Seminar in Mathematics Education  
TE 790  Spring 2014  
Select Mondays and Wednesdays 4:15–7:00 pm  
Lisa Lamb and Meredith Vaughn

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**Required Materials**  
Customized Course Packet of Readings (to be sold in class)

**Course Goals**  
This course is the final seminar in your masters program focused on K-8 mathematics education. It is designed to help you consider (a) ways you can continue learning after the program ends, and (b) ways you can communicate what you have learned to others. You will have opportunities to consider how you can use the resources you have acquired in this program and to identify new resources. We will also explore what it means to be a teacher leader, and the challenges and benefits that can arise from that role. The program will culminate with a poster session showcasing your research projects.

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<th>Assignment</th>
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<td>Reading Reflections</td>
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<td>Presentation to Colleagues</td>
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<td>Professional Changes</td>
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<td>Reflection: April 23</td>
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<td>Poster &amp; Poster Presentation (done with your project partner)</td>
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Each assignment is due on the date indicated on the syllabus.

ALL ASSIGNMENTS MUST BE TURNED IN BY MONDAY, MAY 12, 2014.

All written assignments must be typed and double-spaced. Page lengths are specified for each assignment to provide you with an indication of the depth of discussion we are expecting. Consider the specified lengths only as guidelines. Therefore, it is fine if your papers are a little longer or shorter than what is specified — you do not need to adjust font and margin size! On the other hand, if your paper is much shorter than what is specified, you should probably recheck the assignment instructions to make sure that you have fully completed the assignment.
**Plagiarism and Cheating**

Please be sure to read and understand the university policy on plagiarism and cheating as it will be strictly enforced. Academic dishonesty will not be tolerated and will result in a failing grade for this course and will be reported to the University.

**Grading Policy**

We hope that we all recognize that grades are designed to reflect what one *knows* and what one *has learned*, but they do so inadequately. All grading systems are subjective, even those that are based solely on objective tests. But we do not want grades to interfere with your learning in this course, and we know how important grades are to some people, so we have decided that if your work is less than acceptable on any assignment, we will let you know so that you may redo the assignment. Because this is a graduate course, students are expected to maintain at least a *B* average. Therefore, if you turn your work in on time, you may assume that, unless we speak to you, we consider your work to be thoughtful and you are maintaining a passing grade. To earn an *A*, you should consistently grapple with the ideas at a deeper level, and we will expect this depth to be reflected both in your submitted work and in your comments during class discussions. Two examples of ways that you might indicate that you are grappling with ideas at a deeper level are that you draw connections among the readings and between the readings and your own teaching.

We learn not only from the readings and from the instructor, but also from our fellow students. For this reason, attendance and participation are essential in this class and we will consider them in your final grade. **If you miss a class (or need to arrive late or leave early), you should email us to let us know, and advance notice is appreciated. It is also your responsibility to speak to us to determine whether you need to do anything to make up the absence. All assignments should still be submitted by the due date unless you have made other arrangements with us.**

Most of you are currently serving as full-time teachers while enrolled in two graduate courses, so we know how busy you will be this semester. However, we have found that students with your busy schedules who fall behind find it difficult to catch up. Additionally, if you come to class without having completed the weekly readings, you will not be able to contribute thoughtfully to our class discussions. For these reasons, we will note assignments that are turned in late, and if you consistently turn in late work, this will result in a lower final grade. We also understand that life presents circumstances for which we cannot plan, so please come speak to us if you find you are having difficulty keeping up with the work and we will do what we can to work with you. (Grading policy created and adapted in consultation with other program faculty.)
COURSE PLAN

Note: Readings and assignments are to be completed by the date under which they are listed.

Wednesday, January 22 – What is Effective Professional Development?
No Readings

Wednesday, January 29 – What is a Teacher Leader? (What can I do with this degree?)
Due: Reading reflections


February 4 — Last day to apply for May 2012 graduation. Check Web Portal for more information.

