**NURS 6301:** Theoretical Evolution in Science

Fall 2011

**Instructor(s):** Dr. Jennifer Gray

**Office Number:** Pickard Hall, 514

**Office Telephone Number:** 817-272-5295

**Email Address:** jgray@uta.edu

**Office Hours:** By appointment

**Section Information:** NURS 6301, 001

**Time and Place of Class Meetings:** Pickard Hall, Room 205, Selected Fridays, 1 to 3:50 pm

August 26; September 9 and 23;October 7 and 28; November 4 and 11; December 2

**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:**

Aday, L.A. (2001). *At risk in America: The health and health care needs of vulnerable populations in the United States.* San Francisco: Jossey-Bass.

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

Meleis, A. I. (2007). *Theoretical nursing: Development and progress* (4th ed.)*.* Philadelphia, PA: Lippincott Williams & Wilkins.

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

**Course Topics:**

**Unit I: Philosophies of science and epistemologies**

History of science

Logical empiricism

Historicism

Postmodernism

Pragmatism

Constructivism

**Unit II: Nursing Science**

History of the nursing profession and science

Nursing’s theoretical heritage

Grand nursing theories

Middle range theories

Linkages among theory, research, and practice

**Unit III: Analysis of concepts, statements, and theories**

Different methods of concept analysis

Types of relationships among concepts

Theory evaluation for application with vulnerable populations; validity and social congruence of theories

**Unit IV: Theories of related professions**

Population health theories- vulnerability

Cultural care models

Health behavior theories/ frameworks

**Unit V: Theory construction**

Methods from sociology

Theory derivation and synthesis

**Requirements:**

1. Participation in class discussions and seminars
2. Refinement of succinct and clear writing
3. Online presentation of a model/framework/theory
4. Clarification of selected concept
5. Development of theoretical framework related to vulnerable population or research problem

**Teaching Methods/Strategies:**

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

**Descriptions of major assignments and examinations with due dates:**

|  |  |  |
| --- | --- | --- |
| **Date Due** | **Assignment** | **Points** |
| Sept. 3 | Mini-Paper- writing check-up (500 words) | 5 |
| Sept. 17 | Philosophy of Science paper (5 pages) | 15 |
| Per assignment | Online Theory Presentation and Discussion with Peers on Assigned Week | 10 |
| On-going | Participation in Discussion Board | 10 |
| Oct. 29 | Concept Analysis Paper  | 30 |
| Dec.10 | Research Framework Paper | 30 |
|  | Total | 100 |

**Grading Policy**: Grades will be based on a 100-point scale with the each assignment weighted as described in the major assignments section. Assignments are to be submitted by 11:59 pm on the due date. During the semester, a student may submit one assignment up to a week late by notifying the instructor prior to the deadline. Other assignments submitted late will be marked down at least 5 points.

**GRADING:**

A = 92 ‑ 100

B = 83 ‑ 91

C = 74 ‑ 82

D = 68 ‑ 73

**Attendance Policy:** Regular class attendance and participation is expected of all students. Students are responsible for all missed course information.

**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. Contact the Financial Aid Office for more information.

Graduate students who wish to change a schedule by either dropping or adding a course must first consult with their Graduate Advisor. Regulations pertaining to adding or dropping courses are described below. Adds and drops may be made through late registration either on the Web at MyMav or in person through the student’s academic department. 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. Contact the Financial Aid Office for more information. The last day to drop a course is listed in the Academic Calendar available at [http://www.uta.edu/uta/acadcal.](http://www.uta.edu/uta/acadcal)

1. A student may not add a course after the end of late registration.
2. A student dropping a graduate course after the Census Date but on or before the end of the 10th week of class may with the agreement of the instructor, receive a grade of W but only if passing the course with a C or better average. A grade of W will not be given if the student does not have at least a C average. In such instances, the student will receive a grade of F if he or she withdraws from the class. Students dropping a course must: (1) complete a Course Drop Form (available online <http://www.uta.edu/nursing/MSN/drop_resign_request.pdf> or Graduate Nursing office rooms 512 or 606); (2) obtain faculty signature and current course grade; and (3) submit the form to Graduate Nursing office rooms 512 or 606.
3. A student desiring to drop all courses in which he or she is enrolled is reminded that such action constitutes withdrawal (resignation) from the University. The student must indicate intention to withdraw and drop all courses by completing a resignation form in the Office of the Registrar or by: (1) Completing a resignation form (available online <http://www.uta.edu/nursing/MSN/drop_resign_request.pdf> or Graduate Nursing office rooms 512 or 606; (2) obtaining faculty signature for each course enrolled and current course grade; (3) Submitting the resignation form in the College of Nursing office room 512 or 606; and (4) The department office will send resignation form to the office of the Registrar.
4. In most cases, a student may not drop a graduate course or withdraw (resign) from the University after the 10th week of class. Under extreme circumstances, the Dean of Graduate Studies may consider a petition to withdraw (resign) from the University after the 10th week of class, but in no case may a graduate student selectively drop a course after the 10th week and remain enrolled in any other course. Students should use the special Petition to Withdraw for this purpose. See the section titled Withdrawal (Resignation) From the University for additional information concerning withdrawal. <http://www.grad.uta.edu/handbook>

