

Culture in the Mathematics Classroom Fall 2010 Syllabus

Instructors:	Dr. Tonya Bartell & Frieda Parker
Contact Info:	tbartell@udel.edu catherine.parker@unco.edu (o) 302-831-1658 (o) 970-351-2891 (c) 302-668-8354 (c) 970-301-1987
Course Location:	Elluminate Meetings: www.illuminate.com ; http://elm.illuminate.com/HOSTEDUWYO/index.html
Course Information:	Blackboard (BB): bb.unco.edu
Course Time:	Mondays, 7:00-8:30pm

COURSE DESCRIPTION

The purpose of this course is to examine issues related to the role of culture in the mathematics classroom. We will explore ways to integrate knowledge of the role of culture in mathematics teaching and learning into mathematics instruction with the goal of developing students' internal motivation. The course is also designed to provide secondary mathematics teachers an opportunity to reflect about teaching, learning, and their expectations for students.

This course assumes that effective mathematics teaching requires:

- Knowledge of mathematics content;
- Instructional practices that emphasize reasoning, communication, and building on children's existing understandings; and
- Knowledge of students and the communities in which they live, which includes an understanding of how race, culture, ethnicity, power, and language intersect with mathematics teaching and learning.
- Instructional practices that support the development of students' internal motivation rather than a reliance on external motivators.

We will engage in these topics through the examination and discussion of readings and analysis of examples of mathematics instruction. Many assignments will involve interacting with secondary school students in your school setting, where you will be encouraged to observe and apply the methods and strategies we investigate and discuss.

OVERARCHING GOAL

Teachers develop the knowledge, skills, and motivation to implement culturally responsive pedagogy (CRP) in their mathematics classrooms to help students become internally motivated and, ultimately, become more successful math learners.

COURSE OBJECTIVES

- ❖ Understand what culture is.
- ❖ Understand the role culture plays in influencing teachers' and students' values, beliefs, and perspectives about teaching and learning mathematics.
- ❖ Understand the multiple links between building on students' cultural resources and motivation.
- ❖ Develop knowledge about strategies and techniques for adapting classroom practices to students' background and learning needs.
- ❖ Understand the nature of socio-mathematical norms that support a productive learning culture in a secondary mathematics classroom.
- ❖ Develop knowledge about strategies and techniques for facilitating the establishment of socio-mathematical norms in a secondary mathematics classroom.

ESSENTIAL UNDERSTANDINGS

- ❖ **Culture**
 - Culture is the knowledge, values, and beliefs that a person internalizes by participating in social groups.
 - Culture influences one's thoughts and behaviors.
 - People are influenced by more than one culture.
 - While culture strongly influences people, people are still individuals.
 - People have varying attitudes and beliefs about the existence, value, and role of culture in society in general, and school in particular.
- ❖ **Culturally Responsive Pedagogy (CRP)**
 - CRP is a mindset used to inform teaching practice as opposed to a specific set of instructional practices.
 - CRP is the process of learning about, understanding, and responding to the role of students' cultures on their learning.
 - Implementing CRP is an ongoing process of research, planning, implementation, and reflective evaluation.
- ❖ **Culturally Responsive Pedagogy and Internal Motivation**
 - Culture influences the conditions under which a person is internally motivated to learn in school.
 - The four conditions of CRP that influence internal motivation of students regardless of their culture are establishing inclusion, developing a positive attitude, enhancing meaning, and engendering independence.
- ❖ **Culturally Responsive Pedagogy and the Mathematics Classroom**
 - Mathematics is a cultural process (i.e., mathematics is not "culture-free")
 - People have strong beliefs about the nature & purpose of mathematics.
 - All math classrooms have a culture generated by the teacher and students and this culture influences students' motivations and learning.
 - Norms related to the culture of learning mathematics (socio-mathematical norms) can be integrated into CRP to facilitate students' internal motivation to learn mathematics and ultimately, their learning of mathematics.

