PTED 7281-03

INDEPENDENT PROJECT:

LF08 MATH CONTENT PEDAGOGY: GRADES 6-8

Semester Hours: 3

Semester/Year: Summer 2008

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DISTANCE LEARNING INFORMATION

Distance Learning Helpline number = 678-839-6248
Distance Learning Student Guide = http://www.westga.edu/~distance/handbook.html
WebCT Login and Help page: http://nibbler.westga.edu/webct/public/home.pl
Distance Learning Library Resources: http://www.westga.edu/~library/depts/offcampus/
Ingram Library Information: http://www.westga.edu/~library/info/library/shtml
UWG Distance Education: http://www.westga.edu/~distance/

COURSE DESCRIPTION

Prerequisite: Bachelor's Degree and Academic Advisor's Approval

This course is designed to examine concepts and materials appropriate for 6-8 mathematics education. Current research is examined and discussed to provide teachers with strategies for incorporating the process standards as a way of deepening the understanding of the Georgia Performance Standards (GPS).

CONCEPTUAL FRAMEWORK

The conceptual framework of the College of Education at UWG forms the basis on which programs, courses, experiences, and outcomes are created. By incorporating the theme "Developing Educators for School Improvement," the College assumes responsibility for preparing educators who can positively influence school improvement through altering classrooms, schools, and school systems (transformational systemic change). Ten descriptors (decision makers, leaders, lifelong learners, adaptive, collaborative, culturally sensitive, empathetic, knowledgeable, proactive, and reflective) are integral components of the conceptual framework and provide the basis for developing educators who are prepared to improve schools through strategic change. National principles (NBPTS 1, 2, 3, 4 & 5), propositions (NBPTS), and standards (Learned Societies) also are incorporated as criteria against which candidates are measured.

The mission of the College of Education is to develop educators who are prepared to function effectively in diverse educational settings with competencies that are instrumental to planning, implementing, assessing, and re-evaluating existing or proposed practices. This course's objectives are related directly to the conceptual framework and appropriate descriptors, principles or propositions, and Learned Society standards are identified for each objective. Class activities and assessments that align with course objectives, course content, and the conceptual framework are identified in a separate section of the course syllabus.

COURSE OBJECTIVES

The students will:

1. address the relationships between students and mathematics (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   (Decision Makers, Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)

2. recognize the importance of the qualitative dimensions of student's learning (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   (Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)

3. build beliefs about what mathematics is, about what it means to know and do mathematics, and about children's view of themselves as mathematics learners in 6-8 classroom (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   (Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)

4. gain an understanding of the Standards 2000 (NCTM, 1998) and apply recommended strategies in 6-8 classroom (NCTM, 1990; Stein, et. al., 2000; Moon & Schulman, 1995);

   (Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.3, 2.8)

5. gain an understanding of the constructivist theory of math instruction as this relates to 6-8 classrooms (NCTM, 1998, 1990, 2000; Stein, et. al., 2000; Moon & Schulman, 1995); and

   (Adaptive, Empathetic, Knowledgeable, Proactive, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.8)

6. gain an understanding of alternative assessment for use with instruction as this relates to 6-8 mathematics (NCTM, 1990, 2000; Stein, et. al., 2000; Moon & Schulman, 1995).

   (Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Proactive, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.8)

TEXTS, READINGS, AND INSTRUCTIONAL RESOURCES

Required Texts: NONE
*Selected journal articles will be used based on individual student needs

Journals:
Mathematics Teacher
Mathematics Teaching in the Middle School

Supplemental Texts/Readings:

Clarke, D. M. (1997). The changing role of the mathematics teacher. *Journal for Research in Mathematics Education*, 28(3), 278-308.

Farrell, M. A. (1993). Rethinking how we teach: Learning mathematical pedagogy. *The Mathematics Teacher,* 86(1), 75-79.

Hill, H.C., Rowan, B., & Ball, D. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. *American Educational Research Journal, 42*(2), 371- 406.

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.

National Council of Teachers of Mathematics. (2001). *Mathematics assessment: Cases and discussion questions for grades K-5*. Reston, VA: National Council of Teachers of Mathematics.

National Council of Teachers of Mathematics. (2001). *Learning from assessment: Tools for examining assessment through standards.* Reston, VA: National Council of Teachers of Mathematics.

National Council of Teachers of Mathematics. (2001). *Mathematics assessment: Myths, models, good questions, and suggestions.* Reston, VA: National Council of Teachers of Mathematics.