**Last Day to Drop or Withdraw is November 4**

**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.

**Academic Integrity:**  It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents’ Rule 50101, §2.2, "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."

**Plagiarism:** Copying another student’s paper or any portion of it is plagiarism. Copying a portion of published material (e.g., books or journals) without adequately documenting the source is plagiarism. Consistent with APA format, 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, according to APA format. 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 expected to review the plagiarism module from the UT Arlington Central Library via <http://library.uta.edu/tutorials/Plagiarism>

**Student Support Services Available**: The University of Texas at 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. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit [www.uta.edu/resources](http://www.uta.edu/resources) for more information.

**Electronic Communication Policy:** The University of Texas at Arlington has adopted the University “MavMail” address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

To obtain your NetID or for logon assistance, visit <https://webapps.uta.edu/oit/selfservice/>. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at helpdesk@uta.edu.

**Librarian to Contact:**

 **Helen Hough**, *Nursing Librarian*

Phone: (817) 272-7429

E-mail: hough@uta.edu

[**http://libguides.uta.edu/nursing**](http://libguides.uta.edu/nursing)

**College of Nursing additional information:**

**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 their Associate Dean for the MSN Program, Department of Advanced Practicum Dr. Gray/Dr. Schira. The complete policy about encumbered licenses is available online at: [www.bon.state.tx.us](http://www.bon.state.tx.us)

**Confidentiality Agreement**

You signed a Confidentiality Form in orientation and were provided a copy of the form. Please take your copy of this Confidentiality Form with you to your clinical sites. Please do not sign other agency confidentiality forms. Contact your faculty if the agency requires you to sign their confidentiality form.

**Student Code of Ethics:** The University of Texas at Arlington College of nursing 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/handbook/toc.php>

**No Gift Policy:** In accordance with Regent Rules and Regulations and the UTA Standards of Conduct, the College of Nursing has a “no gift” policy. A donation to one of the UTA College of Nursing Scholarship Funds, found at the following link: <http://www.uta.edu/nursing/scholarship_list.php> 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.

**Course Evaluation:**

Course evaluation is a continuous process and is the responsibility of both the faculty and the students. Ongoing feedback (formative evaluation) is the only way to improve the course and to assure that it meets your needs and those of the discipline of nursing. It is your responsibility to give immediate, constructive feedback regarding class structure and process.

Formal evaluation of the course and the instructor occurs at the end of the course. You will receive instructions at your University of Texas at Arlington e-mail address about how to complete the course evaluations online. Your ratings and comments are sent to a computer not connected to the College of Nursing, and faculty members do not receive the results until after they have turned in course grades.

**Bomb Threats:**

If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellation of presentations/tests caused by bomb threats. Unannounced alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in the event that your classroom is not available.

**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.***

**Departmental Office/Support Staff**

**Department of MSN Administration, Education, and PhD Programs**

**Jennifer Gray,** RN, PhD

Associate Dean and Chair, Graduate Advisor

Email: jgray@uta.edu

**Vivian Lail-Davis**, Administrative Assistant II

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**Felicia Chamberlain**, Administrative Assistant I

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**Suzanne Despres**, AP Program, Assistant Graduate Advisor

Office # 512A- Pickard Hall (817)-272-1039

Email: sdepres@uta.edu

**Course Assignments and Grading Criteria**

**Mini Paper on Research Topic: Due 9/3, 11:59 pm**

**5% of course grade**

Purposes of the assignment

* Articulate research topic.
* Provide opportunity for faculty to assess writing and library skills.

