#### Instructor information:

Dr. Brad Thiessen Office: 414 Ambrose Hall Hours: MWF 9-10; TR 10:40-12:00

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Site: http://www.bradthiessen.com twitter.com/Thiessen

#### Overview:

The primary purpose of this course is to help prepare secondary teaching certificate candidates to become effective mathematics educators. Current issues, approaches, and materials in school mathematics teaching are addressed. This is an applied course, in that students will come away from the course with specific activities, lessons, and teaching techniques that can be used in secondary school mathematics classrooms.

## **Catalog description:**

Limited to secondary teaching certificate candidates. Current issues, approaches, and materials in school mathematics teaching, including philosophy and objectives, curricula, local/state/national standards, evaluation of current research. Students are required to complete a field component of 25 class contact hours. A minimum of two field components (80 hours) is required after field experience and before student teaching

## **Prerequisites:**

MATH 192 (Calculus II); EDUC 205 (Field Experience), 284 (Child & Adolescent Psychology), and 309 (Tests & Measurement). Students are encouraged to take this course the semester prior to student teaching.

## By the end of this course, students will...

- Develop and defend a philosophy of mathematics education.
- Locate and identify local, state, and national standards (Danielson Domain #1)
- Plan effective mathematics instruction, using research-based methods (Danielson Domain #1)
- Evaluate current research in mathematics education (Danielson Domain #1)
- Effectively assess student learning through standards-based grading (Danielson Domains #1 and #3)
- Effectively manage a mathematics classroom (Danielson Domain #2)
- Gain experience in teaching and job interview simulations (Danielson Domain #3)
- · Locate resources, reflect, and participate in ongoing development through social media (Danielson Domain #4)

#### Course materials:

Recommended: *Teaching Secondary Mathematics: Techniques & Enrichment (8th ed) by Posamentier* (ISBN: 9780135000038) A Mathematician's Lament (ISBN: 978-1934137178)

Optional: The Mathematics that Every Secondary School Math Teacher Needs to Know by Sultan (ISBN: 9780415994132)

Succeeding at Teaching Secondary Mathematics: Your First Year by Roddick (ISBN: 978-1412927635)

Mathematics Education for a New Era: Video Games as a Medium for Learning by Devlin (ISBN: 9781568814315) Readings in 2ndary Mathematics Education-Course Pack - \$51 (http://nctm.org/catalog/product.aspx?ID=14062) E-Membership to NCTM - \$39 includes subscription to Math Teaching in the Middle School or Math Teacher

Websites: Devlin's Angle: http://www.maa.org/devlin/

Think Thank Thunk - http://www.shawncornally.com/

Dy/dan - http://blog.mrmeyer.com/ (Read one post and present/discuss in class)

NCTM High School: http://nctm.org/resources/high.aspx

Illuminations: http://illuminations.nctm.org/

Common Core Standards: http://www.corestandards.org/

Anyone who tries to make a distinction between education and entertainment doesn't know the first thing about either. -- Marshall McLuhan

The job of the dramatist is to make the audience wonder what happens next. Not to explain to them what just happened, or to suggest to them what happens next. -- David Mamet

#### Grading methods & criteria:

We will use standards-based grading in this class. This process will be explained early in the course. Your performance on the 8 course outcomes will be evaluated at multiple times using multiple sources of evidence, such as position papers, research summaries, teaching simulations, reflection papers, lesson/unit plans, quizzes, and discussions.

Your final grade will be assigned based on the following rubric (more detailed rubrics will be developed in-class):

- A = Consistent, outstanding performance in mastering most, if not all, of the course outcomes.
- B = Consistent, solid performance in mastering most, if not all, of the course outcomes.
- C = Satisfactory performance on all outcomes. Progress was made towards attaining all outcomes.
- D = Unsatisfactory performance on some outcomes. Limited progress was made towards attaining outcomes.
- F = Failure to demonstrate any progress towards attaining any of the 8 course outcomes.

#### Attendance policy:

Class activities cannot be fully reproduced outside of class. Attending class and arriving on time is important. I will not deduct points from your grade for absences, but students with poor attendance generally do poorly in the class.

You **must** get my approval before turning in any assignments late. An assignment turned-in past the due date will earn a score no higher than 70%.

Attending the practicum experience and completing 25 practicum hours is required.

