a Major Advisor

Each major advisor has his/her own style. Some advisors prefer to meet with advisees as a group; others prefer to meet individually. Most advisors require that the student write an extended review of the literature as part of the research proposal, and some prefer to test the student's grasp of the literature in face-to-face meetings. Many of the guidelines for working together are negotiable between the student and the advisor. Both the advisor and the student should practice professional assertiveness in identifying and communicating problems in the advising relationship if and when problems arise. ***It is the student's responsibility to maintain ongoing communication with the advisor.*** However the student and advisor structure their guidelines for working together, the student has a right to know the following:

- Meeting times/options for getting answers to questions
- Expected turn-around time for phone calls and emails
- Preferred format for submitting drafts (computer file, hardcopy, or both)
- Expected turnaround time for feedback on ideas and papers
- When the advisor will be out-of-town or otherwise unavailable and how the advising process will proceed during these times
- Style and content required for research proposal
- Method for conducting statistical calculations (in the case of quantitative research)

In turn, the major advisor has the right to expect the following of the student:

- Meeting times/options for getting answers to questions

- Expected turn-around time for phone calls and emails
- Maintenance of an agreed-upon schedule of research events or timely re-negotiation of the schedule
- Regular communication
- Submission of drafts that are written in a professional writing style that have been proofread for spelling, grammar, and punctuation
- Willingness to ask questions
- Immediate notification of any event in the research project that is contrary to the research proposal

Other expectations may be negotiated between student and major advisor as appropriate. For further information concerning the role of the major advisor, see the *Bulletin & Handbook of the Graduate Student*. The Handbook also details procedures to follow to effect a change of major advisor.

*Please note that any potential changes in the scholarly project must be discussed and **approved** by the major advisor prior to implementation.*

Responsibilities of the Student

- Assumes responsibility for meeting scholarly project guidelines and deadlines and the making timely progress with the project
- Registers for appropriate number of scholarly project credit hours each semester
- Reviews objectives for the scholarly project courses at the beginning of each semester with guidance from the major advisor. The major advisor will use these objectives to determine the grade earned (S/U).
- Learns to use relevant software packages for word processing (Word), presentation (PowerPoint), and, if desired, reference management (EndNote)
- Communicates regularly (at least once every two weeks, if not more often) with the major advisor
- Completes work in a timely manner
- Plans to provide major advisor with drafts a minimum of **two weeks** before feedback is expected, in the format agreed upon by the student and major advisor (electronic or hardcopy)
- Seeks statistical consultation from appropriate faculty
- Seeks writing/editing consultation as needed
- Seeks approval of major advisor prior to submission of the final project to the Physician Assistant Department

Responsibilities of the Major Advisor

The major advisor is responsible for guiding the student through the development of a proposal and project, for evaluating and assuring scientific merit, and for counseling the student regarding the student's progress. The advisor is responsible for providing feedback to the student in a timely manner (no more than two weeks from time paper was submitted).

- Serves as major contact for completion of the scholarly project
- Works with student to promote student achievement
- Serves as content and/or methodology expert
- Assures scientific merit of proposal and scholarly project
- Assures quality, clarity and accuracy of the scholarly project
- Approves project proposal prior to IRB submission for implementation of project
- Determines that student has received appropriate statistical consultation appropriate help and understands statistics used for date analysis

- Counsels student regarding decision if the student has not made satisfactory process toward completion of the scholarly project
- Signs the *Acceptance of the Scholarly Project for Presentation* form
- Carries major responsibility for determining that final draft of the scholarly project meets the requirements of content and proper grammar and formatting
- Counsels student regarding preparation for project presentation
- Assures the quality of the scholarly project presentation
- Validates that College of Graduate Studies requirements are met
- Approves the completed project by signing the *Final Approval of the Scholarly Project* form

Human Subjects Protection and the Institutional Review Board (IRB)

Importance of Human Subjects Protection. In 1979, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research published *Ethical Principles and Guidelines for the Protection of Human Subjects of Research*, a document that identified ethical principles for using human subjects in research and recommended steps to improve the protection of these subjects from unacceptable risk. According to the *Belmont Report* (1979), available online at the Office for Human Research Protections' Web site, three basic principles of ethics are particularly relevant to the protection of human subjects in biomedical and behavioral research. They are:

- **Respect for Persons:** recognition of the personal dignity and autonomy of individuals and special protection of those persons with diminished autonomy;
- **Beneficence:** obligation to protect persons from harm by maximizing anticipated benefits and minimizing possible risks of harm; and
- **Justice:** fairness in the distribution of research benefits and burdens.

Institutional Review Board Review. All research projects under the auspices of the University of Toledo that involve data collection from human subjects, including student scholarly projects, must have the research protocols reviewed by one of the UT Institutional Review Boards (IRB). Most scholarly projects are either exempt from review (which still requires a form to be completed) or can go through expedited review of the Social, Behavioral, and Educational IRB; your advisor and the Department of Human Research Protection staff can help you determine where your project falls.

For a project that includes data collection from human subjects, submit the required form(s) to the UT Institutional Review Board (IRB) through the major advisor, who will be listed on the forms as the Principal Investigator. ***Make sure that your application contains all of the information required and that all forms are completed; an incomplete application is a common reason that review and approval takes a long time.***

Be aware that requirements for IRB submissions can change at any time because the IRB receives updated information from the federal government at any time.

Sooner is better than later. Plan plenty of time to obtain departmental and institutional IRB approval as there may be significant delays (sometimes 4-6 weeks). This is especially important if you are collecting data from schools or other environments with structured schedules.

You cannot begin to work on your project until you have received the IRB approval letter. This means that you cannot even begin to copy questionnaires or cover letters until you have received the approval letter.

> *WHAT TO DO WHILE YOU ARE WAITING FOR IRB APPROVAL: There are a lot of things you can do: update and expand your literature review, review information on the statistical tests you plan to do, practice using SPSS (or Excel or SAS, whatever you'll be using for data analysis, etc.)*

Project Funding

The student is responsible for all expenses related to the project, such as postage, photocopying, travel, phone calls, instruments, equipment, and copying of final project. The University of Toledo, the College of Medicine, and the Physician Assistant Studies Program are not responsible for research expenses.

Publishing and Authorship

The purpose of the scholarly project is to provide a learning experience for the student. However, many final projects will be appropriate for publication in professional journals. Students and advisors are strongly urged to make contributions to the professional literature if this is possible. Publishing important findings is an ethical responsibility.

The Department has an authorship policy, which is stated in the Authorship Agreement Form. This provides guidance in terms of whether the student or advisor would serve as first author on any publications arising from the scholarly project. A copy of this form is available from the major advisor. According to the *Publication Manual of the American Psychological Association*, authorship is warranted for those who have made "substantial contribution to and who accept responsibility for a published work…[including] formulating the problem or hypothesis, structuring the experimental design, organizing and conducting the statistical analysis, interpreting the results, or writing a major portion of the paper" (2009, p. 18). If the student's advisors or consultants have made any of the above contributions, they have rights of authorship.

Those who have made contributions who do not qualify for authorship should be offered formal acknowledgment in the publication. No individual's name should be used in a publication without that individual's explicit consent.

Guidelines for Preparation of Scholarly Project

The following guidelines will assist you in preparing your scholarly project. These directions represent the basics expected by the Department of Physician Assistant Studies.

Plan on multiple revisions all along the way! Students should expect to make numerous significant revisions. Please plan time for revisions on both the proposal and the finished report of the scholarly project.

