Course Redesign for Future Grades 4-8 Mathematics Teachers: Critical Reading Reflections

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Description of Project

- Course re-design for SMTE 4382 – Basic Mathematics from an Advanced Viewpoint
- Goal: to create better reading/reflection assignments
- SLOs "Students will be exposed to professional organizations and publications in order to maintain/continue their lifelong learning as a MS mathematics teacher:
  - Know and understand how students' prior knowledge, experiences and attitudes towards mathematics may affect their learning
  - Know and understand common mathematical misconceptions and errors
  - Discuss with colleagues the current ideas, trends, research, and directions that mathematics education is taking.”

Redesign Elements of Reading Reflections

<table>
<thead>
<tr>
<th>Before</th>
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<tr>
<td>Instructor selected reading and reflection prompts (if any)</td>
<td>Assigned student leader chooses reading and reflection prompts</td>
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<tr>
<td>Each student wrote a 2-3 page reading reflection</td>
<td>Each student writes 2-3 page general reflection</td>
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<td>Instructor graded using a rubric</td>
<td>Student leader grades the other students' reflections using a rubric</td>
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<td>Instructor led class discussion of reading the next week</td>
<td>Student leader guides class discussion</td>
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Benefits of Redesign

- Benefits students two-fold:
  - as students develop critical thinking
    - relate reading to personal experiences,
    - critique reading from perspective of teacher
  - as future teachers
    - develop assessment abilities,
    - guide classroom discussions.

Additional Changes

- Revised current rubric to include disciplinary understanding
- Will have a 'norming session' for students to learn the rubric
- Will meet (either via online discussions or in person) with that week's student leader to discuss
  - Choosing reading (from a limited selection)
  - Deciding on reflection prompts (if needed)
  - Guiding of classroom discourse
- Changed deadline for papers to allow time for peer-grading