## Accommodations policy:

Students with disabilities who believe they may need accommodations in this class are encouraged to contact the Office of Services for Students with Disabilities at 333-6275 as soon as possible to better ensure that such accommodations are implemented in a timely fashion

## Academic integrity policy:

I encourage you to collaborate in studying or completing in-class activities, homework, or projects. You must work alone on tests. Review the SAU policy at http://web.sau.edu/Registration/documents/AcademicIntegrityPolicy.pdf

### Policy on the use of electronic equipment:

We will frequently access information online, so computers, cell phones, calculators, and other devices are welcome in class. Please be respectful of other students and make sure your devices aren't distractions.

#### Course procedures and expectations:

Through discussions, demonstrations, outside readings, in-class activities, simulated teaching sessions, and short papers, students will learn about current issues in mathematics education. Each class period, we will attempt to complete an indepth analysis of a particular issue that is directly related to the Danielson components. To do this, I will require you to spend some time prior to class researching the topic. While much of this research can be completed online, you can also choose one of the optional books listed in this syllabus as your source of information.

When we get to class, we will share what we learned from our research. Since many of these issues are complex and/or controversial, I fully expect that we will have some disagreements. My goal is NOT to force you to agree with me (or to reach consensus). In fact, I will be surprised if you do agree with me on many education-related topics. I believe reasonable people can disagree on many issues in education as long as they have evidence to support their viewpoints. I hope our discussions, analyses, and research will lead you to develop a personal teaching philosophy and style that are supported by evidence.

Because I want you to make progress towards becoming an effective math teacher, I will give you several opportunities to teach simulated lessons to the class. You'll be expected to teach topics from *The Mathematics that Every Secondary School Math Teacher Needs to Know* textbook, incorporating what you've learned in-class. As a class, we will develop a rubric to evaluate each other's teaching performance. This should help you to become a more critical, reflective teacher.

Because reflection is so important, I will frequently require you to spend time summarizing what you've learned through your research, our in-class discussions/activities, and your careful evaluation of me, your peers, and your cooperating teacher. This reflection can take many forms. I strongly recommend you participate in the online mathematics education community by participating in discussions and debates on any of the blogs listed on the first page of this syllabus. In fact, one way to demonstrate mastery of the "reflection" course outcome is to provide evidence that you either started, or have contributed something meaningful to, a mathematics education blog.

Below, I've pasted a list of topics that we may decide to focus upon this semester. Depending on our backgrounds and interests, the amount of time spent on each topic will vary. If you have any topics you would like us to cover in class, speak up.

#### **MATH 340 Possible Topics**

## I. Background & Philosophy of Mathematics Education (Useful in job interviews!!!)

Objectives: Students will explain the requirements of NCLB, including adequate yearly progress and highly qualified teachers

Students will identify the characteristics of a model mathematics teacher

Students will explain the importance of having high expectations for all students (same expectations?)

Students will explain the importance of teaching mathematics Students will map out topics/content in mathematics education

Students will identify current trends and debates in mathematics education Students will debate the merits of the NCTM content and process standards

Students will begin to develop their professional portfolios

Students will begin to develop their personal teaching philosophy

Topics: Course overview

No Child Left Behind: History and Requirements (proficiency and highly qualified teachers)

Characteristics of effective (or ineffective) math teachers: List these in your portfolio for later review.

What is mathematics? Why should we teach mathematics? What are the big issues?

History of and trends in mathematics education

NCTM Content & Process Standards: History, purpose and debate

Discussion of Portfolio Development: Teaching philosophy, unit/lesson plans, reflections on teaching

## II. Curricula: Planning Mathematics Instruction - Content Issues

Objectives: Students will select a content area to use in developing an instructional unit

Students will explain the importance of having a well-developed curriculum Students will begin to map out the scope and sequence of topics in their unit

Students will begin to create a unit plan, including the goals/rationale and the content (5 lesson minimum)

Students will identify how their unit goals align with the NCTM standards

Students will examine lesson plans and identify the objectives, content, activities, homework, and assessment Students will write effective learning objectives for lesson plans (clear, meaningful, measurable, student-focused)

Topics: What is mathematics? A review of courses taught in middle and high schools

What is a curriculum? Who develops curriculum? How do we define the scope and sequence? Debate on curriculum

Unit Plans: Goals/Rationale; Content; Assessment; Special materials needed

Lesson Plans: Objectives; Content; Activities (rationale/management); Homework; Assessment

What are learning objectives? How do we develop effective learning objectives? Clear, meaningful, measurable traits

Is there any content in mathematics that has become "obsolete?" Debate: conceptual vs. mechanical

How do we select a good textbook to use in our schools?

