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Shawn McMurrin TSSA Winter 2010

Shawn McMurrin

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TSSA Report for Winter 2010

Awardee: Shawnee McMurrin (smcmurra@csusb.edu)

Mathematics Department

Name of Conference Attended: AMS-MAA Joint Mathematics Meeting, January 2010

Teaching Skills Studied:

Sessions attended

1. *The mathematics of Islam and its use in the teaching of mathematics.*
2. *Preparing K--12 Teachers to Teach Algebra*
3. *Using Computer Algebra Systems in the Calculus Sequence*
4. *History of Mathematics*
5. *Mathematics and Education Reform*
6. *Mathematics Education*
7. *Research on the Teaching and Learning of Undergraduate Mathematics*
8. *Innovative and Effective Ways to Teach Linear Algebra*
9. *Visualization in Mathematics*

Impact on/How Applied to Current Teaching:

- I have used the mathematics of Islam in history of math, calculus and MAT courses to help students recognize the significant connection between algebra and geometry that is sometimes lost when performing algorithmic symbolic manipulations in algebraic equations and expressions.
- One session offered insight into developing student understanding of the definition of function. From the ideas in this session, I created a lesson for my MAT courses focused on how to help students develop an accurate and more complete concept image of function.
- Based on the session involving Computer Algebra Systems, I am including more technology in the classroom and feel that I am becoming more proficient at providing students opportunities to use technology in math both appropriately and effectively. Computer Algebra Systems, when used appropriately, can enhance concept understanding.
- I often teach History of Mathematics. The session on this topic helps me to develop a deeper understanding of and familiarity with this vast field, which in turn enables me to better engage my students and help them make connections between the history of this subject and how mathematics is used today.
- My biggest take-away from the research on the teaching and learning of mathematics was a higher awareness of the importance of creating a “need” for justification in a student’s mind instead of simply asking for it. Without that need, students are not motivated to do more than provide an answer. In all my courses I have been employing strategies that will encourage students to use justification as a natural part of their solution process.
- I have successfully employed a tool to save time in providing feedback on work involving a lot of writing. Moreover, the tool helps students see patterns in their misunderstandings.

Submitted: 02/09/2013

Signature: Shawnee Mc Murran