Use a word processing program to write your paper. On the Health Science Campus, students have access to computers located around campus and the Computer Learning Resources Center (CLRC, on the sixth floor of Mulford Library Building). Computers are also available on the Main Campus. ***It is recommended that you maintain at least one back-up copy of your project on a disk other than where the original is stored (likewise your EndNote library).***

Laying the Foundation: The Review of the Literature

All papers should be relevant to the physician assistant profession and be based on research and writings within the discipline. Information from other disciplines may be applied to the physician assistant issue being discussed. Use research findings to design or modify approaches to the problem or to support your conclusions. Here are some guidelines for what sort of literature to use:

- Consult scholarly professional journals (*JAAPA, New England Journal of Medicine, Archives of Internal Medicine,* etc.); use original research articles, systematic reviews, and other primary

articles; never cite a secondary source like traditional review article. (Though traditional review articles can be a good place to begin when reviewing a topic.)

- Avoid non-refereed (non-peer-reviewed) journals. Also avoid publications written for patients, families and other health care consumers.
- Be very careful using free resources on the Web (like WebMD), as (1) it is not always clear if the authors are knowledgeable about the topic, and (2) Web pages often disappear or change without notice. Likewise, avoid resources like Wikipedia, which may not be written by experts. (Web-based resources like AccessMedicine, MD Consult, eMedicine, and online journals are okay to use.) If you have any questions, consult your major advisor.
- Textbooks should be used ***sparingly***, if at all, primarily for background material.
- Do not cite secondary citations (for example, if an article cites another article and you are interested in the cited article), even though the APA manual provides a format for that sort of citation. Track down the original article; do not assume that other articles interpreted it correctly.
- Consult classics in the field. Often times these are the older articles that are cited in a number of articles and in textbooks.

Begin your literature review as soon as you select your topic. The purpose of the literature review is to support your ideas and your research methodology (if relevant to your project). Why is your research question important? Why is the selected methodology appropriate?

Searching the literature is rarely a one-time occurrence in the scholarly project process. You will find and read material, then take time to think about it. In the process of thinking, questions will arise, and you will need to return to the literature to find answers to these new questions.

TO DO: Begin your literature review as soon as possible. If you are having problems finding relevant literature or if you need a lit search refresher, make an appointment with Jolene Miller, MLS, 419.383.4959 or jolene.miller@utoledo.edu

TO DO: Keep a research journal (diary), where you keep track of your thoughts, insights, and questions. When you are searching the literature, jot down subject headings that might be useful for future searches. The point of a research journal is to capture ideas that may be useful now or in the future. See Appendix F: Keeping Organized.

TO DO: Keep your project organized, including the articles that you use, the drafts of the project, what your advisor wants you to do, etc. Ideally, you will know where everything is for your project at any time. See Appendix F: Keeping Organized.

The Content of the Proposal

The content of the proposal for the scholarly project will vary depending upon the kind of project and the preferences of the major advisor. See Appendix A for detailed information about what needs to be included in a proposal

Getting Your Thoughts Down: Writing

Research is endlessly seductive; writing is hard work. One has to sit down on that chair and think and transform thought into readable, consecutive, interesting sentences that both make sense and make the reader turn the page. It is laborious, slow, often painful, sometimes agony. In means rearrangement, revision, adding, cutting, rewriting. But it brings a sense of excitement, almost of rapture; a moment on Olympus. In short, it is an act of creation. (Tuchman, 1979)

Scholarly projects take months from conception to completion. The paper will reflect your thinking, so you will need to plan time for reflection while you are creating. Allow time to review and critique your paper. Allow sufficient time to proofread the paper for logical flow, grammar, and spelling. It is common for scholars to submit their papers for peer review before submitting their manuscripts. You should consider doing the same. To do this, provide ample time (approximately two weeks) for the peer (classmate, friend, etc.) to complete the review and allow time to make the recommended changes. For information to help with peer review, see the article "Manuscript peer review: A helpful checklist for students and novice referees" by Seals and Tanaka (published in *Advances in Physiology Education* and available online at http://advan.physiology.org/cgi/reprint/23/1/S52). Additional assistance is available at the University's Writing Center.

The Content of the Paper

Begin with a clear introduction. The introduction should acquaint the reader with the purpose of the paper, problem statement, or question. Ideas offered within the content should be supported by professional literature and research. The conclusion should describe what conclusions can be made from your paper *(not a restatement of the contents*). In addition to the overall beginning-middle-end structure of the project, each section should also have a beginning-middle-end structure: each section within the body of the paper should include a brief introductory paragraph and end with a summary. See Appendix E for resources that will help you improve your writing.

Demonstrate critical analysis and synthesis. Essentially, this means analyzing articles, then comparing and contrasting the findings (critical analysis), then applying the findings to the issue being studied, developing theoretically-based recommendations addressing the issue (synthesis). You need to do more than report research results or the opinions of other authors.

Direct quotations should be used very sparingly. Ask your major advisor for guidance in this area if you are in doubt. Use literature or research findings to support or validate the main ideas of the paper. Summarize relevant literature and research reports *in your own words*. Changing several words does not change a quotation into "your own words"! Quoting or use of references without citation of sources is plagiarism, which is a violation of the Graduate Student Ethics Code. (See the *Bulletin & Handbook of the Graduate Student* for the full text of this code.) Substantial, direct quoting or use of references **even when** sources are cited does not represent the student's own work and is not acceptable. Appendix E also provides resources that will help you avoid plagiarism.

Putting It All Together: Compiling and Formatting the Project

This section of the research manual provides information on putting the project together and formatting it. Please note that the scholarly project does NOT follow all APA formatting conventions. Start with the Scholarly Project Manual; it will direct you to the parts of APA that we use for the projects.

Order of Pages

The components of the scholarly project should be in this order. See below for information on numbering these pages.

1. Title page

   Include the title of the scholarly project, your full name, including your full middle name; institution ("University of Toledo" only), and the year of completion. There is no page number on the title page.

2. Dedication page

   Include if desired. This is where you would thank people for personal support – significant others, family members, mentors, etc.)

3. Acknowledgments page

   This is where you acknowledge any project help (advising, statistical analysis, proofreading, grant or other support, etc.). At the very least, thank your major advisor here; make sure to include professional degrees and certifications.

4. Table of contents

   You can use tabs in Word to create a clean, professional table of contents.

   In Word 2003:

   > Begin with the first line (Introduction). From the **Format** menu, select **Tabs**. Enter **6.5"** for the **tab stop position** (that should be appropriate for the project margins), for **alignment**, select **right**, and for **leader**, select **2…** Click on **Set**, then **OK**. Hit the tab key and the cursor should jump to the far right side of the screen with a row of periods. Enter the page number, hit the enter key, and continue the next line.

   In Word 2007:

   > Begin with the first line (Introduction). On the **Home** ribbon, click in the small box in the lower – right corner of **Paragraph** to call up the paragraph dialog box. Click on the **Tabs** button. Enter **6.5"** for the **tab stop position** (that should be appropriate for the project margins), for **alignment**, select **right**, and for **leader**, select **2…** Click on **Set**, then **OK**. Hit the tab key and the cursor should jump to the far right side of the screen with a row of periods. Enter the page number, hit the enter key, and continue the next line.

   NOTE: Do not try this by just entering periods from the keyboard. The right edge will usually end up being raggedy. Using the tab will create a nicely justified table of contents.

   There is also an automatic table of contents feature in Word, but it requires fiddling with the text styles. Feel free to use this as long as the finished project abides by the style requirements, but to be honest, it may be more trouble than it is worth.

5. List of Figures

6. Body of the project (every heading begins on a new page; this is not true of subheadings)

   The chapters/headings of the project will vary depending upon the type of project.

   Research project: Introduction, Literature Review, Methods, Results, Discussion, and Conclusion

   Literature Review: Introduction, Literature Review (headings related to the topic), Discussion and Conclusion

   Clinical review article: Introduction, Methods, (headings related to the topic), Discussion, and Conclusion

7. Reference list

8. Tables (if needed)

9. Figures (if needed)

10. Appendices (if needed)

11. Abstract (150-word structured abstract, using the headings Objective, Method, Results, and Conclusion)

    The 150 words includes articles (a, an, the), prepositions (on, in off, etc.), and heading words (see below). It does not include the project title. Use MS Word's word count feature: Highlight the abstract and select **Word Count...** from the **Tools** menu (In Word 2007, it can be found on the **Review** ribbon). The abstract is to be structured, which means you'll need to use the following headings in the abstract: Objective, Method, Results, and Conclusion. (If you are doing a clinical review, the methods statement should indicate the databases that you searched to find the literature: MEDLINE, PubMed, CINAHL, Science Citation Index, PsycINFO, etc. and the results statement should indicate the numbers and types of articles found).