#### III. Instructional Strategies & Educational Research

Objectives: Students will identify various teaching strategies they can use to teach their lessons

Students will list the characteristics of effective lecturing, questioning, and answering

Students will demonstrate these characteristics in teaching a mini-lesson to the class

Students will debate the fairness and appropriateness of differentiated instruction in a classroom

Students will develop a lesson plan including supplemental activities for differentiated instruction

Students will debate the merits of cooperative learning

Students will explain how they will effectively manage and grade group work

Students will identify strategies used to increase/maintain student motivation

Students will explain how they will begin a lesson (preassessment, small concepts, problem solving) Students will summarize at least one research article (from a scholarly journal) regarding best practices

Students will debate the role of homework in mathematics education (amount, grading, differentiated homework)

Students will debate the role of technology in mathematics education (appropriateness)

Students will effectively use manipulatives in teaching a lesson

Students will develop the teaching strategies for lessons in their unit

Topics: What are the most effective teaching strategies used to teach mathematics in middle and high schools?

What are the characteristics of effective: lecturing, questioning, and answering?

What is differentiated instruction? Why should we differentiate our instruction? How do we do it? Is it fair? What is the role of cooperative group learning? When is it appropriate? How do we manage/grade group work?

How do we increase student motivation? How should we begin each class period? What is preassessment?

How do we keep students on-task? Should we begin with small concepts or should we begin with problem solving?

What does the research conclude on the best practices in mathematics education?

What is the role of homework in mathematics education? How much homework should be assigned?

Should homework be graded? How should homework be graded? Should all students be assigned the same

problems?

What is the role of technology in mathematics education? What are appropriate and inappropriate uses of tech?

What should students learn to do "by-hand" and what should students learn to do using technology?

## IV. Assessing & Evaluating Student Learning

Objectives: Students will define the word "assessment" and list reasons why assessment is crucial to student achievement

Students will identify the advantages of a variety of ways in which to assess student learning

Students will explain the concepts or reliability, validity, and measurement error

Students will calculate the reliability and standard error of measurement for a given test

Students will debate the role of standardized tests in mathematics education

Students will interpret scores from a standardized test and make appropriate educational decisions

Students will develop a "test blueprint" (table of specifications) for their unit assessment

Students will develop a "normal" classroom test using the characteristics of effective test items

Students will develop at least one performance task and a rubric they will use to evaluate student performance

Students will administer an assessment instrument as part of their unit

Students will debate issues in assigning grades to students: components, grading scales, fairness, effort

Topics: What is assessment? How does it differ from testing, measurement, or evaluation?

Why do we need to assess student learning? What are the formative and summative uses of assessment?

What are the various methods we can use to assess student learning?

## Fall 2012 - MWF 8:00-8:50 in Ambrose 413-A

By what criteria do we judge the quality of tests? How do we develop classroom tests aligned with our objectives? What is meant by the *reliability* of a test and the *validity* of a decision made from a test score?

What is meant by the "measurement error" of a test score?

How can we determine the level of reliability and validity in a classroom testing environment?

What is the role of standardized testing in mathematics education? Are standardized tests necessary?

How can we use the scores from a standardized test (ITBS/ITED) to make educational decisions?

What are the appropriate and inappropriate uses of scores from a standardized test?

What are the characteristics of effective test questions (multiple choice, true/false, closed/open-answer)?

What is meant by "authentic assessment?" Are performance assessments better than "normal" tests?

How do we develop scoring rubrics for performance tasks?

How do I develop a test? What is a "test blueprint?" What is a "table of specifications?"

How difficult should we make test questions (mastery tests)? How many items should be on a classroom test?

How do we administer classroom tests? How do we grade classroom tests? Should partial credit be awarded?

Is "showing work" important? Should tests be differentiated (in difficulty and/or content)?

What grading scale should be used to assign grades? Should percentages be used to determine grades?

What factors should be included in assigning grades to students? Can/should student effort be graded?

