**NURS 6301: Theoretical Evolution in Science**

Ph.D. Program

College of Nursing

The University of Texas at Arlington

Fall 2015

**Instructor(s):** Dr. Donelle M Barnes PhD, RN, CNE

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**Office Hours:** Thursdays, 1 to 4 p.m., and by appointment

**Section Information:** NURS 6301-001

**Time and Place of Class Meetings:** 9 a.m. to 11:50 a.m.; Sept. 10-12; Oct. 8-10, and Nov. 12-14. Pickard Hall 549.

**Description of Course Content:** Philosophies of science and epistemologies, their influence on knowledge development for nursing practice, and strategies for theory development and analysis

**Student Learning Outcomes:**

1. Critique the utility of knowledge building in nursing from the perspective of its historical evolution.
2. Analyze selected models/ frameworks for research in health care to
3. link the underlying philosophy of science to selected model/framework
4. derive propositions that need to be evaluated to refine the model
5. operationalize the concepts inherent in the propositions.
6. Critique theories related to culturally diverse and vulnerable populations

**Required Textbooks and Other Course Materials:**

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, D.C.: Author.

Peterson, S. J., & Bredow, T. S. (2013). Middle range theories: Application to nursing research (3rd ed.). Philadelphia: Wolters Kluwer Health/ Lippincott Williams & Wilkins. ISBN: 978-1608318001

Walker, L. O., & Avant, K. C. (2011). *Strategies for theory construction in nursing* (5th ed.)*.* Upper Saddle River, NJ: Pearson Education. ISBN-13: 978-0132156882 ISBN-10: 0132156881

**Teaching Methods/Strategies:**

In class lectures, seminars, and presentations; Online modules and discussion boards within Blackboard; Reading, reflection on practice and readings, preparation of course products

**Descriptions of major assignments:**

|  |  |
| --- | --- |
| **Major Assignments** | **Points** |
| **Three Papers** |  |
| Population and health problem paper | 10% |
| Philosophy of science paper | 20% |
| Theory framework paper | 40% |
| **Class Participation** |  |
| Concept presentation | 10% |
| Theory presentation | 10% |
| Participation in class | 10% |
| Total | 100% |

**Grading Policies**: Grades will be based on a 100-point scale with each assignment weighted as described in the major assignments section.

Assignments are to be submitted in Blackboard by 11:59 pm on the due date. Presentations are done in class on the assigned day.

There is no extra credit toward the course grade.

There is a penalty for late work. Work is considered late if it is received after the scheduled due date and time. **Five percent** will be deducted from the final assignment grade **for each day** the work is late. Graded late work is not guaranteed to be returned at the same time on-time assignments are returned.

**Exception:** If you become ill or have an accident or family emergency and do not believe you can complete an assignment on time, you should phone or email the instructor immediately - BEFORE the due date and time. The instructor may postpone the deadline without penalty, depending on the circumstances. After the due date, points will be deducted for late work regardless of the excuse.

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.

**Attendance Policy:** At The University of Texas at Arlington, taking attendance is not required by the university. Rather, each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this course, I expect regular class attendance and participation from all students. Students are responsible for all missed class information, and should consult with a fellow student if a class period is missed. Students will earn 1% point toward the course grade for every week that they are present in class and participate in the discussion. If they have not done the readings for the week, no participation credit will be given.

**Exception:** If you become ill or have an accident or family emergency and do not believe you can attend class, you should phone or email the instructor immediately - BEFORE the class session. The instructor may give the student an alternate assignment without penalty, depending on the circumstances. After the class session, credit cannot be earned regardless of the reason.

The **final course grade** will be calculated per the scale below:

**GRADING:**

A = 92.00 – 100 %

B = 83.00 – 91.99 %

C = 74.00 – 82.99 %

D = 65.00 – 73.99 %

F = Below 65.00 %

**UNIVERSITY AND COLLEGE POLICIES**

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>).

**Last day to drop or withdraw: November 4, 2015 by 4:00pm**

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts" (Regents’ Rules and Regulations, Series 50101, Section 2.2).