WORKING ASSUMPTIONS

- ❖ Depth is favored over breadth. This is not a survey course. There is no attempt to “cover” all of anything. In general, we will limit our discussion of a topic to a few readings, a book, chapter, or journal article. However, *we will have an opportunity to read much more than we discuss in our Elluminate sessions.*
- ❖ Ideas, not individuals, are open to challenge. The nature of the course should produce a diversity of ideas. To insure that multiple voices are heard, the course must foster safe participation. Given that “tone” and other aspects of personal interaction are invisible in online interactions, we must be especially careful to clarify assumptions, understandings, and misunderstandings with one another. You should feel comfortable being your own advocate concerning ideas and scholarly arguments. You should also feel comfortable challenging the ideas and thinking of others. However, the challenge cannot disparage the personhood of others. We are here, in part, to learn with, from, and about each other.
- ❖ Questions present an opportunity to learn. Students sometimes feel that they should not ask questions because they may “sound dumb.” On the contrary, questions can be an indication of one’s engagement with the subject matter. Please do not self-censor because your questions may in fact lead to clearer understanding for us all.
- ❖ The role of the instructors is to facilitate your learning, not dictate it. There is no one correct way for you to interpret or implement the material in this course. Therefore, in order for you to make meaning of this course, you will need to actively engage with the readings, your fellow students, and in implementing what you have learned into your teaching. Instruction that dictates meaning interferes with these learning activities. Consequently, the instructors will serve as guides and facilitators rather than “the sage on the stage.”

EXPECTATIONS

- ❖ For us to have a strong intellectual community, we need everyone to complete readings before our Elluminate sessions and be ready to engage in activities and online discussions thoughtfully. Dig deeply into authors’ arguments before responding.
- ❖ **Active participation is vital to this class.** Participation means more than logging on to Elluminate. Participation means contributing to the discussion and making meaningful comments. Participation means asking questions, actively encouraging other class members to contribute, and making sure not to monopolize discussions.
- ❖ **Respect.** We will be engaging with familiar and new ideas about learning and teaching mathematics. We will also be explicitly discussing issues of culture in mathematics learning and teaching that demand careful and respectful interaction. Please be mindful of your participation in Elluminate discussions and think about how your comments connect to the flow of the conversation. You have the right to learn in a respectful environment.

COURSE MATERIALS**Required Course Texts:**

- ❖ Course readings are available on our course Blackboard site: bb.unco.edu

Recommended Texts:

- ❖ *Culturally Responsive Mathematics Education*. (2009). Brian Greer, Swampna Mukhopadhyay, Arthur B. Powell, and Sharon Nelson-Barber. New York: Routledge.
- ❖ *The Dreamkeepers: Successful Teachers of African American Children*. (1994). Gloria Ladson-Billings. San Francisco, CA: Jossey-Bass Publishers.
- ❖ *Culturally Specific Pedagogy in the Mathematics Classroom: Strategies for Teachers and Students*. (2008). Jacqueline Leonard. New York: Routledge.
- ❖ *Classroom Diversity: Connecting Curriculum to Students' Lives*. (2001). E. McIntyre, A. Rosebery & N. Gonzalez. Portsmouth, NH: Heinemann.
- ❖ *Rethinking Mathematics: Teaching Social Justice by the Numbers*. (2005). Eric Gutstein & Bob Peterson. Milwaukee, WI: Rethinking Schools.
- ❖ *Understanding by Design* (Expanded 2nd edition). (2005). G. Wiggins & J. McTighe. Alexandria, VA: Association for supervision and Curriculum and Development.
- ❖ *Language, Culture, and Teaching: Critical Perspectives*. (2nd edition). (2010). Sonia Nieto. New York: Routledge.