How do we deal with "failing" students?

V. Students hand-in their fully developed units. Students teach lessons to the class (including preassessment, activities, questions/answers, homework, and assessment of student learning)

#### VI. Other topics in Mathematics Education

Objectives: Students will complete a mock interview for a mathematics teaching position

Students will review and revise their list of characteristics of effective mathematics teachers

Students will complete their teaching philosophy

Students will develop their resumes

Students will complete their secondary math methods professional portfolios

Students will learn (from current and/or past administrators) the expectations of high-quality teachers Students will learn (from current and/or past teachers) the biggest challenges and rewards teachers face

Topics: How do I prepare for a job interview? What questions will be asked? What should I prepare?

Issues of gifted/talented education and special education Where can I find resources for professional development?

What things could I study in graduate school as I teach? Will I have to go to graduate school?

What is a "nationally certified" teacher?

What does it mean to be a "professional" teacher?

What tasks, outside of teaching, will be expected of me?

# Paper Guidelines:

## **Position papers:**

Informative/persuasive papers about a timely and controversial topic in mathematics education. While I expect you to choose a position to take on the controversial topics, I also expect that you will take time to examine all valid viewpoints.

You can research your topic online (from quality sources) or in journals. You can also talk to professors here on campus, interview educators/administrators in local school districts, or discuss the issue with Iowa Department of Education personnel. If you need help finding sources, I'd be more than happy to assist you.

Possible topics: No Child Left Behind & the high-stakes testing movement

NCTM Standards & standardized curriculum

Homework (how much, what type, how to grade, etc.) The (mis)use of calculators in mathematics classrooms

Traditional vs. New mathematics instruction

Merit-based teacher pay

Cooperative learning; School choice Testing, re-testing, standards based grading

Team teaching: US vs. International classroom instruction

Acceleration or Special Education

Class size; Partial credit; Assigning grades

I expect you to: Summarize the topic

Explain why the topic is controversial & important

Explain at least two viewpoints on the issue

Explain your viewpoint on the issue Defend your viewpoint through research

I expect that you will be able to debate your topic in class after you have written the paper. I feel as I could argue multiple sides of each of these issues, so feel free to choose whatever defensible viewpoint you want (do not simply choose the side you think I want you to choose).

**Research summaries**: These informative papers should summarize recent research into the best practices in mathematics education. I want these papers to focus on the best teaching strategies, methods, and materials to use in a secondary mathematics classroom. If you join NCTM, you can simply summarize an article from the most recent journal. Otherwise, you can find research articles online.

> I expect you to summarize the topic of the research, the methodology, the results, and the implications for teaching. Try to focus on how this research can help improve student achievement in our classrooms.

These papers will be short (approximately 3 pages)

Math Mistakes: Choose a post from <a href="http://mathmistakes.org">http://mathmistakes.org</a>/. Explain the student's error and how you

would work to overcome the misconception.

## Fall 2012 - MWF 8:00-8:50 in Ambrose 413-A

#### **Topics (resources)**

Week 1: Simulated job interview

What is math? Why should we teach math? Characteristics of (in)effective math teachers Development of a teaching philosophy

(Philosophy hand-outs)

Begin planning 2-week unit (5+ lesson plans; assessment)

#### Assignment

Plan first simulated lesson for week 3 Join NCTM (strongly recommended)

Complete practicum forms

Plan book summary (lessons learned Become familiar with math education blog Prepare 5-10 minute presentation on topic

Trends/Topics in math education

**Role of Calculators** 

Assessment/Accountability

Marzano - Teacher Effect:

http://www.mcrel.org/pdf/policybriefs/5032pi\_pbschoolteacherleaderbrief.pdf

Standards movement

Habits of mind:

http://www2.edc.org/cme/showcase/HabitsOfMind.pdf

Habits of mind, part 2: http://www.withoutgeometry.com/2010/09/habits-of-mind.html

Common Core Standards in Mathematics: http://www.corestandards.org/the-standards/mathematics

Wikipedia: http://en.wikipedia.org/wiki/Principles and Standards for School Mathematics

Standards-Based Grading

Meyer, D. (2006). How math must assess, 9/22/06:

http://tinyurl.com/sauhmma

Townsley, M. (2010). What is "standards based" grading? From Points to Learning:

http://sites.google.com/site/frompointstolearning/

Cornally, S. (2010). Various SBG posts. Think Thank Thunk: <a href="http://101studiostreet.com/wordpress/?p=947">http://101studiostreet.com/wordpress/?p=947</a>