Page Formatting

Instructions for Word 2007 are in parentheses (usually referring to the ribbon where the command is located) or marked with Word 2007.

Page Size Use only 8.5" x 11" paper size for the project.

Margins Margins of paper must be 1" on each side. To set margins in Word: Under the **File** menu, select **Page Setup**. (**Page Layout** ribbon) Make sure margins are 1" on all sides.

Spacing The project must be double-spaced. To set spacing in Word: Using the mouse, select the text that needs to have the spacing changed. Under the **Format** menu (**Home** ribbon), select **Paragraph**. Under the **spacing – line spacing option**, select **double**.

Font & Size Use 12-point font in one of the following typefaces: Times New Roman, Courier, or Arial.

Page Numbers Page numbers are placed in the upper right hand corner of each page (except the title page, which does not have a page number

Preliminary pages (title page, dedication, acknowledgements, and table of contents) are numbered with lowercase Roman numerals (i, ii, iii, iv). The title page doesn't get a page number, so the page after the title page is numbered *ii*. Starting with the Introduction and running through the rest of the project, use Arabic numerals (1, 2, 3, 4...).

You can get Word to do this weird numbering for you.

Word 2003:

1) At the end of the table of contents (or list of figures, if you have one), insert a next page break: **Insert** menu → **Break... → Next Page**. This tells Word where to change numbering schemes.
2) On the table of contents (or list of figures, if you have one) page, view the header and format the page number: **View** menu → **Header and Footer → Format Page Number** button (looks like a page, with a pound sign and a hand). Select number format: **i, ii, iii,...** and have it start at 1 (which should be the default option). Click on **OK,** then click on **Close**.
3) Move to the body of the project, view the header and format the page number: See instructions under step 2 above, but select **1, 2, 3, ...** as the number format. Click on **OK**, then click on **Close**.

4) To hide the page number on the title page: **File** menu → **Page Setup.** Under the **Layout** tab, click in the box beside **Different first page**. Click on **OK**.

If it is not working, view the header. The **Same as Previous** button (looks like to pages with yellow footer boxes) should ***not*** be active. If it is, click it to turn it off.

Word 2007:

1) At the end of the table of contents (or list of figures, if you have one), insert a next page break: **Page Layout** ribbon → **Breaks... → Next Page**. This tells Word where to change numbering schemes. (Do ***not*** use the page break on the **Insert** ribbon; that is not a section next page break.)

2) On the table of contents (or list of figures, if you have one) page, view the header: **Insert** ribbon → **Header → Edit Header**

   Insert the page number: **Page Number → Top of Page → Plain Number 1** (which should be the upper right hand corner)

   Format the page number: **Page Number → Format Page Number**. Select number format: **i, ii, iii,...** and have it start at 1 (which should be the default option). Click on **OK,** then click on **Close**.

3) Move to the body of the project, view the header and format the page number: See instructions under step 2 above, but select **1, 2, 3, ...** as the number format. Click on **OK**, then click on **Close**.

5) To hide the page number on the title page: Make sure your cursor is on the title page, then from the **Page Layout** ribbon, click on the small box in the lower right corner of the **Page Setup** section. Under the **Layout** tab, click in the box beside **Different first page**. Click on **OK**.

If it is not working, move to the body of the paper and double-click in the header. The **Link to Previous** button (in the Navigation section) should ***not*** be selected. If it is, click it to turn it off.

Paragraphs

The first line of each paragraph should be indented ½ inch from the left margin. To set automatic first-line indentation in Word: Using the mouse, select the text that needs to have the indentation changed. Under the **Format** menu (**Home** ribbon), select **Paragraph**. Under the **indentation – special option**, select **first-line**.

Headings

Consider using headings and subheadings as described by the *APA Manual*:

Level 1: Centered, boldface, title-case (in scholarly projects, level one headings start a new page)

Level 2: Left-justified, boldface, and title-case

Level 3: Indented (.5”), boldface, sentence-case, ending with a period

Headings help in the organization of the paper and help the reader to understand your outline. Remember, your goal is to present your material in an organized, logical, understandable way.

References

Cite references according to the current *APA Manual*. There are a number of web sites that give APA reference basics; however, you probably will need to consult the manual in some situations. The Manual can be purchased at the bookstores on either campus; other bookstores should have copies available. In addition, there are copies on reserve at the Mulford Health Science Library.

If you are using EndNote, remember that you will still need check your in-text references and the reference list for accuracy, as APA format is too complex for EndNote's programming. For more information about using EndNote for APA format, see *http://www.utoledo.edu/library/mulford/pdf/en4apa.pdf*.

Tables & Figures Follow APA style when formatting tables (pages 147-176) and figures (pages 176-201). You can use Word's table feature to help structure your tables: From the **Table** menu (**Insert** ribbon), select **Insert Table…** Designate the number of rows and columns. The height of rows and the width of columns can be adjusted, cells can be split or merged, and cell borders can be adjusted. With Word, you can make fancy tables, *but do not*. You must use APA format; consult the current *APA Manual* for details.

Create a list of figures and stick it behind the table of contents page (its page number should be a lowercase Roman numeral because it is considered a preliminary page). Then place the actual figures (one per page) behind the references and tables (if you have any) but before the appendices (if you have any).

For each figure page, place the figure. Then below the figure, give the caption in this form: "*Figure 1*. Caption for this figure". "Figure #" is italicized, while the rest of the caption is in regular text. Only the first word in the caption (and any proper names, of course) should be capitalized.

If you are using a table or figure from another source, you must cite the source in a note, using this general format (see page 175 or 180 of the APA manual, which also has a sample for citing from a book):

> From "Title of article," by A. Author and B. Author, year of publication, Title of journal, volume, p. # (whatever the page number is of the original source). Copyright year by copyright holder. Reprinted with permission.

Only include "Reprinted with permission" if you actually received written permission to use the material. If you do not have permission to reprint and/or adapt, do ***not*** use the table or figure in the project as it may be a violation of copyright.

Also follow the *APA Manual* for spacing and punctuation (pages 87-100), capitalization (pages 100-104) numbers in the text (pages 111-1114), quotations (pages 92 and 169-179), statistical and mathematical copy (pages 116-124).

NOTE: Even if you are planning to publish the project in a journal that requires manuscripts in a special format, the copy of the project that is submitted to the program **must follow the above guidelines.** Projects that are not in the above format will be returned for revision.

Guidelines for the Formal Project Presentation

The following guidelines will assist you in preparing for formal presentations both as graduate students and as a professional. These guidelines represent the expectations of the faculty of the Department of Physician Assistant Studies.

1. Allow sufficient time to prepare the content. One of the most difficult parts of the scholarly project process is to pare down the paper into a 15-minute presentation.

2. Formulate specific goals and objectives for your presentation appropriate for the targeted audience.
3. Develop an outline. Identify important ideas; think about what format and media will provide you with the most meaningful and memorable presentation.
4. Complex ideas are presented more effectively by handouts than overheads and slides. Typically, there are about 40 people at the presentations. Have a classmate distribute handouts before your presentation, during the transition time between presentations.
5. Anticipate questions that might be asked at the end of the presentation and rehearse your answers. A week or two before the presentation, have classmates identify questions that may be asked about the research.
6. Include a practice run-through of the presentation in front of someone familiar with presentation expectations. If possible, practice using the equipment, room and seating arrangement, lighting, sound, etc. that is available. You will recognize and be able to correct most problems in advance.