Copying another student’s paper or any portion of it is plagiarism. Additionally, copying a portion of published material (e.g., books or journals) without adequately documenting the source is plagiarism. If five or more words in sequence are taken from a source, those words must be placed in quotes and the source referenced with author’s name, date of publication, and page number of publication. If the author’s ideas are rephrased, by transposing words or expressing the same idea using different words, the idea must be attributed to the author by proper referencing, giving the author’s name and date of publication. If a single author’s ideas are discussed in more than one paragraph, the author must be referenced at the end of each paragraph. Authors whose words or ideas have been used in the preparation of a paper must be listed in the references cited at the end of the paper. Students are encouraged to review the plagiarism module from the UT Arlington Central Library. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Suspected violations of academic dishonesty standards will be referred to the Office of Student Conduct. Discipline may include suspension or expulsion from the University.

**NOTE:** As a licensed registered nurse, graduate students are expected to demonstrate professional conduct as set forth in the Texas Board of Nursing rule **§**215.8. **In the event that a graduate student holding an RN license is found to have engaged in academic dishonesty, the college may report the nurse to the Texas BON using rule §215.8 as a guide.**

Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, and so forth. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at any of the three corners of Pickard Hall. When exiting the building during an emergency, you should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**Student Support Services**:UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**The English Writing Center (411LIBR)**: Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In ***Quick Hits*** sessions during all open hours Mon-Thurs. Register and make appointments online at [http://uta.mywconline.com](http://uta.mywconline.com/). Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information.

**Emergency Phone Numbers:**  In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.

**Status of RN Licensure:** All graduate nursing students must have an unencumbered license as designated by the Texas Board of Nursing (BON) to participate in graduate clinical nursing courses. It is also imperative that any student whose license becomes encumbered by the BON must immediately notify the Associate Dean- Department of Graduate Nursing. The complete policy about encumbered licenses is available online at: [www.bon.state.tx.us](http://www.bon.state.tx.us)

**Graduate Student Handbook:** Students are responsible for knowing and complying with all policies and information contained in the Graduate Student handbook online at: <http://www.uta.edu/nursing/msn/msn-students>

**Student Code of Ethics:** The University of Texas at Arlington College of Nursing and Health Innovation supports the Student Code of Ethics Policy. Students are responsible for knowing and complying with the Code. The Code can be found in the student handbook online: <http://www.uta.edu/nursing/msn/msn-students>

**No Gift Policy:** In accordance with Regent Rules and Regulations and the UTA Standards of Conduct, the College of Nursing and Health Innovation has a “no gift” policy. A donation to one of the UTA College of Nursing and Health Innovation Scholarship Funds, found at the following link: is <http://www.uta.edu/nursing/student-resources/scholarship> would be an appropriate way to recognize a faculty member’s contribution to your learning.  For information regarding Scholarship Funds, please contact the Dean’s office.

**Online Conduct:** The discussion board should be viewed as a public and professional forum for course-related discussions. Students are free to discuss academic matters and consult one another regarding academic resources. The tone of postings should be professional in nature.

It is not appropriate to post statements of a personal or political nature, or statements criticizing classmates or faculty. Inappropriate statements/language will be deleted by the course faculty and may result in denied access to the Discussion boards. Refer to UTACON Student Handbook for more information.

***For this course Blackboard communication tools, discussion boards, and UTA MAV email will be used extensively and should be checked often.***

**Librarian to Contact:**

Peace Williamson – 817-272-6208

[peace@uta.edu](mailto:peace@uta.edu)

Lydia Pyburn – 817-272-7593

[llpyburn@uta.edu](mailto:llpyburn@uta.edu)

Shawn Lee – 817-272-5352

Research Information on Nursing: [**http://libguides.uta.edu/nursing**](http://libguides.uta.edu/nursing)

Library Home Page <http://www.uta.edu/library>

Subject Guides <http://libguides.uta.edu>

Subject Librarians <http://www.uta.edu/library/help/subject-librarians.php>

Database List <http://www.uta.edu/library/databases/index.php>

Course Reserves <http://pulse.uta.edu/vwebv/enterCourseReserve.do>

Library Catalog <http://uta.summon.serialssolutions.com/#!/>

E-Journals <http://pulse.uta.edu/vwebv/searchSubject>

Library Tutorials <http://www.uta.edu/library/help/tutorials.php>

Connecting from Off- Campus <http://libguides.uta.edu/offcampus>

Ask a Librarian [http://ask.uta.edu](http://ask.uta.edu/)