Important Websites:

- ❖ National Council of Teachers of Mathematics (NCTM) *Principles and Standards for School Mathematics*. www.nctm.org/standards (120 day free trial available)
- ❖ NCTM position statement on Equity in Mathematics Education: <http://www.nctm.org/about/content.aspx?id=13490>
- ❖ NCTM position statement on Mathematics for Second Language Learners: <http://www.nctm.org/about/content.aspx?id=6368>
- ❖ Figure This! Problem Solving Activities in English/Spanish <http://www.figurethis.org/index.html>
- ❖ Math Stories: Database of mathematics word problems in English and Spanish <http://www.mathstories.com>

- ❖ Connecting Math to our Lives: Global Networking Project in English and Spanish
<http://www.orillas.org/math/>
- ❖ Teaching Mathematics for Social Justice: Database of resources for educators interested in incorporating social, economic, political, and cultural issues into the mathematics classroom <http://www.radicalmath.org>
- ❖ Rethinking Schools: Online resource for teachers committed to equity and to the vision that public education is central to the creation of a humane, caring, multiracial democracy. <http://www.rethinkingschools.org>
- ❖ Teaching Math through Culture: Website that explores mathematical basis of different cultural artifacts of Latino, Native American, and African American cultural groups
<http://www.rpi.edu/~eglash/csdt.html>
- ❖ African Mathematical Union Newsletter: Ethnomathematics, articles on such topics as using cultural games to teach math and ancient mathematical systems from non-Western countries. http://www.math.buffalo.edu/mad/AMU/amuchma_online.html
- ❖ Culturally Situated Design Tools: Many cultural designs are based on mathematical principles. This software will help students learn standards-based mathematics as they simulate the original artifacts, and develop their own creations. <http://www.rpi.edu/~eglash/csdt.html>

COURSE POLICIES

Distance Based Learning

This course is distance learning based. Distance learning is self-directed and requires a high level of responsibility, dedication and self-discipline on the part of the student. In order to succeed you need to log in to the course regularly to check announcements, participate in discussions and access course content. At a minimum, you must attend all on-line course activities, participate in weekly threaded discussions, and submit assignments in a timely manner.

Attendance

Attendance is mandatory. We understand that emergencies come up and that you may have to miss a class activity or threaded discussion. However, failure to attend or participate in assigned discussions will influence the class participation portion of your grade.

In the event of an absence, you are responsible for catching up on any missed material, and you may be assigned extra work to make up the missed activity or discussion. Absence is not an excuse to miss assignment deadlines.

Submission Requirement and Deadlines

All course assignments should be submitted to Blackboard on or before the due date listed in the syllabus. If for some reason an assignment is submitted by email, then on the Subject header put

the following: <name of assignment><your last name>. This is important because it will help us in tracking assignments. When sending an email other than assignments, please identify yourself fully by name and class along with a reason/subject for the email, not simply by an email address.

We both check our email regularly. We will respond to course related questions within 48 hours, excluding weekends. Comments on formal assignments may take up to two weeks.

Late Assignments

All work must be completed by the assigned deadlines. Conflicts with an assignment deadline should be discussed and resolved *before* the assignment's due date. Late assignments are only accepted if you have contacted an instructor in advance of the due date, and we agree to accept the late work. If you are not online on the day an assignment is due, and do not make other arrangements to get the assignment submitted, it will be considered late. Late assignments might be evaluated at a higher standard because of the additional time available to work on it.

Odd things happen in cyberspace – emails get lost, servers disconnect temporarily, and logins fail. Do not wait until the last minute to do your work. Allow time to meet deadlines. Reply and check for replies on every email sent and received. You are responsible for getting your work submitted on time.

Communication

All members of the class are expected to follow the rules of common courtesy in all email messages, threaded discussions, and chats. Failure to do so will result in a warning from us for the first offense and additional actions up to removal from the course for additional violations.

You will need the following technology requirements for this course:

1. High speed internet access either at your home or school
2. Headset with microphone and speakers for online discussions
3. Webcam so we can put faces to names
4. Writing tablet for written interaction on the white board
5. Access to Elluminate for synchronous sessions and Blackboard for discussion threads.
6. Word Processor (prefer *Microsoft Word*) and *Acrobat Reader* (download from www.adobe.com/products/acrobat/readstep2.html).