The presentations will be assessed by all faculty members who are present at the presentation using a standard assessment form. On project quality, you will be assessed on whether you:

1. clearly articulated the research question
2. clearly articulated the question's relevance to the PA profession through a review of the literature
3. describe research methodology (for those doing reviews, this includes the databases and keywords, inclusion and exclusion criteria for articles, etc.)
4. described data analysis methods, if relevant
5. summarized the findings, including how the findings contribute to PA knowledge and clinical practice (for those doing reviews, talk about *results of specific articles*; this is not a lecture on the topic)
6. identified limits of the research (for those doing reviews, identify limitations of existing research)
7. identified ideas for future research

You will also be assessed on the quality of your presentation:

1. presented in a professional manner
2. spoke in a clear, audible voice
3. used slides that were easy to read
4. appropriately answered questions from the audience
5. stayed within time parameters

Audience

1. Determine the specific audience for your presentation. Consider the age of the listeners, their background in the topic area, interests, and concerns. Avoid repetition of previously presented content.

   TIP: If your presentation relates to material already known to your audience, consider how your presentation may add to their learning in a different way.

   TIP: What one or two ideas do you want the audience to remember? If you were a member of the audience, what would you want to know? What does the audience want or need to learn about the topic?

2. Choose a presentation strategy appropriate for the targeted audience. Facilitate audience participation whenever possible, including strategies such as handouts, question and answer facilitation, or posing of questions for thought, etc.
3. Choose the appropriate vocabulary level. Avoid overuse of technical jargon. Choose examples that have meaning for the audience. State definitions when new terms or words are essential to understanding the presentation.

Content and Organization

1. Be sure the audience will be able to follow the flow of ideas. The outline should provide a logical flow of ideas from which to develop your presentation.
2. Begin with a clear statement of the purpose, include a general introduction, an emphasis of the main points, and a summary and conclusion.
3. If you are doing a review, please talk specifically about the major articles you used in your project; we do not want a lecture on your topic.
4. It is appropriate to include a single slide at the end of the project for acknowledgements (major advisor, other research help, family). Do not use multiple slides or include photographs.

Delivery

1. ***Spoken communication.*** Avoid distracting the audience with inappropriate language or bad grammar. Clearly enunciate your words; be sure you can be heard in all parts of the room, and reflect interest in your topic by varying the pitch of your voice. Pace your presentation to allow pauses for reflection and time to comprehend what has been said.

   > TIP: Ask someone in the room to cue you if you become difficult to hear, and use a microphone if available. Consider interference from ventilating systems, activity in room, and other distractions. Avoid making your audience strain to hear your ideas, because you want the audience to focus on your remarks, not on trying to listen and comprehend the words you are speaking.

   You should be familiar enough with the topic to use your notes as prompts only; avoid reading from notes or cards. Likewise, do not read your slides.

2. ***Nonverbal communication.*** Practice presenting so that your nonverbal communication enhances your presentation. Move around the room, if desired, and use natural open-arm movements or gestures. Use eye contact with the audience.
3. ***Appearance.*** The oral presentations are formal, so it is important to dress in a professional manner for all presentations. A professional appearance includes neat, formal business attire (suits). Avoid distractions in your attire and appearance. Personal items or loose materials should be stored in a folder that is placed out of audience view or left with a friend in the audience.

   You are expected to remain for all scholarly project presentations and to be professionally dressed for **both days** of the scholarly project presentations.

4. ***Timeline.*** It is very frustrating to other presenters and the audience when a speaker fails to plan for wise use of time. Allow the appropriate number of minutes for various parts of your presentation and include time for audience participation. Decide ahead of time what you will do if you are behind or ahead, because unforeseen events may alter your available time.

   The scholarly project presentations are scheduled every 20 minutes. Staying within the *maximum time limit of 20 minutes* is courteous to other presenters and an important criterion of a satisfactory

presentation. Plan 15 minutes for the presentation itself and 3 minutes for questions. You might spend 2 to 3 minutes on your introduction (the problem addressed, with a very concise summary of the conceptual framework and the most important literature), 3 minutes on the design and methodology, and the remaining time on results, discussion, and conclusions. It is important to practice your presentation, so that you will complete the presentation smoothly and within the time limits!

At the presentations, there will be a timekeeper who will let you know when you have five minutes left out of your fifteen minutes, one minute left of your fifteen minutes, and when you are out of time for your presentation and should begin to take questions.

When delivering a presentation, a general "rule of thumb" is to expect to use about 15 slides for a 15-minute presentation, and that each double-spaced, typed page will require 2 minutes to deliver (15 minutes for 7 pages). Keep this in mind when preparing the content you wish to share that you must stay within the time allocated.

Media

Students are required to use PowerPoint for their presentations and must pre-load their PowerPoint presentations on the computer before their presentation (either before the first morning presentation, at lunch, or at a break).

As a general rule, have at least one slide per minute of presentation. Use visual aids to supplement your presentation; do not include the entire presentation or every point on slides. Do not simply read the slides out loud to the audience. (You've probably had lecturers that have done this, so you know how annoying that is!) Talk about your project, using the slides to highlight specific information.

Here are some suggestions for PowerPoint.

Templates

PowerPoint has templates that are designed for maximal legibility. Do ***not*** use animated templates; the audience can find them distracting.

Color Schemes

PowerPoint also has color schemes designed for maximum impact and coordinated with the templates.

A general recommendation for slides is using a ***light-colored font on a dark background***. (For overheads, it is the opposite, a dark font on a light colored background). The greater the contrast between the font and the background, the more effective the presentation will be. Do not choose a medium-toned background because it is hard to read both dark and light fonts.

Do not use too many colors; stick with the colors proposed in the color scheme.

Be careful using greens and reds together; people with colorblindness may have problems distinguishing between them.

Font Selection

When using a PowerPoint template, do not modify font sizes or colors. These fonts are designed for maximal legibility.

In general, use a large, bold font. Use an easy-to-read, sans-serif font such as Arial or Helvetica in 28-30 points for text. For headings, use at least 40 points type size.

Limit the number of typefaces and fonts in slides. Avoid using all capital letters; they can be difficult for people to read.

Slide Headings

Try to be consistent with slide headings. Consider using the section headings of the project, such as introduction, literature review, methodology, results, discussion, and conclusion. Seek your major advisor's assistance.

Builds and Dimming

With slides consisting of a list of items, consider using builds. A build allows you to display one list item at a time, revealing the next one as you begin to discuss it. From the **Slide Show** menu, select **Custom Animation…** Under the **Timing** tab, select the list (often labeled **text 2**) and click in the **Animate** radio button. Under the **Effects** tab, select the desired entry animation (do not select a sound). Builds can also be set from the Slide Sorter View.

When using builds, make sure they do not disrupt the timing of the presentation. Some builds, such as **Crawl From Right**, take a long time and can be distracting.

Dimming is a feature that dims previous list items as a new one is introduced. To incorporate dimming, select a color from the **After Animation** list. Make sure the selected color appropriately dims the list.

Slide Transitions

Transitions are how one slide changes to the next. These can be selected from the **Slide Sorter View** screen. Keep transitions simple.

Ending with a Black Slide

If you choose not to end with a slide asking for questions, end with a black slide. In the **Tools** menu, click on **Options**. Under **Slide Show**, select **End with a black side** check box. This will give you a black slide at the end of the show and prevent the audience from seeing the PowerPoint program.

Graphics

Use graphics sparingly, and only when the graphic illustrates a point directly related to the presentation. When graphics are used, they should be reflect the professional nature of the presentation.

Sound Effects

Do not use sound effects; they are disruptive to the presentation and distracting to the audience.

Presentation Views

Print a hard copy of slides (you may want to print them in outline or notes view). Then, if you have technical difficulty, you can refer to the hard copy.