Teacher performance/evaluation

Applied vs. theoretical mathematics

Meyer, D. (2010). Pseudocontext Saturdays: introduction: http://blog.mrmeyer.com/?p=8002

Meyer, D. (2010). Math class needs a makeover. TEDxNYED, 2010:

http://www.ted.com/talks/dan\_meyer\_math\_curriculum\_makeover.html

USA vs international student performance

Riddle, M. (2010). PISA: It's poverty not stupid. The Principal Difference, 12/15/2010:

http://tinyurl.com/pisapov

Ramanathan, G.V. (2010). How much math do we really need? The Washington Post, 10/23/2010:

http://tinyurl.com/mathneed

Homework: Is it effective? How much? Should it be graded?

Kohn, A. (2006). The truth about homework. Education Week, 9/6/2006:

http://www.alfiekohn.org/teaching/edweek/homework.htm

NCTM (2008). Effective homework assignments: http://tinyurl.com/efhwrk

NCTM (2008). Homework: What the research says: http://tinyurl.com/hwrkrs

Innovation in math education

Lockhart, P. (2002). A mathematician's lament: http://www.maa.org/devlin/LockhartsLament.pdf

Devlin, K. (2010). Wanted: innovative mathematical thinking. Devlin's Angle, MAA, 7/2010

http://www.maa.org/devlin/devlin\_07\_10.html

Emergent Math (2011). What teachers want: an education parable written by a math teacher:

http://tinyurl.com/mparable

Kill Math Project: <a href="http://worrydream.com/KillMath/">http://worrydream.com/KillMath/</a>

Week 2: Develop/review rubric to evaluate simulated teaching lessons

Check on practicum placement

Prepare simulated lesson; Book summary

How can a mathematics program.curriculum support high expectations for all students?

Resource: Intelligence in the Classroom

Planning mathematics instruction - curriculum and lesson plans

Write a brief letter to a parent explaining why success in a mathematics course is important.

What are the roles of the teacher, district, state, and textbook publisher in developing curriculum?

What is a lesson plan? What components are necessary?

SLOs - What are they? Why do we need them? How are they written?

## Fall 2012 - MWF 8:00-8:50 in Ambrose 413-A

Prepare first position paper

Week 3: Accountability and Assessment

NCLB - background, requirements, myths, facts Proficiency and adequate yearly progress

Why do we need standards? Accountability? High expectations?

What is the Iowa blueprint?

Ask for standards/curriculum from coop. Ask for lesson plan from cooperating tchr Complete a practicum observation Choose a topic for your unit plan Develop at least 3 SLOs for each lesson

Plan motivational strategy for lessons

Plan teaching strategies to demonstrate

Reflect on what you learned from practicum

Prepare demonstration of effective strategy

(highly structured task)

Week 4: Introduction of a lesson

What is teaching? What does it look like? Who should do more work: students or teacher?

How do you motivate students? Demonstrate motivational strategies

Resource: Textbook pages 63-84

List instructional strategies (lecture, Q&A, etc). Identify strengths and weaknesses of each.

Resource: Textbook pages 84-101

How can we use questioning effectively in class? How long should we wait for students to answer?

Resource: Textbook page 83

Week 5: Reflection day

Update list of characteristics of effective math teachers/teaching Share what you learned/observed from practicum experience

Identify 5 things you've learned from this class Identify 5 things you want to learn in this class

What have you learned from EDUC 338: Content Literacy? Can/should math teachers evaluate student writing?

What is the role of reading in mathematics? How do you accommodate poor readers? How do you "teach" reading?

Week 6: Students teach lesson

Peer and instructor evaluations

Resource: Evaluation form

Choose movie for next week

Post on MathEd blog

Week 7: Movie week

What can movies/story-telling teach us about effective teaching?

Resource: Dan Meyer

Resource: Textbook, pages 109-133

Prepare lesson on something you don't know

Research problem solving strategies Develop problem to demonstrate strategy

Week 8: Problem Solving - Demonstrate strategies

Reflect on what was learned from practicum experience.