Wednesday, February 5 – Facilitating Mathematical Task Discussions
Due: Reading reflections; Preparation for facilitation of discussions (readings facilitators must provide copies of the selected article/chapter & student work facilitators must provide the problems to try & video facilitators must specify their technology needs)


Wednesday, February 12 – Facilitating Readings Discussions
Due: Readings facilitators should be prepared to lead a discussion in their group

Read the article/chapter selected for your group.

Wednesday, February 19 – Facilitating Student Work Discussions
Due: Reading reflections; Student work facilitators should be prepared to lead a discussion in their group


Wednesday, February 26 – Facilitating Video Discussions

_Due: Reading reflections; Video facilitators should be prepared to lead a discussion in their group_


Wednesday, March 5 – Teacher Learning

_Due: Reading reflections; Facilitation write-up_


Wednesday, March 12 – Facilitating Professional Development (Revisited)

_Due at the end of class: Plan for presentation to colleagues_

No Readings

March 25-27   GRAD FEST (in front of the SDSU bookstore)

[http://go.sdsu.edu/commencement/tickets.aspx](http://go.sdsu.edu/commencement/tickets.aspx)

Pick up gowns & tickets for graduation (9:30 am – 7:00 pm)

Bring student ID or other valid ID.

Monday, April 7 – Coaching (Part 1)

_Due: Reading reflections_


Wednesday, April 9 – Coaching (Part 2)

_Due: Reading reflections_

Monday, April 14 – Lesson Study (Part 1)

**Due:** Reading reflections (Draft #2 of Final Paper due for ED 795B)


Wednesday, April 23 – Lesson Study (Part 2)

**Due:** Reading reflections; Professional changes write-up


Wednesday, May 7 – Learning Through Technology

**Due:** Draft of poster and presentation for ED 795B project

No Readings

Monday, May 12 – Program Reflections & Learning After Graduation

**Due:** Reading reflections; Presentation to colleagues write-up; Revised version of poster and presentation for ED 795B project; FINAL VERSION of ED 795B project paper & electronic binder


*THURS, MAY 15: POSTER SESSION & CELEBRATION, 4:30-7:00 PM*
AZTEC STUDENT UNION, TEMPLO MAYOR
Family and friends are welcome!

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MAY 18 AT 9:00 AM, VIEJAS ARENA – COMMENCEMENT
YOU MADE IT! CONGRATULATIONS!!
For all reading assignments (except the readings for the article/chapter discussion groups on February 12), you should submit a reading reflection. This reflection can take the form of a summary (paragraphs or bullets are fine) and/or questions or comments.
Facilitation of Discussions

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These assignments are designed to give you experience facilitating discussions with colleagues. You and your research project partner will be a team. On the first day of class, your team will select readings, student work, or video as your focus.

- Each pair will facilitate a 45-minute discussion for their group.
- Each person will then individually write a reflection about facilitating professional development activities.

**Pair 1: Facilitating Readings Discussions**

You will explore readings as a resource to help you and your colleagues learn. Some of you may participate in book groups that read and discuss novels. This assignment asks you to think more deeply about a "book" group that focuses on articles/chapters to improve mathematics teaching and learning. You are the facilitator for this discussion.

You are all now experts on your research project topics! You have read many articles/chapters to help you gain some of that expertise. Select one of the articles/chapters related to your project (and not read in the program) to serve as a discussion catalyst. On January 29, please bring copies of this article/chapter for your colleagues (and instructor) to read.

Consider how you would facilitate a discussion about this article/chapter, and what your colleagues’ responses might be. Think about questions to pose or activities to engage your colleagues with related issues. Consider supplementing the discussion with student work or videos or stories or asking participants to engage in mathematical tasks. Decide what you will do if participants do not read the chapter/article.

On February 12, you will facilitate a 45 minute discussion on this article and issues related to it.
Pair 2: Facilitating Student Work Discussions

You will explore student work as a resource to help you and your colleagues learn. Teachers have access to written student work on a daily basis but they rarely have the opportunity to discuss it with colleagues. You are the facilitator for this discussion.