Academic Honesty

All students are expected to adhere to the University's *Student Code of Conduct*, designed to promote a safe and respectful learning environment. For more information about your rights and responsibilities as a UNC student, see http://www.unco.edu/dos/honor_code/index.html.

It is expected that members of this class will observe strict policies of academic honesty and will be respectful of each other. Any instances in which cheating, including plagiarism and unauthorized use of copyrighted materials, computer accounts, or someone else's work is determined, will be referred to Student Services and will be investigated to its full extent.

Disability Services

We wish to include fully all students in this course. Please let an instructor know if you need any special accommodations in the curriculum, instruction, or assessments of this course to allow you to participate fully. We will maintain complete confidentiality of any information you share with us. Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

Technological Assistance

Illuminate (866-388-8674) provides a 24/7 help desk and live online support.

General Assistance

Should you have additional concerns, questions, or needs, please reference the University of Northern Colorado's list of offices and centers at http://www.unco.edu/dos/referral_guide.html.

COURSE ASSIGNMENTS

These assignments are meant to provide learning experiences for you that align with the course goals. We believe that most meaningful learning is a result of struggling to integrate new ideas into your previously established ways of thinking and doing. In your assignments, we value the challenges you take on and your critical reflection of the issues. We are more impressed by work that takes on a challenge and struggles with it than by work that appears mainly to restate readings and discussions.

<u>Assignment</u>	<u>Points</u>
❖ Participation and Professional Conduct	Critical to overall success
❖ Weekly Blackboard and/or Homework Assignments	40 points
❖ Completion of IDI Assessment	10 points
❖ Does Culture Matter? Presentation & Reflection	25 points
❖ One Student at a Time Project	50 points
❖ Community Engagement Project	25 points
❖ Culture in the Math Classroom Project	50 points
Total:	200 points

The following are brief descriptions of these assignments to give you some idea of what they will entail. As the semester progresses, **we will distribute more detailed guidelines** for these projects, assignments, and weekly readings and reflections.

Participation and Professional Conduct

You are expected to participate actively in our interactive learning activities and threaded course discussions. Active participation is expected as a critical condition for learning anything more deeply. Your comments and questions are an integral part of this course. Success in this class hinges on thoughtful, critical, and respectful interaction.

Course participation includes both synchronous and asynchronous interactions.

- ❖ **Synchronous whole group course sessions:** held each Monday 7pm – 8:30pm. You are expected to participate in these live interactive discussion sessions. If you are unable to participate in a given session, you must notify an instructor in advance, view the tape of the session, and complete a reflection paper (1-2 pages) about what you learned from the session and what questions you have that were brought up as part of engaging in the session or which remain unaddressed/unanswered by the session.
- ❖ **Asynchronous Threaded Discussion:** You will post to weekly threaded discussion by Thursday of each week. You will respond to a minimum of two other participants' posts by Saturday of each week. These postings should be insightful responses or extend ideas. Just writing, "I agree/disagree" or "I think the same" is not considered an adequate response.

Weekly Blackboard and/or Homework Assignments

Each week you will have a set of readings & a BB discussion prompt and/or an assignment. You are expected to read and to reflect upon the ideas and research presented in the articles and in class. One component of your evaluation will be your participation in class discussions based in part on these readings; as such, you should prepare to participate in discussions about each reading. Another component of your evaluation will be your written response to the readings each week via participation in related Blackboard discussion threads; other times there will be specific assignments in place of the BB discussion thread. **BB discussion requirements:** You are expected to post to the BB discussion by Thursday at 10:00pm of each week, and are expected to reply to two classmates' posts by Saturday at 10:00pm each week.

Does Culture Matter? Presentation and Reflection

This project aims to support you in examining the ways in which issues of culture intersect with issues of mathematics teaching and learning. You will work in groups for this project. In your group, you will be asked to examine what your assigned vignettes suggest about how issues of culture and issues of mathematics teaching and learning intersect. Or, think about how your vignettes speak to the question, "Is mathematics education culture-free?" You will be asked to prepare a 10-minute presentation that addresses the ways issues of culture and issues of mathematics teaching and learning intersect (as illustrated by your vignette(s)) and what the implications are of your findings/conclusions for you as mathematics teachers. You will also be asked to submit an individual written reflection based on this activity.