Prepare next lesson

Share position papers for evaluation

Week 9: Spring Break -- No class

Week 10: Students teach lessons

Peer and instructor evaluations

Resource: Evaluation form Turn-in evaluation of position papers

Present position papers

What does a grade represent?

Should homework be graded? Should pop quizzes be graded? Should extra credit be allowed?

Should attendance/effort count in grades?

Week 11: Assessment - General Information

Assessment vs Testing vs Evaluation

Why should we assess? What should we assess?

What types of assessment exist? Are "authentic" assessments better than "non-authentic" assessments?

Reliability, validity, measurement error.

Resource: Textbook pages 166-196

# Fall 2012 - MWF 8:00-8:50 in Ambrose 413-A

Develop assessments for your unit

Week 12: Assessment and Grading - Specific information

How can we possibly use rubrics to assess math tests? Constructing a test blueprint (table of specifications) Writing effective test items (TF, MC, short answer)

What appropriate accommodations are available for students in math?

Accelerated vs. Expansion vs. Digression

Week 13: Students teach lessons

Peer and instructor evaluations

Resource: Evaluation form

Week 14: Simulated job interviews

What questions will I be asked? What information should I know beforehand? What materials should I bring?

What questions should I ask during the interview?

What career options are available for graduates with degrees in Math Education?

Week 15: Students teach lessons

Peer and instructor evaluations

Resource: Evaluation form

Week 16: Final reflection

Update list of characteristics of effective math teachers

Finalize personal teaching philosophy

Why is it important to teach/learn mathematics?

Hand-in completed unit plans

Final Exam:	

List of Resources for New Teachers from http://mathymcmatherson.wordpress.com/resources-for-new-teachers/

#### **Blogs I Read Consistently**

http://blog.mrmeyer.com/ - Dan Meyer

http://alwaysformative.blogspot.com/ - Jason Buell

http://drawingonmath.blogspot.com/ - Tina C - I steal her geometry ideas all the time

http://numberwarrior.wordpress.com/ - Jason Dyer (teaches in Tucson!)

http://misscalculate.blogspot.com/ - Elissa Miller

http://oldmathdognewtricks.blogspot.com/ - Lisa Henry

http://function-of-time.blogspot.com/ - Kate Nowak

http://samjshah.com/ - Sam Shah

http://untilnextstop.blogspot.com/ - Mimi

#### **Resources for a New Teacher**

http://samjshah.com/worksheets-projects/

http://tothemathlimit.wordpress.com/stuff-to-keep/

#### Dan Meyer's Entire Algebra & Geometry Curriculum Online:

http://algebra.mrmeyer.com/

http://geometry.mrmeyer.com/

http://mathemagicalmolly.wordpress.com/my-virtual-filing-cabinet/

Worksheet generator (LIFESAVER!): http://www.worksheetworks.com/math.html

Kuta Worksheet Generator: <a href="http://www.kutasoftware.com/">http://www.kutasoftware.com/</a>

What I did: Download the free trial, then download a Print To PDF program (like this one: http://www.win2pdf.com/.)

Then: Create 10 versions of whatever worksheets you want and print them to a PDF. Do this until the trial runs out. Then,

hopefully, you'll have resources for whatever it is you want to teach

http://illustrativemathematics.org/standards/hs - Excellent Problems/Tasks guided around the Common Core

http://buildingourclassroom.wordpress.com/ - a MUST READ for when you are planning your classroom

http://mathnmind.com/PDF%20Files/Pre-Algebra/dzf.pdf - A whole book of Math foldables

## **Thoughts on Homework**

http://untilnextstop.blogspot.com/2012/02/homework-success.html

Why I Don't Assign Homework: <a href="http://blog.mrmeyer.com/?p=133">http://blog.mrmeyer.com/?p=133</a>