Select (at least) 2 problems that you would like your colleagues to try with their class (at least 5 students). You may want to provide several versions of the problem (e.g., multiple number choices) to accommodate multiple grade levels. You should also try the problems with your students. On February 5, please bring copies of the problems for your colleagues (and instructor).

Consider how you would facilitate a discussion focused on student work related to these problems, and what your colleagues’ responses might be. Think about questions to pose or activities to engage your colleagues with related issues. Consider whether you want your colleagues to sort their student work in some way before arriving. Decide what you will do if participants do not bring student work (or do not sort their student work if you make that request.)

On February 19, you will facilitate a 45 minute discussion focused on the student work your group collects and issues related to it.

Pair 3: Facilitating Video Discussions

You will explore video as a resource to help you and your colleagues learn. Video can be an effective catalyst for discussion but different people often focus on different components of a video. Therefore, a facilitator is critical for ensuring that a discussion is productive. You are the facilitator for this discussion.

Select a few videos that have not been viewed and discussed as part of the masters program. You may select video from the searchable CD you purchased at the beginning of the masters program or you may use any other video source. You may even use video you shot for your research project. If you are having trouble finding a video, please see one of us. On February 5, please specify your technology needs (DVD player, or computer and projector to show a CD).

Consider how you would facilitate a discussion about this video, and what your colleagues’ responses might be. Think about questions to pose or activities to engage your colleagues with related issues. Consider supplementing the discussion with student work or stories or asking participants to engage in mathematical tasks.

On February 26, you will facilitate a 45 minute discussion on this video and issues related to it.
ALL Pairs: Facilitation Write-Up

By the end of the February 26 class, we will have discussed facilitation issues related to 4 types of professional development activities: engaging in mathematical tasks, discussing articles/chapters, analyzing written student work, and watching video. For March 5, write a 3-4 page paper about what you have learned.

In particular, comment on the following:

1. Think about the discussion you facilitated:
   a. Briefly describe what happened during your discussion (no more than one page)
   b. What worked well?
   c. What was a struggle?
   d. What is (at least) one thing you would do differently next time?

2. Think about facilitating all four types of professional development activities
   a. What is similar when considering how to facilitate these 4 types of activities?
   b. What is different when considering how to facilitate these 4 types of activities?
      (Be sure to identify at least one unique issue for each of the 4 types of activities.)

** If you shared video, please be sure to submit a copy of the video that you used. Please also submit copies of any written student work that you think we will need to understand your write-up.
**Presentation to Colleagues**

**Plan Due: March 12**

**Write-up Due: May 12**

The purpose of this assignment is to give you the opportunity to share your expertise in mathematics education with your colleagues. Students from past cohorts have found this experience to be one of the most beneficial of the program.

You will design and implement a presentation about some topic in mathematics education. This presentation may be made to the entire faculty of your school, to a subset of that faculty, to administrators, to parents, or to some other group. **You should present to at least 3 people.** For your topic selection, you should first consider sharing an aspect of your research project that your audience would find interesting or novel. However, you may also select as a topic something that you learned from another part of the program. (We need to approve any topic that is not your research project). This presentation must be original — in other words, if you typically make presentations, you may not use your typical presentation to satisfy this requirement.

You may design and deliver your presentation alone or with your project partner. Even if you present together, your write-ups must be separate. You will need to identify your topic, audience, and presentation date by **March 12.**

For your presentation you should prepare:
- an outline (including your goals, key ideas, and activities), and
- a handout that you will give to each audience member

After you have delivered your presentation, you should write a **two-page reflection** about the experience, including what went well and what you might do differently next time. If you are an experienced presenter, please be sure to also comment on the similarities/differences of presenting your own research versus your usual presentation content.

