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Min-Lin Lo TSSA Winter 2013

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Winter 2013 Teaching Skills Study Award (TSSA) Report

Name: Min-Lin Lo

Department: Mathematics

Email address: mlo@csusb.edu

Date Submitted: January 14, 2013

Name and Date of conference attended:

AMS-MAA Joint Mathematics Meetings
January 9-12, 2013

Teaching Skill(s) Studied:

Demos and strategies that enhance teaching and learning mathematics.
Developing mathematical thinking and problem solving skills through games and puzzles.
Innovative and effective ways to teach assorted math topics.
Making connection between math concepts using real life objects and applications of math.

Impact on Current Teaching (How was this info applied)?

I learned several new hands-on activities and how they are applied in the presenters' class that I plan to adapt to use in my classes when appropriate. E.g.,

1. Using popular culture to introduce math ideas.
2. How square dancing provides a way to visualize abstract math concepts.
3. Using statistics to exam the effect of NFL's overtime rule change
4. How math has changed Hollywood (speaker from Pixar studios)
5. Using Geo Strips and papers to help students discover and understand properties of triangles.
6. Mathematics of Pop-up books.
7. Using a map of statements to connect math theorems
8. Algebra in the video game: *Call of Duty: Black Ops*.
9. Using key chain zip lines to guide students' learning of velocity in Calculus.
10. Using 3-D paper model, pottery wheels, Play-Doh, and blocks to visualize topics in Calculus
11. Several hands-on activities for Graph Theory, Knot Theory, Coding Theory, and Abstract Algebra.
12. An activity where students prepared croissants and examined the math of the stretching and folding structure of this *strange attractor* to explore the dynamics of chaos.

I was also introduced to a useful app "Educreations" and a website full of demos: mathdemos.org. I plan to utilize both in my future teaching.