One Student at a Time Project: Cultural Inquiry

This project engages you in the cultural inquiry process. The cultural inquiry process is a way to broaden teachers' understandings of culturally diverse students and to maximize these students' successes. For this project, you will identify a focus student. You will begin by reflecting on what you already know about this student and by identifying "puzzlement(s)" you have about the student. Puzzlements may include problems, concerns, or student behaviors or attitudes that you do not understand. You will next work to identify alternative cultural hypotheses to explore, you will gather and analyze relevant information, and you will develop, implement and evaluate an intervention. You will be asked to submit a paper detailing the various aspects of this project.

Community Engagement Project

The purpose of this assignment is to support you in gaining culturally grounded knowledge of your students by engaging with their communities. In this project you will be asked to choose from a list of projects that may help you see the community around your school with different lenses. You will be asked to choose or design an activity that fits your personality, comfort level, and knowledge of your students. You will be asked to write a response that details what you did, how you felt, and how this experience might inform your mathematics instruction.

Culture in the Mathematics Classroom Project

For this project, you will engage in one practice cycle in which you develop, implement, and evaluate your practice according to Wlodkowski & Ginsberg's framework as discussed in class. You will be asked to explain and justify what you are going to do (or what dimension you are going to address), including why you think it will work (experiential evidence) and what literature suggests about why this might be an effective strategy. You will need to consider what data you will collect to evaluate the effectiveness of what you did and you will evaluate and reflect on how it went.

EVALUATION & GRADING

Letter grades will be assigned based on the total number of points that you earn:

179 – 200	= A
159 – 178	= B
139 – 158	= C
119 – 138	= D
< 119	= F

*Pluses and minuses will be given to borderline grades.

In this course, you are encouraged to take risks, confront mathematical and pedagogical misconceptions, deeply examine issues of culture, and build a new relationship with the study of mathematics teaching and learning. Students will be evaluated on the following criteria:

- Is the work of the student thoughtful (e.g., raising thought-provoking questions and interesting ideas or engaging critically with issues), rigorous, and prompt?
- Has the student developed insights beyond a superficial reaction? Or, does the work of the student address multiple ideas from the course, demonstrate some insight of their own, and include a high level of detail?
- Is the student's argument or explanation clear, coherent, and thoroughly developed (demonstrating deep understanding of the ideas)?

Grades are based on the following:

“A” indicates excellence: The work has been of excellent quality and contained no technical errors. Writing consistently showed evidence of understanding, synthesis, and reflection upon course material. Projects addressed multiple ideas from the course, demonstrated insight on the part of the individual (such as making new connections among course ideas) and included a high level of detail.

“B” indicates good work: The work has been of good quality but not exceptional and contains only minor technical errors. Writing consistently showed evidence of understanding the course material, but did not often show evidence of synthesis. Projects noted the big ideas, yet did not make new connections among the ideas from the course or provide sufficient detail.

“C” indicates competency, yet reflects poor performance: The work has been of acceptable quality but contains numerous or serious technical errors. Writing consistently showed incomplete or inconsistent understanding of course material. Projects missed some of the important ideas or suggested misunderstanding of ideas in the course.

You must display at least a “C” level of competency in order to complete the course successfully. You must display at least a “B” level of competency for compensation.