**What to turn in**

**March 12 – Please turn in:**
- your target audience
- your topic (either your research project topic or something else you learned in the program)
- proposed date for your presentation (which must be before May 7)

**May 12 (or any time earlier) – Please turn in:**
- your presentation outline
- your two-page reflection
- a copy of any handouts you gave to the audience

**NOTE:** If you and your project partner present together, then you should each write a two-page reflection, but you may turn in the same presentation plan, outline, and handouts.
Professional Changes
Write-up Due: April 23

This assignment is designed to help you reflect on how your teaching practice has changed since you began the masters program. At the beginning of the program, you wrote in response to several prompts that asked you to talk about either your own teaching (first prompt) or a video of teaching (second prompt).

1. The first prompt began:
   *Pick one of the problems below and describe how you might typically teach that problem…..*
   In Fall 2012, you put your response to this first prompt into a sealed envelope.

2. The second prompt was in response to watching a video of Austin and began:
   *Please write your reaction to the video clip. Did anything stand out for you?*

Tonight (April 7), you responded to the same prompts and were able to compare your responses with those you wrote 2 years ago. In this assignment, you will reflect on your growth in the program, using your responses as a starting point.

What to turn in
In your write-up (3-4 pages), you should:
• Compare your two responses to one or both of the prompts. Describe how this comparison reflects ways you think you have grown.

• If you think you have grown in ways not reflected in your responses, please share those reflections as well. [And if you have a suggestion for a task that might have captured your change, we’d love to hear it!]

• Good teachers are always growing, and we are interested in understanding in what ways you would like to continue growing. Identify how you hope your responses to one or both of the prompts would be different two years in the future. Please be as specific as possible.

Please also submit your Fall 2012 and Spring 2014 responses to the second prompt about Austin. If you feel comfortable sharing your two responses to the first prompt, please submit them as well as we would be interested in reading them. If, however, you would prefer to keep your responses to prompt #1 private, you should feel free to do so.

Please note that we are NOT grading you on your responses to any of the prompts. Instead, we are interested in your REFLECTIONS on your growth.

Why are we asking for the responses to the second prompt about Austin?
1. As we mentioned in class, the Austin prompt is new for the MA cohort although we have used it with many other teachers. We need to review the responses to determine whether the task is worthwhile.

2. Your responses will provide feedback to us about what the group learned in the program.

3. We periodically need to provide evidence of growth to accreditation organizations, and these paired responses make these organizations (and our administrators!) happy.
Poster Presentation
Practice Poster Session: May 7 & 12
Poster Session: May 15

Congratulations! You have almost finished your MA project and degree. Soon it will be time to show off all your hard work to other students, faculty, family, friends, and each other! We will have a poster session during class on Thursday, May 15, 2014 (Aztec Student Union, Templo Mayor, 4:30 pm – 7:00 pm). Please bring your draft posters and presentations to class on May 7 and May 12. You will have an opportunity to practice your presentation and get feedback from your colleagues.

Each pair will need to create a poster that has 2-3 panels with each panel consisting of at least 22 inches by 28 inches of poster board. On the panels, you should provide a summary of your project such as:

- the title of the project and your names,
- your project rationale,
- a few key references from your literature review,
- an outline of what data you collected,
- a few sample data collection items/instruments,
- highlights of what you found with a few pieces of supporting evidence, and
- implications or recommendations based on your findings.

Note: There is not a single right way to make a poster. However, you should not simply write a shortened paper and paste it onto the poster board. The goal of a poster is that a person can come to your poster, look at it for a few minutes, have a general sense of what happened in your project, and consider some of your more interesting findings. The poster should serve as a catalyst for that person to ask you questions. Therefore, you should use large fonts and maybe bullets, graphs, etc.

We will view some sample posters in class, but it might be helpful to think about your poster this way: You will be viewing 10 other posters – what would you like to see?

During the poster session, the format for that night will be:

1. Each group will have 3 minutes to provide an overview of their project and findings. The goal is to entice others to come visit their poster! On May 7 & 12, we will discuss and practice these overviews.

2. Each group will share a poster to showcase their work. During this part of the evening, you will stay by your poster in order to answer questions from interested visitors! There will also be some time for you to visit the other projects’ posters.