The following URL houses a page where we have gathered many commonly used resources needed by students in online courses: <http://www.uta.edu/library/services/distance.php>

The subject librarian for your area can work with you to build a customized course page to support your class if you wish. For examples, visit <http://libguides.uta.edu/os> and <http://libguides.uta.edu/pols2311fm> .

**Department of Graduate NursiNG**

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**Course Assignments and Grading Criteria**

**Written assignments:**

**Description of population and health issue: DUE Saturday, September 26, 2015**

In two to three pages, describe a population and a health problem that could be studied in nursing research. Purpose of the assignment: to articulate your potential population of interest and phenomenon of concern for research. This will become the topic that you use to apply a theory framework in future assignments in this course.

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Evaluative Standard** | **Possible Points** | **Your Points** |
| Introduction | A paragraph that gives an overview of the paper, briefly describing the content | 10 |  |
| Population of interest | Describe the population you plan to study: gender, ages, ethnicities, and socioeconomic status. Include the number of people in this population in Texas and in the U.S. If the study is international in nature, then give the global numbers. | 35 |  |
| Health problem or phenomenon of concern | Describe the health problem including rate of disease (morbidity and/or mortality). | 35 |  |
| Format | APA format for citations in the text and a reference list.  Correct grammar, punctuation, and spelling.  Clarity and conciseness of written expression.  Organized and logical flow of ideas. | 20 |  |
| TOTAL |  | 100 |  |

**Philosophy of Science Paper: DUE Saturday, October 17, 2015**

In a three to five page paper, excluding title page and reference list, analyze one philosophy, and its implications for nursing science.

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Evaluative Standard** | **Possible Points** | **Your Points** |
| Introduction | A paragraph that gives an overview of the paper, briefly describing the content | 10 |  |
| The Philosophy | Describe a philosophy and its relationship to nursing practice and science | 20 |  |
| Ontological principles | What does the philosophy say, or imply, about reality and being (think patients or clients)? | 20 |  |
| Epistemological principles | What does the philosophy say, or imply, about truth and scientific methods (think research questions and/or methods)? | 20 |  |
| Implications for nursing science development | What are the implications of the philosophy for nursing research? | 10 |  |
| Format | APA format for citations in the text and a reference list.  Correct grammar, punctuation, and spelling.  Clarity and conciseness of written expression.  Organized and logical flow of ideas. | 20 |  |
| TOTAL |  | 100 |  |

**Example:**

1. Describe the principle of autonomy or patients’ right to self-determination.
2. Autonomy in nursing practice
3. Autonomy in nursing science
4. Autonomy views the patient as an independent decision-maker with a right to self-determination.
5. Research questions should not only describe patients’ adherence to treatment, for example chemotherapy for cancer, but also patients’ autonomous decision to refuse said treatment.
6. Qualitative research questions about autonomy
7. Quantitative research questions about autonomy
8. Future nursing research needs to study under what conditions pregnant women may refuse genetic testing, why cancer patients refuse cancer treatments, or why obese patents choose to eat instead of getting stomach stapling.
9. Conclusion

**Theory Framework Paper:** **DUE Wednesday, December 9, 2015**

The purpose of this paper is to describe a specific theory or theory framework applicable to nursing research, and to apply that theory to your population of interest and phenomenon of concern. Length: 10 to 12 pages of text, excluding title page and reference list.