Stigler, J. W., & Hiebert, J. (1997). Understanding and improving classroom mathematics instruction: An overview of the TIMSS video study. *Phi Delta Kappan,* 79(1), 14-21.

Thompson, A. (1984). The relationship of teachers' conceptions of mathematics teaching to instructional practice. *Educational Studies in Mathematics*, 15, 105-127.

Van de Walle, J. A. (2007) *Elementary and middle school mathematics: Teaching developmentally, 6th edition*. Boston, MA: Pearson Education, Inc.

ASSIGNMENTS, EVALUATION PROCEDURES, AND GRADING POLICY

Assignments

1. **Learning Festival:** Each student will attend the University of West Georgia Learning Festival in its entirety. Students are expected to be present and attend morning sessions and to each class session from 1:00 - 3:00pm. Each class member should receive a **copy of the Learning Festival Session Form** by which each student will document the sessions attended. Student will submit 3-2 page reflection papers discussing their experiences and knowledge gained from attending the UWG Learning Festival morning sessions. (Graded by a Rubric; Objectives: 1, 4, & 5) **Paper 1 Due: Wednesday, June 4, 2008, Paper 2 Due: Friday, June 6, 2008, Paper 3 Due: Friday, June 13, 2008**.

2. **Classroom Application Reflection:** Students, in groups of 3-4, will participate in an online reflective discussion on three or more strategies for effectively implementing the GPS they plan on using in their classrooms in the upcoming school year. Students will discuss the reasons for their selections and jointly analyze barriers and arrive at solutions for successfully implementing selected strategies. The dates for these discussions will be finalized in class. (Graded by checklist; Objectives: 1, 4, & 5)

3. **Article Reflections**: Students reflect on five journal articles related to the effective implementation of a standards-based classroom. Students will find three articles. Two articles will be given in class. Each journal article reflection should follow the *Learning From A Professional Journal* guidelines. (Graded by a Checklist; Objective 3) Journals will be due on June 30, 2008.

4. **Research/Reflection Paper or PowerPoint Presentation:** Based on the group and class discussions, each student will either write a research/reflection paper or create a PowerPoint Presentation. The research/reflection paper should not be less than 10 pages or exceed 15 pages. The paper/PowerPoint should outline effective strategies for implementing the GPS, barriers for implementing the strategies, and suggested solutions based on research to assist with the effective implementation of the GPS. (Graded by a Rubric; Objective 3) Paper/PowerPoint will be due Monday, July 2, 2008.

Tardy Submission of Assignment Policy: Assignments that are submitted after the due date will be reduced by 10%.

Evaluation Procedures

Learning Festival	50	points	A = 100 - 90%
Classroom Application Reflection	50	points	B = 89 - 80%
Article Reflections	75	points	C = 79 - 70%
Research Paper/PowerPoint	100	points	D = 69 - 60%
Professionalism	25	points	
TOTAL	**300 POINTS**		

Professionalism Policy

Professionalism will be graded as follows:

Grade	Tardies/Left Early	Unexcused Absences	Unprofessional Conduct	Late Assignments
A	0-1	0	0	0
B	2-3	1	1 event	1
C	4-5	2	2 events	2
D	5-8	3	3 events	3

Attendance Policy: Students are expected to attend class and be respectful of the instructor and other students. Since emergencies do occur, you will be allowed one absence without grade

reduction. Absences beyond one will require a written summary or PowerPoint presentation of the chapters covered during that class. Ten percent of your grade will be deducted from your final grade for each absence not accompanied by a summary/PowerPoint.

CLASS TOPIC OUTLINE

Session 1 - 6/2	Course Introduction & Effective Implementation of GPS
Session 2 - 6/3	The Number and Operations Domain of the GPS
Session 3 - 6/4	The Data Analysis and Probability Domain of the GPS
Session 4 - 6/5	The Algebra Domain of the GPS
Session 5 - 6/6	The Geometry Domain of the GPS
Session 6 - 6/13	Learning Festival Paper 3
Session 7 -	Online Group Discussions
Session 8 - 6/30	Article Reflections
Session 9 - 7/2	Research Paper or PowerPoint Presentation and Course Evaluations

ACADEMIC HONESTY

Students are expected to adhere to the highest standards of academic honesty. Plagiarism occurs when a student uses or purchases ghost-written papers. It also occurs when a student utilizes the ideas of or information obtained from another person without giving credit to that person. If plagiarism or another act of academic dishonesty occurs, it will be dealt with in accordance with the academic misconduct policy as stated in *The Student Handbook, Undergraduate Catalog,* and *Graduate Catalog*.