

STLF Report to CWSEI and Mathematics Department

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Period: 01/09/14 – 15/09/14

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Specific activities performed by STLF

1) Professional development

- Attended the weekly STLF meeting.

2) MATH SEI general meetings/activity

- Met with the MATH-SEI group to review the status of our projects and plan future work (Sep 11).

3) Course-specific meetings/activities

Tracking Proof Skills Project (MATH 220 – Mathematical Proof and subsequent courses)

1. The Basic Proof Skills Diagnostic was administered on the first day of class in both sections of Math 220. I am still in the process of scoring the tests and will provide the results to the instructors soon.
2. This year, one of the instructors for Math 220, Mahta Khosravi, is teaching in both terms 1 and 2. Mahta has agreed to allow me to observe her teaching this term, with the aim of improving the instruction in term 2. We have not yet discussed what methods we will employ in term 2, but I have a number of ideas for introducing interactive engagement techniques, and have a bank of clicker questions, pre-lecture quizzes, and worksheets from my term of teaching the course in Summer 2013. I will try to meet with Mahta soon to discuss more specific plans. In the meantime, I am attending all of her lectures and recording observations, including rough student engagement levels, using COPUS.
3. In term 2 of winter 2013 we administered our pilot version of the Proof Concept Test (PCT) in Math 342. The test was mostly open-ended, and we were hoping to collect enough student data to convert the problems to multiple choice or some other easy-to-score format. However, we found that the sample size and quality of results was insufficient for this. Hence, Brian Marcus (Faculty Member on this project, and instructor of the course) agreed to insert some of the problems again on the final exam. I now need to follow up with Brian and hopefully retrieve the exams and code them.

Current Project Status (material was prepared by either STLF or other members of the MATH SEI group)

MATH 220:

Learning Goals: Learning goals have previously been created for this course.

Assessments: The basic proof diagnostic test (pre and post) will be used this term.

New Methods/Materials: A proof concept test is under development to assess higher-level proof skills.

Plan for immediate future work

MATH 220:

1. Finish scoring the basic proof diagnostic test and provide feedback to the instructors.
2. Continue working on our paper about the basic proof skills diagnostic.
3. Perform student validation on the portions of the basic proof skills diagnostic that have not been validated.
4. Continue to observe Mahta's Math 220 class.
5. Meet with Mahta Khosravi and make plans for work to be done in this course in Term 2.

Higher-Level Proof Courses

1. Obtain and review student responses to Proof Concept Test problems that were placed on the final exam for Math 342 in 2013 Winter Term 2.