| **Section** | **Evaluative Standard** | **Possible Points** | **Your Points** |
| --- | --- | --- | --- |
| Introduction | Provide an overview of the paper, introducing the theory and the population to which it will be applied. | 10 |  |
| Review of a theory | Describe a theory or theory framework, including:  a. The main concepts within the theory,  b. The relationships between the concepts (propositions), and  c. How each concept can be measured.  Provide a diagram that depicts the theory and all concepts.  Appendix: Provide a table with all concepts and the measures that exist to measure each concept. | 30 |  |
| Evaluate the theory | Comment on the logical adequacy, usefulness, generalizability, and parsimony of the theory. | 20 |  |
| Application to your population | Apply the theory or framework to your population of interest and phenomenon of concern. Describe how it could be used to guide a research study. | 20 |  |
| Format | APA format for citations in the text and a reference list.  Correct grammar, punctuation, and spelling.  Clarity and conciseness of written expression.  Organized and logical flow of ideas. | 20 |  |
| TOTAL |  | 100 |  |

**CLASS PARTICIPATION ASSIGNMENTS**

**Concept Analysis Presentation:**

Purpose: To articulate concepts of interest to nursing practice and research.

For this assignment, the student chooses a concept that would be relevant to nursing research. Each student(s) will conduct a 30-minute presentation on that concept, and then lead a class discussion of approximately 30-60 minutes.

1. Select a concept: Something potentially useful or important for your research program.

2. To clarify the meaning of the existing concept, search the literature for how it has been used.

3. Identify all uses of the concept: Using dictionaries, thesauruses, and any available literature, identify as many uses of the concept as you can find. Do not limit yourself at this point, since there might be an unexplored aspect to the concept. End with the definition of the concept that you believe is most useful to your phenomenon of concern.

4. Determine the defining attributes: The cluster of characteristics that are most frequently associated with the concept and that allow the broadest insight into the concept. The best analysis refines the characteristics into the fewest attributes that will still differentiate the concept of interest from surrounding concepts.

5. Identify a model case: An example of the concept that demonstrates all the defining attributes; from nursing experience, found in the literature, or constructed by you. Give a nursing example.

6. Identify borderline, related, contrary, invented, and illegitimate cases: Borderline cases contain most of the attributes but not all of them; related cases are similar ideas and somehow related to the main concept; contrary cases are clearly not the concept (opposite of); invented cases are outside our own experience and may read like science fiction; illegitimate case is the improper use of the concept.

7. Identify antecedents and consequences: Antecedents much occur or be in place prior to the occurrence of the concept; consequences are events or incidents that occur as a result of the presence of the concept.

8. Define empirical referents: how might this concept be measured, or how is it already measured. Include type of measure, number of items, with what populations has it been used, reliability measures, and validity tested.

**Examples:**

Acculturation Maternal attachment

Autonomy Mutuality

Bioterrorism preparedness Oxygenation

Caregiver abuse Pain

Chronic fatigue Presence (of the nurse)

Contamination (biological) Quality of life

Coping Reciprocity

Culturally appropriate care Resilience

Decisional conflict Self-care

Developmental care (NICU) Self-efficacy

Dignity (older adults) Spirituality

Empowerment Stigma

Fear (cancer patients) Stress

Health literacy Symptom management

Health seeking Trust

Hopelessness Vulnerability

[Source: Walker, L. O., & Avant, K. C. (2011). Strategies for theory construction in nursing. Boston: Prentice Hall.]

Grading Rubric:

|  |  |  |
| --- | --- | --- |
| **Categories in Presentation** | **Possible score** | **Your score** |
| Defines concept | 15 |  |
| Describes defining attributes | 15 |  |
| Identifies a model case | 15 |  |
| Identifies some borderline, related, contrary, etc. cases | 15 |  |
| Describe antecedents and consequences | 15 |  |
| Describe measurement tools (empirical referents) | 15 |  |
| Lead a discussion after the presentation (30 minutes minimum) | 10 |  |
| **TOTAL** | 100 |  |

**Theory Presentation:**

Purpose of the assignment: To deepen knowledge of a broad range of theories.

For this assignment, the student chooses a middle-range theory that could guide nursing research. Each student(s) will conduct a 30-minute presentation on that theory, and then lead a class discussion of approximately 30-60 minutes.