TENTATIVE COURSE CALENDAR			
Date	Topic	Reading Due	Assignment Due
8/23	<p>Brief Course Introduction</p> <ul style="list-style-type: none"> • Questions about syllabus? <p>What is culture?</p> <ul style="list-style-type: none"> • Defining culture • Examining complexities of culture <p>Introduction to IDI Assessment</p>	<ul style="list-style-type: none"> • Course syllabus • The case of Marisol Martinez 	<ul style="list-style-type: none"> • Complete readings for class • Guiding question to consider before class: <i>What is culture?</i>
8/30	<p>Culture and Learning: Does Culture Matter?</p> <p>Culture and Learning</p> <ul style="list-style-type: none"> • Vignette exploration • Introduction to “Does culture matter...” assignment • Discussion: Is mathematics culture free? <p>Using the cultural inquiry process to maximize student success: An Introduction</p>	<ul style="list-style-type: none"> • Does culture matter? An example for discussion • Jacob et al. (1996) <p>Optional:</p> <ul style="list-style-type: none"> • Bishop (1988) • Greer et al. (2009), Ch. 5 • Davis (1989) 	<ul style="list-style-type: none"> • Complete readings • Guiding question to consider before class: <i>Does culture matter in teaching and learning?</i> • Complete IDI assessment by 8/30/10 • Post to BB discussion for 8/23 to 8/30: <i>Is mathematics education culture-free?</i>
9/6	<p>NO CLASS LABOR DAY HOLIDAY</p>	<p>In place of class:</p> <ul style="list-style-type: none"> • Post to BB discussion for 8/30 to 9/13: <i>How did IDI go?</i> • Begin “<i>Does culture matter in the teaching and learning of mathematics?</i>” assignment, due 9/20/10. 	
9/13	<p>Group IDI profile session and discussion</p>	<ul style="list-style-type: none"> • Hammer, Bennett & Wiseman (2003) <i>pp. 421 – 426 only</i> • Hammer (2009), <i>pp. 1-4 only</i> 	<ul style="list-style-type: none"> • Complete readings • Post to BB discussion for 9/13 to 9/20: <i>Respond to “All math classrooms have a culture generated by the teacher and students and this</i>

			<i>culture influences students' motivations and learning."</i>
9/20	Does Culture Matter...? Group presentations Discussion of presentations	<ul style="list-style-type: none"> • Ladson-Billings (1995a) • Ladson-Billings (1995b) 	<ul style="list-style-type: none"> • Complete readings • Does Culture Matter Presentations
9/27	What is culturally relevant pedagogy? <ul style="list-style-type: none"> • Discussion of Ladson-Billings central tenets of CRP • Vignette examination: Is this culturally relevant pedagogy? Why or why not? • Initial questions and concerns about developing and implementing CRP 	<ul style="list-style-type: none"> • Jones (2004) • Leonard, Napp, & Adelke (2009) Optional: <ul style="list-style-type: none"> • Ensign (2005) • Gutstein et al. (1997) 	<ul style="list-style-type: none"> • Complete readings • Guiding question to consider before class: <i>What is culturally relevant pedagogy?</i> • BB Discussion for 9/20 to 9/27: <i>Is culturally relevant pedagogy for White students, too?</i> • Does Culture Matter? Written reflection due
10/4	Classroom Culture & Student Motivation <ul style="list-style-type: none"> • Is motivation a concern in mathematics classrooms? • How do you know if a student is motivated in math class? • Role of classroom culture in supporting student motivation 	<ul style="list-style-type: none"> • Turner & Meyer (2009) (p.539-546) 	<ul style="list-style-type: none"> • Complete readings • Guiding question to consider before class: <i>How does the classroom culture influence student motivation?</i> • BB Discussion for 10/4 to 10/11: <i>Can teachers influence students' motivation to learn mathematics? Why or why not</i>
10/11	W & G framework <ol style="list-style-type: none"> 1. Establishing inclusion. 2. Developing attitude. 3. Enhancing meaning. 4. Engendering competence. 	<ul style="list-style-type: none"> • Ginsberg (2005) • Ginsberg & Wlodkowski (2000) Optional:	<ul style="list-style-type: none"> • Complete readings • Guiding question to consider before class: <i>What is the rationale for and purpose of the</i>