You may find it helpful to have your presentation notes professionally bound or in a 3-ring binder. It is inexpensive, keeps your pages together, looks organized and professional, and provides a hard surface to hold.

Citing Sources

1. Sources of information presented should be documented according to APA format. This means that slides and handouts must give credit to the authors cited. Make references used for the presentation available to the audience ***in a handout, not on your slides***.
2. All handouts should contain your name, and the title and date of your presentation.

References for Research Manual

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

University of Toledo, College of Graduate Studies. (2009, August 12). *Bulletin & handbook of the Health Science Campus graduate student*. Toledo, OH: Author. Retrieved October 20, 2009, from http://www.utoledo.edu/graduate/hsc/handbook.html

University of Toledo, Department of Physician Assistant Studies. (2009, June 24). *Program prospectus*. Toledo, OH: Author. Retrieved October 20, 2009, from http://www.utoledo.edu/med/grad/pa/prospectus.html

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, Department of Health, Education, and Welfare. (1979). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research.* Washington, DC: Author. Retrieved June 23, 2004, from http://ohsr.od.nih.gov/guidelines/belmont.html

Tuchman, B. W. (1979). In search of history. *Radcliffe Quarterly, 15*, 33-37.

Appendix A: Proposal Format and Content

In terms of proposal formats and content, there are similarities and differences between clinical review articles and research projects.

Literature Review and Clinical Review Article

Title. Should be concise, descriptive, and reflective of your research question.

Introduction. Set the stage for the scholarly project.

Background and significance of the project. Lay the groundwork for the project, with enough background information so that when readers get to the problem statement, they understand why what you describe in the problem statement is really a problem. It can be helpful to consider the question "So what?"

Problem statement. Describe the problem (often within the context of what we don't know).

Purpose. In light of the problem statement, what's the purpose of the project? Why is this clinical review needed?

Research Question. The research question must be very focused. Example: "Is male circumcision an appropriate strategy for prevention of HIV infection?"

Definitions. Define terms that need to be clarified in terms of the research, especially those that might be unfamiliar to average readers or those that have very specific definitions in terms of the project. Operationalize your variables.

Literature review. The complete literature review will make up the body of your project. In the proposal, however, you'll want to provide an overview of the topics that you plan to cover, integrating what you've found in the literature so far (yes, this means that you start reviewing the literature for the proposal).

Methodology. What you are planning to do. (As you search, keep track of what you are actually searching, what articles you are selecting, etc., so you can report this accurately in the final project.)

Search terms. What you are planning to use in your searches? Consider synonyms, broader and narrower terms.

Databases. What databases are you planning to search?

Inclusion and exclusion criteria for articles. What articles are you planning to include in the project? What are your first-tier research designs? Your second-tier? Any restrictions in terms of time of publication, language of publication, population under study, location of research? (You may want to think in terms of tiers, if relevant to your topic: prefer research on US populations but if there is not enough available, then populations in other countries?)

Research Project

Remember that the protocol for the IRB application requires a different format. See the web site of the Office of Human Research Protections for more information and a list of information to be included. When writing the IRB protocol, be complete, succinct, and organized, with each section in order. This makes it easier for the IRB reviewer to find what they need to find to approve your application!

Title. Should be concise, descriptive, and reflective of your research question.

Introduction. Set the stage for the scholarly project.

Background and significance of the project. Lay the groundwork for the project, with enough background information so that when readers get to the problem statement, they understand why what you describe in the problem statement is really a problem. It can be helpful to consider the question "So what?"

Problem statement. Describe the problem (often within the context of what we don't know).

Purpose. In light of the problem statement, what's the purpose of the project? Why is this research needed?

Research Question. The research question, based on the problem and purpose, must be very focused. Example "What do clinicians know about the Ottawa Knee Rules and to what extent do they use them in practice?"

Definitions. Define terms that need to be clarified in terms of the research, especially those that might be unfamiliar to average readers or those that have very specific definitions in terms of the project.

Literature review. The literature review serves two purposes. First, it provides support for your methodology: why are you asking the questions you are, why you picked the population, what is previously published research missing, etc. Second, it more fully answers the "so what?" question. Both are important.

Methodology. What you are planning to do.

Research design. What kind of research are you doing? descriptive survey research, retrospective chart review, analysis of an existing data set, etc.)

Population and sampling methods. What is your population of interest? What sort of sampling will you use? How will the sample be selected?

Variables to be measured and how they are operationalized. Identify independent and dependent variables and how they are going to be operationalized. Describe your data collection instruments (content of questionnaires, data collection sheet for chart reviews, etc.)

Data collection methods. How are you going to collect data? (how questionnaires will be distributed, how charts selected for review, etc.)

Statistical hypotheses. What are your statistical hypotheses?

Planned statistical analyses. Given your variables and your research question, what statistical analyses are you planning on using and why? It is not enough to just say that you will be using SPSS; list the specific tests are you planning on using and give a rationale. If someone will be assisting with your analysis, indicate who that will be.

Expected costs. What costs are expected? (photocopying, postage, etc.)

Appendix B: Syllabi for the Four Scholarly Project Courses

Introduction to Scholarly Project	Fall Semester
PHYA 6600: Research Practicum (1 credit hour)	Spring Semester
PHYA 6610: Scholarly Project I (1 credit hour)	Spring Semester
PHYA 6620: Scholarly Project II (1 credit hour)	Summer Semester
PHYA 6630: Scholarly Project III (1 credit hour)	Fall Semester

Course Title: Introduction to Scholarly Project

Semester: Fall

Course Description: Students in this course will develop knowledge of the Scholarly Project purpose, process, and options. Students will understand the principles of scientific inquiry and research design as the Scholarly Project is initiated. Students will begin a collaborative relationship with a Scholarly Project major advisor

Contact hours and type: 2 hours lecture, independent learning.

Objectives:

Upon satisfactory completion of this course, the student will be able to:

1. Understand the purpose of the Scholarly Project
2. Understand the process for completing a successful Scholarly Project.
3. Articulate types of clinical questions and types of evidence.
4. Define and discuss Evidence-Based Medicine.
5. Commence a mentored relationship with a major advisor.
6. Identify the differences between the research proposal and the Scholarly Project.
7. Develop a research question and initiate a research proposal.

Topical Outline:

1. Purpose and the process of the Scholarly Project
2. Types of clinical questions and research
3. Working with an advisor
4. Finding and selecting articles
5. Grades of evidence
6. Scholarly writing
7. Critique of research articles
8. Original research/working with the IRB
9. Difference between proposal and scholarly project
10. Publication process

Methods of Evaluation:

There are no examinations for this module. Attendance, participation, and timely submission of required documents (see Appendix C for deadlines) will be reflected in the grade given in PHYA 6600, Scholarly Project Research Practicum, Spring 2015.

Course Number and Title: PHYA 6600: Research Practicum

Semester: Spring

Course Description: Students will develop and implement a scholarly project under the supervision of the student's major advisor, as negotiated between the student and the major advisor.

Credit Hours: 1

Contact hours and type: Two hours lecture, independent learning, working with advisor

Prerequisites: PHYA6130: Principles of Research and Statistics

Objectives:

Upon satisfactory completion of this course, the student will be able to:

1. Demonstrate the ability to search for and obtain published information using online databases and other resources to gather appropriate information for the literature review
2. Demonstrate the ability to critically analyze the professional literature by developing the literature review for the project
3. For students planning research involving human subjects, initiate institutional review board application, including complete other training requirements (reading the Belmont Report, the UT Human Research Assurance, etc.) and submit the IRB application for departmental review

Topical Outline:

1. For the two-hour group session: review of characteristics of scholarly writing; avoiding plagiarism
2. Learn to use EndNote to manage and cite references in the scholarly project
3. Establish a timeline and project milestones the entire scholarly project process, with major advisor's guidance (review the evaluation parts of syllabi for PHYA 6610, 6620, and 6630 for guidelines)

Methods of Evaluation:

Student will be assigned a grade of satisfactory (S) or unsatisfactory (U), based upon demonstration of satisfactory progress and timely completion of the project milestones: completion of the project proposal and submission of IRB application (if appropriate). See Appendix C for deadlines.

