MTD 735: Learning Theories in Mathematics Education
EDU 800: Learning Theories in Education
Summer Session I 2011

Instructor: Prof. Joanna O. Masingila
201 Carnegie Hall
443-1483
E-mail: jomasing@syr.edu
Office hours: by appointment

Time: Tuesdays & Thursdays, May 24th – June 30th, 4 – 7:15 p.m.

Place: 101 Hall of Languages/200 Carnegie

Course Description: This course is designed for graduate students in education. The course will look at the influence of a variety of learning theories on how educators view learning and have conducted research about learning.

Objectives: There are three objectives for this course.

I. Broaden students' perspectives about the philosophical and theoretical underpinnings of learning theories in education.

II. Use these perspectives to examine how these learning theories influence research in education.

III. Use these perspectives to examine how these learning theories influence teaching practices.

Primary Reference:
Available at the Orange Bookstore in Marshall Square Mall

Available through Prof. Masingila

Suggested Journals for Research Articles:

- American Educational Research Journal
- Anthropology & Education Quarterly
- Cognition and Instruction
- Educational Researcher
Educational Studies in Mathematics
Focus on Learning Problems in Mathematics
For the Learning of Mathematics
Journal for Research in Mathematics Education
Journal of Educational Psychology

Assignments:
1. Study all readings and be prepared to discuss them intelligently.

2. Prepare one question for discussion about the readings each class. This needs to be sent via email to me by 12 pm before each class meeting. Each of you will serve as a discussion leader for two class periods.

3. Prepare a review of each of three research articles that use frameworks of cognitive science, constructivism, and social cognition. Each review should include a discussion of why you have categorized the research framework as such and how the framework influenced the research (design, data collection, data analysis, interpretation). A copy of the article should be attached to the review. Be prepared to share your review in class. [Due June 9, June 21, June 28]

4. Write a paper that examines and discusses the influence of a particular learning theory on the learning and teaching of a particular content area, and research about the learning and teaching of this content area. [Due June 30]

Point Distribution:
1. Class participation/preparing questions/discussion leader 10%

2. Reviews of research articles 60% (20% each)

3. Paper 30%
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>May 24</td>
<td><strong>Introduction to Learning Theories:</strong> organization of course; discussion of what is a theory of learning</td>
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<td>May 26</td>
<td><strong>Introduction to Theories of Learning and Instruction:</strong> discussion of Chapter 1 in Driscoll</td>
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<td>May 31</td>
<td><strong>Radical Behaviorism and Cognitive Information Processing:</strong> discussion of Chapters 2 and 3 in Driscoll</td>
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<td>June 2</td>
<td><strong>Meaningful Learning and Schema Theory:</strong> discussion of Chapter 4 in Driscoll</td>
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<td>June 7</td>
<td><strong>Cognitive and Knowledge Development:</strong> discussion of Chapter 6 in Driscoll</td>
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<td>June 9</td>
<td><strong>Constructivism:</strong> discussion of Chapter 11 in Driscoll</td>
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<td>June 14</td>
<td><strong>Varieties of Constructivism: A Framework for Comparison:</strong> discussion of Chapters 18 and 20 in Steffe et al. (reader)</td>
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<td>June 16</td>
<td><strong>Interactive Theories of Cognitive Development:</strong> discussion of Chapter 7 in Driscoll</td>
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<td>June 21</td>
<td><strong>Situated Cognition:</strong> discussion of Chapter 5 in Driscoll</td>
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<td>June 23</td>
<td><strong>Social Cognition:</strong> discussion of Chapters 2 and 8 in Steffe et al. (reader)</td>
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<td>June 28</td>
<td><strong>Gagné's Theory of Instruction:</strong> discussion of Chapter 10 in Driscoll</td>
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<td>June 30</td>
<td><strong>Toward a Personal Theory of Learning and Instruction:</strong> discussion of Chapter 12 in Driscoll</td>
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