	Case examination	<ul style="list-style-type: none"> • Wlodkowski & Ginsberg (1995) • Dweck & Master (2009) 	<i>W&G framework?</i> <ul style="list-style-type: none"> • BB Discussion for 10/11 to 10/18: <i>What classroom practices have you used or seen used that align with one or more aspects of the W&G framework? What was the evidence?</i>
10/18	<p>Theory into Practice: Facilitating Effective Small Group and Whole Class Discussions</p> <p>Break out discussion: What do the conclusions from Esmonde et al. & Khisty and Chval suggest about our consideration of the W & G framework, in particular with respect to establishing inclusion and enhancing meaning?</p> <p>Brainstorm session: Brainstorm what mathematics teachers can do, both during math class and outside of math class/outside of school to address these considerations.</p>	<ul style="list-style-type: none"> • Esmonde et al. (2009) <i>read introduction, results, and conclusions only</i> • Khisty & Chval (2002) <p>Optional:</p> <ul style="list-style-type: none"> • Herbel-Eisenmann & Breyfogle 	<ul style="list-style-type: none"> • Complete readings • Guiding question to consider before class: <i>What do I do as a teacher to facilitate effective group discussion in my class?</i> • BB discussion for 10/18 to 10/25: <i>What might you do as a teacher to (a) attend to students' social identities in group formations (Esmonde et al.) and (b) to teach students academic language (Khisty & Chval)?</i>
10/25	<p>Theory into Practice: Complex Instruction</p> <p>We can support effective small group and whole class discussion by providing students</p> <p>(a) Group-worthy tasks</p> <ol style="list-style-type: none"> What are group-worthy tasks? Examine an example <p>(b) Explicitly addressing status issues</p> <ol style="list-style-type: none"> Discussion and exploration of teacher moves to address status issues 	<ul style="list-style-type: none"> • Boaler • Cohen et al. (1999) • Lotan (2003) <p>Optional:</p> <ul style="list-style-type: none"> • Cohen (1998) 	<ul style="list-style-type: none"> • Complete readings • BB discussion for 10/25 to 11/1: <i>How might aspects of complex instruction support us in our work with the W & G framework?</i> • One Student at a Time Cultural Inquiry Project Due
11/1	Culture in the Mathematics Classroom Final Project Extended Discussion	No readings	No required posts or assignments due

	<p>What struggles are you facing?</p> <p>What counts as evidence of effective instruction?</p>	<p>Optional:</p> <ul style="list-style-type: none"> Boaler (2008) 	
11/8	<p>Theory into Practice: Language in the Mathematics Classroom</p>	<ul style="list-style-type: none"> Moshkovich & Nelson-Barber (2009) <p>Optional:</p> <ul style="list-style-type: none"> Khisty (1995) Garrison & Mora (1999) 	<ul style="list-style-type: none"> Complete readings Guiding question to consider before class: <i>What language issues exist in my classroom?</i> BB Discussion for 11/8 to 11/15 <i>What questions, concerns and/or insights do you have about language in the mathematics classroom?</i> Community Engagement Project Due
11/15	<p>Theory into Practice: Thinking and Acting Beyond the Classroom</p>	<ul style="list-style-type: none"> Gutstein & Peterson (2005) Lesser (2007) <p>Optional:</p> <ul style="list-style-type: none"> Skovsmose (1990) Moses (1994) Frankenstein (1990) 	<ul style="list-style-type: none"> Complete readings Guiding question to consider before class: <i>How might I help students develop critical consciousness with mathematics?</i> BB Discussion for 11/15 to 11/22: <i>Go to www.radicalmath.org What resources for your teaching provided on this site are you excited about & how might you use them? What concerns do you have?</i>
11/22	NO CLASS	In place of class: Work on Culture in the Mathematics Classroom Final Project	

	THANKSGIVING HOLIDAY	BB Discussion for 11/22 to 11/29: <i>Question Forthcoming</i>	
11/29	Final Presentations of Culture in the Mathematics Classroom Projects	None	Culture in the Mathematics Classroom Final Project Due
12/6	Final Presentations of Culture in the Mathematics Classroom Projects Course Feedback & Reflection	None	Culture in the Mathematics Classroom Final Project Due

REFERENCES FOR COURSE READINGS

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