Course Number and Title: PHYA 6610: Scholarly Project I

Semester: Spring

Course Description: Continuation of PHYA 6600. Student will continue to implement the scholarly project, as negotiated between the student and the student's major advisor.

Credit Hours: 1

Contact hours and type: Independent work and one-on-one contact with major advisor.

Objectives:

Upon satisfactory completion of this course, the student will be able to:

1. Demonstrate progress in the scholarly project consistent with the timeline established with the major advisor
2. Demonstrate the ability to critically analyze the professional literature by completing the literature review for the project
3. Apply research design and literature analysis principles learned in Principles of Research and Statistics by carrying out the proposal

Topical Outline:

1. Continue work on the scholarly project using project milestones for the semester (see **Methods of Evaluation** below) with major advisor's guidance
2. Obtain institutional review board permission to commence data gathering (for students planning research with human subjects)
3. Begin data gathering, if IRB approval is obtained
4. Continue to monitor the published literature for studies relevant to the scholarly project

Methods of Evaluation:

Student will be assigned a grade of satisfactory (S) or unsatisfactory (U), based upon demonstration of satisfactory progress and timely completion of the project milestones as identified cooperatively between the student and the major advisor.

Course Number and Title: PHYA 6620: Scholarly Project II

Semester: Summer

Course Description: Continuation of PHYA 6610. Student will continue to implement the scholarly project, as negotiated between the student and the student's major advisor.

Credit Hours: 1

Contact hours and type: Independent work and one-on-one contact with major advisor.

Objectives:

Upon satisfactory completion of this course, the student will be able to:

1. Demonstrate progress in the scholarly project consistent with the timeline established with the major advisor
2. Apply research design and literature analysis principles learned in Principles of Research and Statistics by carrying out the proposal

Topical Outline:

1. Continue work on the scholarly project using project milestones for the semester (see **Methods of Evaluation** below) with major advisor's guidance
2. Obtain institutional review board permission to commence data gathering (for students planning research with human subjects), if not already obtained
3. Complete data collection and begin data analysis
4. Continue to monitor the published literature for studies relevant to the scholarly project

Methods of Evaluation:

Student will be assigned a grade of satisfactory (S) or unsatisfactory (U), based upon demonstration of satisfactory progress and timely completion of the project milestones as identified cooperatively between the student and the major advisor, including:

1. **Completion of a close-to-complete draft** of the complete written project for students working on reviews and research that does not involve human participants
2. For students doing research that does involve human participants, obtain IRB approval and begin data collection

Note: It is recommended that an updated literature search be run between Summer and Fall semesters to make sure that there are no new research results that will influence the project and its conclusions.

Course Number and Title: PHYA 6630: Scholarly Project III

Semester: Fall

Course Description: Continuation of PHYA 6620: Scholarly Project II. Student will complete their scholarly project as negotiated between the student and the student's major advisor, and present the project during the scholarly project presentation to faculty and students. If the project is not completed, this class may be repeated with major advisor approval.

Credit Hours: 1

Contact hours and type: Independent work and one-on-one contact with major advisor.

Objectives:

Upon satisfactory completion of this course, the student will be able to:

1. Apply research design and literature analysis principles learned in Principles of Research and Statistics by carrying out the proposal
2. Demonstrate the ability to write in a professional manner for the scientific literature by completing the scholarly project in a manner consistent with program and Graduate School requirements
3. Demonstrate the ability to adapt the written scholarly project into a oral presentation, including the creation of a PowerPoint presentation, and to present and defend the scholarly project in a manner consistent with the program requirements
4. Submit the project for approval to the major advisor

Topical Outline:

1. For students doing research: complete data gathering, if necessary; analyze data, as appropriate, and write results and discussion
2. Run an updated literature search to make sure there are no new research findings that would influence the project and its conclusions, if not done at the Summer-Fall break.
3. Complete written project: revise final draft according to guidance of major advisor; prepare final paper for acceptance
4. Prepare presentation
5. Present and defend project
6. Complete approval process

Methods of Evaluation:

Student will be assigned a grade of satisfactory (S) or unsatisfactory (U), based upon demonstration of satisfactory progress and timely completion of the project milestones as identified cooperatively between the student and the major advisor. In rare and extenuating circumstances, a grade of satisfactory may be given when the student does not complete the project in the fall semester and needs to take the course for additional credit in the spring.

After the student defends the project, faculty members who are present at the defense will complete a critique form. These forms will be given to the student's major advisor, who will review them with the student. Upon successful presentation of the project and completion of the written project, the approval form will be signed by the major advisor, chair, and dean; and submitted to the Graduate School.

The successful presentation alone is not enough. Revisions to the written project may be required by the major advisor after the presentation.

Appendix C: Important Dates

[NOTE: most dates provided should be considered "On or Before…"]

2016

November	Begin meetings with potential major advisors to discuss research ideas (do not procrastinate; you may not be able to make appointments with potential advisors on short notice). Remember that you can approach faculty members outside of the PA department to see if they are interested in being your major advisor.
December 4th	Completed Scholarly Project Advisor Request form must be emailed to department secretary. You must have ***three potential major advisors*** listed on the form.
December	Major advisor assignments will be announced via email.

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January TBA	TBA; class meeting for the Research Practicum.
February 12th	Proposal due to major advisors
February 28th	Deadline for the proposal to be approved by the major advisor. The Proposal Acceptance form, signed by the major advisor and a copy of approved proposal are due to department secretary.

Incremental deadlines for the project are requirements for specific classes in the scholarly project sequence. See Appendix B for details (the requirements are also emailed to the students and major advisors each semester as well).

November 9th	Recommended deadline for the final version of the project to the major advisor. This allows time for review and correction before the November 28th deadline.
November 30th	A copy of the project's finished title is due to the department secretary (*roni.hoskins@utoledo.edu*) so that she can fill out the Acceptance for Presentation forms.
December 7th	Many things are due today: ▪ Acceptance for Presentation form, signed by the major advisor, is due to the department secretary. ▪ Final approved version of the scholarly project emailed to department secretary. If your major advisor has not approved the project by this date, the student will not be able to present with the rest of the class, and you will be required to register for an additional credit hour of PHYA 696 for spring semester and present the project during the spring semester. Obviously, this will postpone your graduation date. ▪ A copy of the structured abstract is due to the scholarly project coordinator via email: *suzanne.luebke@utoledo.edu*
December 12-14th	Tentative dates for scholarly project presentations

Appendix D: Forms for the Scholarly Project

Scholarly Project Advisor Request Form

This form is completed by students during Fall Semester as the first step in the advisor/advisee assignment process. You must discuss your project ideas with each potential major advisor before requesting him/her as an advisor. Read directions carefully and designate three potential major advisors. This form is available on BlackBoard 9.1.

Authorship Agreement Form

This form reflects official policy of the Department of PA Studies. The original signed form goes into the department's files; copies go to the student and the major advisor. This form is available on BlackBoard 9.1.

Graduate Research Advisory (GRAD) Committee Form

This form documents that all research regulatory requirements have been fulfilled for the proposed project. This form must be completed by all students, even if the project is not covered by any research regulations or policies. It is available for download (http://www.utoledo.edu/graduate/files/GRAD%20Form%20fillable%20vers%20060310.pdf).

Academic Advisory Committee Form

The department secretary will complete this form once the major advisors have been assigned.

Scholarly Project Proposal Approval Form

This form documents the completion of the research proposal. It must be completed and signed prior to data collection. It serves as the cover page for the research proposal. The original signed form goes into the department's files; copies go to the student and the major advisor. This form is available on BlackBoard 9.1.