Stop Grading Homework, Please: <a href="http://101studiostreet.com/wordpress/?p=583">http://101studiostreet.com/wordpress/?p=583</a>

http://cheesemonkeysf.blogspot.com/2012/01/sbg-intrinsic-motivation-and-grading-of.html

http://samjshah.com/2010/01/15/binder-checks/

http://mathymcmatherson.wordpress.com/2012/02/04/why-i-switched-to-exit-tickets/

# **Getting Students to Be More Independent:**

Never Say Anything a Kid Can Say (I can't even put into words the way this little article has influenced my teaching)

http://oldmathdognewtricks.blogspot.com/2012/03/revelations.html

http://sarcasymptote.wordpress.com/2011/05/04/ukulele-dayz/

http://misscalculate.blogspot.com/2011/10/quiet-mouse-experiment.html

http://quantumprogress.wordpress.com/2012/02/27/road-trip-to-a-physics-bloggers-class/

http://samjshah.com/2011/06/15/to-reassess-or-how-to-make-more-work-for-me/

#### **Bellwork Ideas**

http://mythagon.wordpress.com/2011/07/24/whats-the-question/

https://www.teachingchannel.org/videos/my-favorite-no

#### **Group Activities/Games/Structures for Practice**

http://samjshah.com/2011/07/12/participation-quizzes/ & http://samjshah.com/2011/09/09/and-so-it-begins/

http://function-of-time.blogspot.com/2009/10/speed-dating.html

http://function-of-time.blogspot.com/2009/10/row-game.html

http://function-of-time.blogspot.com/2009/05/solve-crumple-toss.html

Math Basketball: <a href="http://blog.mrmeyer.com/?p=723">http://blog.mrmeyer.com/?p=723</a>

http://kellyoshea.wordpress.com/2011/09/08/whiteboarding-with-mistakes/

http://numberwarrior.wordpress.com/2009/01/19/hint-tokens-getting-students-to-struggle/

http://numberwarrior.wordpress.com/2011/09/28/math-speedball/

http://ispeakmath.wordpress.com/2011/02/24/marvelous-math-stations/ & http://ispeakmath.wordpress.com/2012/03/09/

colorful-differentiated-learning-with-math-stations/

http://misscalculate.blogspot.com/2011/01/my-favorite-way-to-teach.html

#### **Lesson Planning**

http://alwaysformative.blogspot.com/2010/01/does-everyone-get-it-now.html

http://function-of-time.blogspot.com/2011/12/math-lesson-formula.html

http://alwaysformative.blogspot.com/2011/11/layering.html

http://chronicle.com/blognetwork/castingoutnines/2012/02/13/four-things-lecture-is-good-for/

Three Acts of a Mathematical Story: <a href="http://blog.mrmeyer.com/?p=10285">http://blog.mrmeyer.com/?p=10285</a>

Open Questions & Closed Questions: <a href="http://blog.mrmeyer.com/?p=12004">http://blog.mrmeyer.com/?p=12004</a>

http://samjshah.com/2011/07/01/the-taught-curriculum-vs-the-learned-curriculum/

http://numberwarrior.wordpress.com/2012/02/29/project-based-objective-posting/

http://emergentmath.wordpress.com/2012/03/01/seven-sneaky-activities-to-get-your-students-talking-mathematically/

http://samjshah.com/2012/02/10/an-important-question-how-do-you-plan/ - Look at the comments!

## **Routine & Procedure Stuff**

http://alwaysformative.blogspot.com/2011/08/classroom-management-stuff-for-new.html

http://misscalculate.blogspot.com/2011/01/conscious-classroom-management.html

http://buildingourclassroom.wordpress.com/

## Grading & Assessment Philosophy (or: how to make sure the way to 'win' your class is by actually doing work)

Guiding Principles for Assessment: <a href="http://blog.mrmeyer.com/?p=811">http://blog.mrmeyer.com/?p=811</a>

http://samishah.com/2010/09/04/my-sbg-system/ - Philosophy of Standards Based Grading

http://samjshah.com/2011/06/15/to-reassess-or-how-to-make-more-work-for-me/

http://alwaysformative.blogspot.com/2010/07/foundation-of-standards-based-grading.html

## Educational Philosophy (or: the underlying core values that keep this ship sailing straight)

Virtual Conference on Core Values: <a href="http://larkolicio.us/blog/?page\_id=873">http://larkolicio.us/blog/?page\_id=873</a>

Many many many teachers reflect on what the Core Values of their classroom are

6 Ways I Disrespected my Students: http://larkolicio.us/blog/?p=1117

6 Changes I Made to Show More Respect: <a href="http://larkolicio.us/blog/?p=1127">http://larkolicio.us/blog/?p=1127</a>

#### **Math Mistakes:**

Math Mistakes <a href="http://mathmistakes.org/">http://mathmistakes.org/</a>

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