|  |  |  |  |
| --- | --- | --- | --- |
| Description | Evaluative Standard | Possible Points | Your Points |
| Introduction (no heading for introduction) | Organizing sentence | 5 |  |
| Significance of research problem  | Number of people affectedCost to individuals and society | 20 |  |
| Personal connection | What are the personal and professional reasons for your interest in this topic? | 15 |  |
| Gap in knowledge | What specific aspects of the research problem need further study? | 20 |  |
| References | Citations provided to support facts and views presented in the paper | 20 |  |
| Format | 600-word limit on body of paperCorrect grammar, punctuation, and spellingReferences cited correctlyReference list correct according to APA | 20 |  |
|  |  | 100 |  |

**Philosophy of Science Paper: Due 9/17, 11:59 pm**

**15% of course grade**

Purposes of the assignment

* Learn about the work of one philosopher, whose philosophical tenets have implications for nursing science.
* Demonstrate movement toward the achievement of Course Objectives 1 and 2a.

|  |  |  |  |
| --- | --- | --- | --- |
| Description | Evaluative Standard | Possible Points | Your Points |
| Philosopher’s background | Provide brief bio of the philosopher with emphasis on life events that shaped the philosophy. | 10 |  |
| Ontological principles | What did the philosopher write about reality and being? | 20 |  |
| Epistemological principles | What did the philosopher write about truth and scientific methods? | 20 |  |
| Implications for nursing science development | What are the implications of the philosopher’s work for nursing research? | 20 |  |
| References | Citations provided to support facts and views presented in the paper | 10 |  |
| Format | 5 page limit on body of paperCorrect grammar, punctuation, and spellingReferences cited correctlyReference list correct according to APA | 20 |  |
|  |  | 100 |  |

**Online Theory Seminar- Initial posting of content by Saturday prior to assigned week**

**10% of the course grade**

Purpose of the assignment:

* Work collaboratively with peers to expand knowledge of a specific nursing or related theory.
* Deepen knowledge of a broad range of theories.
* Demonstrate movement toward the achievement of Course Objectives 1 and 3.

For this assignment, grand nursing theories and other theories will be assigned in collaboration with the student. Students will prepare content to be posted prior to the assigned week. During that week, the other students in the class will ask questions about the theory to gain the information that they need to apply the theory to practice or research.

| **Section** | **Description** | **Points** | **Your Points** |
| --- | --- | --- | --- |
| Theory Description | Provide information on the discussion board about the theory. Use a format to present the information that is interesting and engaging.  | 30 |  |
| Theory Discussion | Respond to peers’ questions about the strengths and weaknesses of the theory, combining professional citations with informed personal opinion.  | 40 |  |
| Summary  | Develop and post a summary of the strengths and weaknesses of the theory for application to practice and research | 20 |  |
| Timeliness  | Post the initial theory description by 11:59 on the Saturday prior to the assigned week.Respond to student comments during the week within 24 hours of the posting.Post a summary of the discussion of the theory by 11:59 on the Wednesday of the following week. | 10 |  |
|  |  | 100 |  |

Examples of theorists

|  |  |  |
| --- | --- | --- |
| Grand nursing theoristsJohnsonKingNeumanNightingaleOremParseRogersRoyWatson | Theorists addressing cultural careGiger & DavidhizarLeiningerPurnellSpector | Theorists addressing health behaviorAjzenBanduraCameron & LeventhalPenderDiClemente and Prochaska |
| Theorists addressing population healthAdayFlaskerud & WinslowNyamathi et al. |

**Participation in Discussion Board**

**10% of course grade**

Purpose of the assignment:

* Work collaboratively with peers to develop higher-level thinking skills.
* Develop the skill of scholarly dialogue.
* Demonstrate movement toward the achievement of all course objectives.

A post or message that demonstrates substance contributes to the learning by doing one or more of the following:

* Reflection about meaning
	+ Describe thoughtfully what something means or new insights it provides
	+ Raise a question as a seed for clarification or further discussion
* Analysis
	+ Discuss relevant themes, concepts, main ideas, or relationships among ideas
	+ Identify hidden fallacies or assumptions in the reasoning.
* Elaboration
	+ Build on ideas of others or ideas found in the readings by adding details, examples, a different viewpoint, or other relevant literature
* Application
	+ Provide examples of how principles or concepts can be applied to actual situations, or discuss the implications of theory for practice
* Synthesis
	+ Integrate multiple views to provide a summary, a new perspectives, or creative refashioning of ideas
* Evaluation
	+ Assess the accuracy, reasonableness, or quality of ideas.