Acceptance of Scholarly Project for Presentation Form

This form must be signed and submitted to the department secretary at least three weeks prior to the presentation. Please leave blank the bottom of this form concerning the schedule for presentation -- the scholarly project coordinator will fill in this part and will send the form to the College of Graduate Studies for official posting. This form will be available on BlackBoard 9.1.

Final Approval of Scholarly Project Form

The College of Graduate Studies prepares these forms and sends them to the department secretary, who routes this form for signing to the major advisors and relevant administrators. She then forwards the signed form, with the MS Word file of the project to the College of Graduate Studies.

Research Presentation Critique Form

This form is completed by all faculty members attending the final presentation of the research and will be made available at the scholarly project presentations. The completed forms will be given to the major advisor who will go over the comments with the student.

Institutional Review Board: Instructions and Forms

Students should consult their major advisor to determine which forms, if any, will need to be submitted to the University of Toledo's Institutional Review Board (IRB). Current IRB forms can be downloaded from the institution's web page.

Appendix E: Additional Resources

To help you with your project, this appendix includes campus resources, software resources, and book/Internet resources. It also includes a list of resources for individuals writing literature reviews.

Campus Resources

Mulford Health Science Library

- located on the fourth and fifth floors of the Mulford Library building
- provides help identifying and obtaining information; offers training and one-on-one reference appointments (Appointments can be set by contacting Jolene Miller, MLS, at 419.383.4959)
- contacts: Reference Assistance 419.383.4959 *MulfordReference@utoledo.edu*
  Circulation Desk 419.383.4225
  Interlibrary Services 419.530.2576
- commonly used databases to identify articles on a topic (all of these are available on the Mulford Library web page (http://www.utoledo.edu/library/mulford/index.html), under databases by subject or name:

  PubMed (clinical medicine, nursing, allied health, pre-clinical medicine)

  CINAHL (nursing and allied health)

  Science Citation Index and Social Science Citation Index (part of Web of Science/Web of Knowledge; cover multiple disciplines; medicine is primarily covered in SCI. These databases can be used for cited reference searching to find articles that have cited a particular article.)

  PsycINFO (psychology, mental health, some psychiatry)

  Other databases that may be of interest: SportDiscus (sports medicine), PILOTS (traumatic stress), as well as databases for education, ethics, etc.

CLRC

- located on the sixth floor of the Mulford Library building
- provides access to computer hardware and software: computers, flatbed scanners, productivity software (Word, PowerPoint, Excel, SPSS, EndNote, etc.), etc.

Writing Center

- located on the first floor of the Carlson Library, Main Campus
- provides a variety of writing assistance, helping you become a better writer
- contact: 419.530.4939 *http://www.utoledo.edu/centers/writingcenter/index.html*

Office of Human Research Protection

- located in Room 0106, Center for Creative Education Building, Health Science Campus
- deals with all things related to the Institutional Review Board and human subjects protection
- contact: 419.383.6796 *IRB.SBE@utoledo.edu* or *IRB.Biomed@utoledo.edu*

Software Resources

Microsoft Word

- word processing software supported on campus; available on most campus computers

PowerPoint

- presentation software supported on campus; available on most campus computers

EndNote

- bibliographic management software most commonly used on campus (import references from databases like MEDLINE; link with the word processor so references can be made from within the paper; format the reference list in the desired format); available in on campus computers. To download for home or laptop installation, go to http://myutaccount.utoledo.edu to download EndNote. Note: EndNote X4 better handles APA 6 formatting.

SPSS

- statistical analysis software; available in the CLRC

Book and Internet Resources

General Resources for Writing and Presenting

Writing the proposal/project and preparing for your presentation may be some of the more difficult parts of the scholarly project process. Here are some resources that you might choose to consult.

Bailey, S. (2006). *Academic writing: A handbook for international students.* New York: Routledge.

Bailey, S. (2003). *Academic writing: A practical guide for students.* Cheltenham, UK: Nelson Thornes.

Briscoe, M. H. (1996). *Preparing scientific illustrations: a guide to better posters, presentations, and publications* (2nd ed.). New York: Springer.

Davis, M. (2005). *Scientific papers and presentations (Rev. ed.)*. San Diego: Academic Press.

Davitz, J. R., & Davitz, L. L. (1996). *Evaluating research proposals: A guide for the behavioral sciences*. Upper Saddle River, NJ: Prentice Hall.

Fowler, H. R., & Aaron, J. E. (2010). *Little, Brown Handbook* (11th ed.). New York: Longman.

Greene, S., & Lidnisky, A. (2008). *From inquiry to academic writing: A practical guide.* Boston: Bedford/St. Martin's.

Lunsford, A., (2003). *St. Martin's handbook* (5th ed.). Boston: Bedford/St. Martin's. (This resource comes highly recommended.)Matthews, J. R., & Matthews, R. W. (2008). *Successful scientific writing: A step-by-step guide for the biological and medical sciences* (3rd ed.).. New York: Cambridge University Press.

Murray, R., & Moore, S. (2006). *The handbook of academic writing: A fresh approach.* New York: McGraw-Hill/Open University Press.

Reif-Lehrer, L. (2000, June 9). *The beauty of outlines. Science's Next Wave*. Retrieved August 10, 2007, from http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0490/the_beauty_of_outlines/

Soles, D. (2005). *The essentials of academic writing.* New York: Houghton Mifflin.

St. James, D. (1996). *Writing and speaking for excellence: A guide for physicians.* Boston: Jones and Bartlett.

Stevens, S., compiler. (2003). *Instructions to authors in the health sciences*. Retrieved July 15, 2003, from the University of Toledo, Mulford Health Science Library: http://mulford.utoledo.edu/instr/

Swales, J. M., & Swales, C. B. (2004). *Academic writing for graduate students: Essential tasks and skills*. Ann Arbor: University of Michigan Press.

Research Basics

If you're having trouble getting a grasp on certain research concepts as discussed in your textbook, it can be useful to consult another resource.

Batavia, M. (2001). *Clinical research for health professionals: A user-friendly guide*. Boston: Butterworth Heinemann. (This is a good read even if you are not doing clinical research.)

de Vaus, D. (2007). *Social surveys 2*. Thousand Oaks, CA; SAGE. (This four-volume set covers survey theory to practice. You probably won't be interested in "Convergent and discriminant validation by the multitrait-multimethod matrix" – though it is important in measurement theory! – but you might be interested in the sections on mail, Internet, and email surveys (all in volume 2) and those on non-response bias and missing data (in volume 4).)

Fink, A. (2003). *The survey kit* (2nd ed.). Thousand Oaks, CA: SAGE. (A set of 10 paperbacks covering a wide range of issues in survey research. See the OhioLINK Central Catalog for the subject of each volume: http://olc1.ohiolink.edu/search~S0?/qSurvey+kit)

Groves, R. M. (2009). *Survey methodology* (2nd ed). Hoboken, N. J.: Wiley.

Sue, V. M., & Ritter, L. A. (2007). *Conducting online surveys.* Los Angeles: SAGE.

Research Ethics

Buchanan, E. A., ed. (2004). *Readings in virtual research ethics: Issues and controversies.* Hershey, PA: Information Science Pub.

Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, & Institute of Medicine. (2009). *On being a scientist: Responsible conduct in research* (3rd ed.). Washington, DC: National Academy Press. Retrieved October 20, 2009 from: http://www.nap.edu/catalog.php?record_id=12192#toc

Oliver, P. (2003). *The student's guide to research ethics.* Philadelphia: Open University Press

Rollin, B. E. (2006). *Science and ethics.* Cambridge, MA: Cambridge University Press.

Avoiding Plagiarism

Francis, B. (2005). *Other people's words: What plagiarism is and how to avoid it.* Berkeley Heights, NJ: Enslow Publishers.

Harris, R. A. (2005) *Using sources effectively: Strengthening your writing and avoiding plagiarism.* Glendale, CA: Pyrczak.