**Please provide a paper copy of the theory diagram for each classmate/instructor.**

Grading Rubric:

| **Section** | **Description** | **Points** | **Your Points** |
| --- | --- | --- | --- |
| Theory Description | Describe the theory, why it was developed, the concepts within it, and the relationships between concepts. (40 points)  Provide a diagram of the theory. (10 points)  Give examples of research studies where the theory has been used, particularly in vulnerable populations if they exist. (30 points) | 80 |  |
| Theory Discussion | In discussion with the class, cover the theory’s logical adequacy, usefulness, generalizability, parsimony, and testability. | 20 |  |
| TOTAL |  | 100 |  |

Examples of theories:

|  |  |  |
| --- | --- | --- |
| Grand nursing theorists  Johnson  King  Neuman  Nightingale  Orem  Parse  Rogers  Roy  Watson | Theorists addressing cultural care  Giger & Davidhizar  Leininger  Purnell  Spector | Theorists addressing health behavior  Ajzen  Bandura  Cameron & Leventhal  Pender  DiClemente and Prochaska |
| Theorists addressing population health  Aday  Flaskerud & Winslow  Nyamathi et al. |

**Suggested Readings**

Cazzell, M. (2008). Linking theory, evidence, and practice in assessment of adolescent inhalant use. *Journal of Addictions Nursing, 19,* 17-25. DOI: 10.1080/10884600801896835

Cornally, N., & McCarthy, G. (2011). Help-seeking behavior: A concept analysis. *International Journal of Nursing Practice, 17*, 280-288. doi:10.1111/j.1440-172X.2011.01936.x

Cronin, P., Ryan, F., & Coughlan, M. (2010). Concept analysis in healthcare research. *International Journal of Therapy and Rehabilitation, 17 (2),* 62-68.

D’Antonio, P., Connolly, D., Wall, B. M., Whelan, J. C., & Fairman, J. (2010). Histories of nursing: The power and the possibilities.  *Nursing Outlook, 58,* 207-213. doi:10.1016/j.outlook.2010.04.005

Dressler, W., Oths, K., & Gravlee, C. (2005). Race and ethnicity in public health research: Models to explain health disparities. *Annual Review of Anthropology, 34,* 231-252.

Embree, J. L., & White, A. H. (2010). Concept analysis: Nurse-to-nurse lateral violence. *Nursing Forum, 45* (3), 166-173.

Flaskerud, J. H., & Winslow, B. J. (1998). Conceptualizing vulnerable populations health-related research. *Nursing Research, 47*(2), 69-78.

Frohlich, K., & Potvin, L. (2008). The inequality paradox: The population approach and vulnerable populations. *American Journal of Public Health, 98*(2), 216-221.

Hilton, P. A. (1997). Theoretical perspectives of nursing: A review of the literature. *Journal of Advanced Nursing, 26*(6), 1211-1220.

Holzemer, W. L. (2007). Towards understanding nursing science. *Japan Journal of Nursing Science, 4,* 57-79.

Markus, H. R. (2008). Pride, prejudice, and ambivalence: Toward a unified theory of race and ethnicity. *American Psychologist, 63* (8), 651-670.

McCabe, J. L., & Holmes, D. (2007). Nursing research and vulnerable populations: The contributions of humanism. *International Journal of Human Caring, 11* (4), 17-23.

McKenna, H. P. (1997). Theory and research: A linkage to benefit practice. *International Journal of Nursing Studies, 34* (6), 431-437.

Mock, V., St. Ours, C., Hall, S., Bositis, A., Tillery, M., Belcher, A., et al. (2007). Using a conceptual model in nursing research- Mitigating fatigue in cancer patients. *Journal of Advanced Nursing, 58*(5), 503-512.

Moore, J. (2010). Philosophy of science, with special consideration given to behaviorism as the philosophy of the science of behavior. *The Psychological Record, 60,*  137-150.

Nyamathi, A., Koniak-Griffin, D., & Greengold, B. (2007). Development of nursing theory and science in vulnerable populations research. In J. Fitzpatrick, A. Nyamathi, & Koniak-Griffin (Eds.). *Annual Review of Nursing Research: Vol. 25. Vulnerable populations* (pp.3-25)*.* New York: Springer.

Pigliucci, M. (2008). The borderlands between science and philosophy: An introduction.  *The Quarterly Review of Biology, 83* (1), 7-15.