Substantive posts do not have to be long. Not all long posts are substantive nor are all short posts non-substantive. Cite sources as appropriate.

You will be evaluated on your participation each week (Sunday through Saturday). To get full participation points for the week, make your initial substantive post on Sunday through Tuesday. Respond to at least two other students’ posts as the week progresses. Weekly scores will be averaged and weighted to be equal to 10% of the course grade.

Weekly scoring of participation

100 points

Made initial substantive post on Sunday through Tuesday

Made at least two additional posts, including at least one Wednesday or later

70 points

Made initial post but only responded once later in the week

Lower points may be given if posts are not substantive

50 points

Made initial post on Sunday through Tuesday, but did not post later in the week OR

Made initial post after Tuesday

Lower points may be given if posts are not substantive

**Concept Analysis Paper: Due October 29, 11:59 pm**

**30% of course grade**

Purpose of the assignment:

* Demonstrate analysis and synthesis of information gleaned from an extensive review of the literature.
* Clarify a concept that has potential for one’s program of research.
* Demonstrate movement toward the achievement of Course Objectives 1 and 2c.

| Section | Description | Possible Points |
| --- | --- | --- |
| Concept | What is the concept of interest? Rationale for why you selected the concept  | 3 |
| Definitions | How has the concept been defined by different bodies of literature? Compare and contrast the definitions.  | 7 |
| Theoretical Literature | Review the theories in which this concept occurs or to which this concept is related. From the theories, what are the antecedents, criteria, and consequences of the concept?  | 15 |
| Research Literature | Review the research findings related to this concept. How has the concept been measured in formal studies?From the research findings, what are the antecedents, criteria, and consequences of the concept? | 15 |
| Practice or General Literature | Review literature related to how the concept is used in clinical practice. Review literature related to consumer perspectives of the concept. From the literature on experiences involving the concept, what are the antecedents, criteria, and consequences? | 15 |
| Clarification of concept | From your review of the literature, synthesize a concise list of antecedents, criteria, and consequences of the concept. Summarize in a three-column table with 2 to 5 antecedents, 2 to 5 criteria, and 2 to 5 consequences.  | 10 |
| Conceptual Diagram | Provide a diagram of the concept with antecedents, criteria, and consequences. Diagram should include all components. Discuss the relationships among the antecedents, criteria, and consequences.  | 10 |
| Theoretical Definition | Provide your theoretical definition of the concept that includes all the criteria.  | 5 |
| Operational Definition | Which of the measurement methods are the best fit with your theoretical definition? Propose a congruent measurement of the concept. .  | 5 |
| Future Direction | Evaluate the maturity of the concept. What needs to be done to further development the concept? How does this concept fit with your future program of research?  | 5 |
| Format | Body of the paper is no more than 25 pages.APA format for referencing in the text and in the reference list was correctly followed.Correct grammar, punctuation, and spelling. | 10 |
|  |  | 100 |

**Framework Paper:**

**Due Dec.10, 11:59 pm**

**30% of course grade**

The purpose of this paper is to use a specific theory construction method to propose a research framework. The format for the paper may vary somewhat depending on the construction method used.

| **Section** | **Description** | **Points** | **Your Points** |
| --- | --- | --- | --- |
| [Introduction] | Provide an overview of the paper and introduce the theory construction method. |  |  |
| Background and Significance | Describe the health problem in the specific vulnerable population that the framework was developed to address.  | 10 |  |
| Method  | Describe the theory construction method with appropriate primary citations. | 10 |  |
| Review of the related literature | Provide a thorough review of the literature that supports the framework. This section will be organized differently depending on the theory construction method and the source literature.  | 30 |  |
| Research Framework | Identify concepts to be included when studying your vulnerable population or health problem. Present an overall description as well as a diagram of the concepts and the relationships among them. | 20 |  |
| Propositions | State at least 3 propositions of the framework. Analyze the relationship between the concepts.  | 10 |  |
| Fit with Culturally Diverse and Vulnerable Populations | To what extent are the theory’s assumptions congruent with the values of your vulnerable population?To what extent has support for the theory been generated with culturally diverse and vulnerable populations? Include appropriate citations.  | 10 |  |
| Format | Body of the paper is 10 to 25 pages.APA format for referencing in the text and in the reference list was correctly followed.Correct grammar, punctuation, and spelling | 10 |  |
|  |  | 100 |  |

**Assigned 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.