Hung, T. T. N. (2003, July). *Avoiding plagiarism* (2nd rev ed.). Hong Kong: Hong Kong Baptist University. Retrieved October 20, 2009, from http://www.hkbu.edu.hk/~ar/avoiding_plagiarism/

Lipson, C. (2008). *Doing honest work in college: How to prepare citations, avoid plagiarism, and achieve real academic success.* Chicago: University of Chicago Press.

Menager-Beeley, L. P., & Menager-Beeley, R. (2006). *Understanding plagiarism: A student guide to writing your own work.* Boston: Houghton Mifflin.

Neville, C. (2007). *The complete guide to referencing and avoiding plagiarism.* New York: Open University Press.

Purdue University Online Writing Lab. (2008, September 30). *Avoiding plagiarism.* West Lafayette, IN: Author. Retrieved October 20, 2009, from http://owl.english.purdue.edu/owl/resource/589/01/

Stern, L. (2007). *What every student should know about avoiding plagiarism.* New York: Pearson/Longman.

Dealing with the Literature

No matter what kind of scholarly project you choose you'll need to do review published literature. The following resources will help you deal with the literature you find: how do you evaluate the studies that you find, and how do you integrate them into a cohesive review. (Note: some of these resources talk about meta-analyses; ignore that info because you won't be doing a meta-analysis.)

Broome, M. E. (1993). Integrative literature reviews in the development of concepts. In B. L. Rodgers, & K. A. Knafl (eds.) *Concept development in nursing: Foundations, techniques, and applications* (pp. 193-215). Philadelphia: W. B. Saunders.

Cooper, H. (1998). *Synthesizing research: A guide for literature reviews* (3rd ed.). Thousand Oaks, CA: SAGE.

Fain, J. A. (1999). Critiquing research reports. In J. A. Fain (ed.), *Reading, understanding, and applying nursing research*. (pp. 254-259). Philadelphia: F. A. Davis.

Fink, A. (2010). *Conducting research literature reviews: From the Internet to paper* (3rd ed.) Los Angeles: SAGE.

Girden, E. R. (2001). *Evaluating research articles: From start to finish* (2nd ed.). Thousand Oaks, CA: SAGE.

Guyatt, G., Drummond, R., Meade, M. O., & Cook, D. J. (2008). *Users' guides to the medical literature: A manual for evidence-based clinical practice* (2nd ed.). Retrieved from http://0-www.jamaevidence.com.carlson.utoledo.edu

Oermann, M. H., & Hays, J. C. (2010). *Writing for publication in nursing* (2nd ed,). New York: Springer. (Includes chapters on writing review and evidence-based practice articles and clinical practice articles.)

Pan, M. L. (2008). *Preparing literature reviews: Qualitative and quantitative approaches* (3rd ed.). Glendale, CA: Pyrczak Pub.

Pyrczak, F. (1999). *Evaluating research in academic journals: A practical guide to realistic evaluation.* Los Angeles, CA: Pysczak Publishing.

Appendix F: Keeping Organized

This section of the manual provides information on how you can keep your project organized. Your major advisor may require or recommend any of these tools, as well as how to use them.

Keeping a Research Journal for Your Scholarly Project

One very useful tool is a research journal (or research log), which functions as an "ectopic brain" for your scholarly project. Like a lab notebook for bench research, the research journal keeps in one place all of your thoughts, ideas, questions, etc., about your scholarly project, over the course of the project.

Why keep a research journal?

- Nothing is lost: not those initial ideas that you find you need halfway through the project, not those great subject headings for searching. It's all at your fingertips.
- When your major advisor asks about your progress since you last met, you can pull out your research journal and show him or her.
- If you reach a "dead end" with your project, you can track back to see what went wrong.
- It can help you avoid plagiarism by engaging you at a deeper level; keeping a journal helps you process and integrate the information from the literature.
- If you get drawn away from the project for a couple of weeks, reading the journal will remind you where you left off.
- It can help you when you are writing and revising your project because your thoughts will be clear about the topic.

What is included in a research journal?

- Initial and developing ideas about your topic(s). What are you interested in? What are your questions about it?
- Information on what you discussed with your major advisor, and notes about the feedback from him or her, including tasks and deadlines.
- How you found your information sources: what databases did you search, what search terms did you use. Jot down your search histories, other databases or search terms that you think might be useful for future searches.
- How you decided which articles you included in your project and which ones you excluded. What inclusion/exclusion criteria did you use?
- Thoughts about each article that you read. What questions does the article raise for you? You may want to create a table of study characteristics to make it easier to compare articles (study population, number of participants, measures, statistical significance/effect size, conclusions, limitations, etc.).
- Conclusions about the topic, answers to your initial questions, new questions, etc.
- Ideas that come up when you aren't working on your project (in the shower, on clinical rotations, etc.). Write them down, then transfer them to your journal later.

General guidelines for keeping a research journal

- ***Keep the journal together.*** Whether the journal is electronic or hardcopy, it should stay together. Having pages of research journal scattered over multiple locations or in multiple files can defeat the purpose: to keep your thoughts about your project together, for easy access. If you keep an electronic journal, make it easy to print out.
- ***Date your entries.*** This is useful for keeping track of the process of the project and reporting on your progress to the major advisor.
- ***The more you use it, the more useful it will be, to both you and your advisor.*** If you create a journal then only use it sporadically, you may miss capturing important information.
- ***It's okay if you don't use everything that's in the journal.*** It's more about capturing those thoughts and ideas, so in the future, you don't find yourself thinking, "What was that great idea I had back in September? I can't remember!"

Your major advisor may have more ideas about how he or she wants you to use the journal. He or she may require that you keep one, or may require that you turn a copy in every so often. If in doubt, ask.

Notes on how my advisor wants me to use a research journal:

Keeping Articles and Other Resources Organized

You know that you can obtain help with your literature searches by contact the Mulford Health Science Library and making an appointment with a librarian (Jolene Miller, MLS, 419.383.4959 or *jolene.miller@utoledo.edu*). How do you keep track of articles and other resources once you've identified them?

Using EndNote to organize references and electronic copies of documents. Not only can EndNote be used to cite and format references in the project, it can also be used to keep track of the references that you use *or might use* for your project. It is important to keep track of these, even the ones that fall into the category of "interesting but I'm not sure I'll use it." You never know when you may need an article. It's better to be safe than sorry: at least keep the references for those interesting articles, even if you never get and use the article.

Getting a list of references out of EndNote and into a stand-alone bibliography. Your major advisor may ask to see a list of the references that you have found for your project – not just the ones that you have cited in the current draft, but all of them. To do this, go to your EndNote library and select all of the references that you want to include in your bibliography. Make sure the style is correct, then select *Copy Formatted…* from the *Edit* menu. Go to a new Word document and paste (CTRL-V) your formatted bibliography into the document, which can be saved and emailed to/printed for your advisor.

Storing and accessing electronic copies of documents. You can't always count on having Internet access to articles and other documents, so it can be useful to store these on your computer and link to them within EndNote for easy access. When you create your EndNote library, the system also creates a folder called *libraryname.Data* in the same directory where you created your library. You can store web pages, PDF versions of articles and reports, etc. in this directory, then can easily link to the file from the reference in EndNote (open the reference; from *References* menu, select *File Attachments*, then *Attach file…*).

Using a three-ring binder to organize hardcopies. A three-ring binder (or multiple binders, as the case may be) is a great way to organize hardcopies of articles, web pages, reports, etc. It is best to arrange these *in alphabetical order by first author* because that will make it easy for you and your advisor to find the desired article. This also makes it easy to add new articles to the system. Organizing articles in any other way adds needless complexity. Some advisors will ask to see your article binder, so it is important to keep it up to date. (It is also a good idea to keep other scholarly project-related information in the binder: a copy of this manual, EndNote handouts, copies of forms, copies of drafts with advisor comments, etc.)

Notes on how my advisor wants me to keep my project materials organized: