USING REFLECTION TO DEVELOP OWNERSHIP OF LEARNING

A SOTL INQUIRY BY RHEA BECKE (SHE/HER)
STEPS OF PROJECT

• Reflection
• Development of research questions and tools to collect data
• Literature search
• Project design
• IRB approval
• Student consent
• Data collection
• Analysis
• Improve instruction and share results
MOTIVATION/TOPIC DEVELOPMENT

- Started with “The Role of Student Reflection and Self-Assessment in College Mathematics.”
- Reflective work
- Study skill development

COURSE

• CAP 46 Math Applications
• Pathway to Math 107 (Math and Society)
• Focus on linear, quadratic and exponential functions.
• Students are from HS+ program or ESL, have low ALEKS scores, or want direct path to Math 107
• Prep for college level courses-lots of student development work
“CAN PRACTICING, AND REFLECTING ON STUDENT SKILLS IN A DEVELOPMENTAL MATH COURSE BE USED TO INCREASE OWNERSHIP OF LEARNING?”

THIS INQUIRY WAS DONE AS THE PANDEMIC WAS BEGINNING AND WE WERE SHIFTING TO ONLINE LEARNING
OTHER RESEARCH QUESTIONS

1. What type of structure/support help students to take ownership (develop metacognition/self-regulation) of their learning?

2. What type of information do the reflections on learning student skills give the instructor?

3. How do students feel about focusing on student skills in developmental math class?
PROJECT OVERVIEW

• Pre-survey to identify skills to work on

• Weekly focus on one student skill (organization in online course, metacognition, notetaking, preparing for class, etc.)

• Weekly reflections on the skill and course progress-with instructor feedback

• End of term survey to measure progress
SAMPLE REFLECTION QUESTIONS

• Reflect for a minute on the topics you need to review. Tell in detail where you struggled with these concepts is and how you will improve.

• What barriers did you encounter? How did you deal with them? Could you have used a more effective method to deal with them?

• Return to the goal you set last week. Tell how well you did in achieving the goal that you set for yourself? How did you approach it?

• Reflection Questions
HOW DID YOU FEEL ABOUT LEARNING ABOUT STUDENT SUCCESS SKILLS IN A MATH CLASS?

• 5 of the 7, rated it 5 out of 5.

• "All the student skills that I learned were so helpful because it helped me look at how I used to do things and see that the way I was doing them wasn't always helping me instead it was damaging to me as a student. So learning skills that actually help me improve as a student is the best thing to feel after not feeling like any of the skills that I learned in previous classes helped."
“HOW DOES THE REFLECTION ON LEARNING HELP YOU IMPROVE AS A STUDENT?”

• 67% of students indicated that by reflecting on their learning weekly, they were able to identify areas that they needed to study more.

• Some other benefits as described by my students are that the reflections helped to “evaluate what works for me and how to take in information” and “it gives me the courage and skills to adapt and change to be more efficient in college.”
“HAS LEARNING ABOUT THIS SKILL (REFLECTING ON LEARNING) HELPED YOU TAKE OWNERSHIP OF YOUR LEARNING? IF SO, HOW? IF NOT, WHY NOT?”

• 100% agreed

• Three students indicated that it helped them identify areas where they struggled with what they are learning and what they needed to review.

• Three students indicated that it helped them improve their learning or grow as a student.

• “[Reflecting] helps because we get a personal inventory of what our current strengths are as well as considering where we currently are lacking…”.

• “I have taken it [learning] into my own hands to actually go back and see where I struggled instead of a teacher looking over my work and pointing out the things I didn’t understand.”
BENEFITS TO INSTRUCTOR

• Hear student perspective
• Connect with them in online environment.
• Assess where students are, how they are doing and what their concerns are.
• Share things you wouldn’t otherwise hear
• Allows me to refine teaching, provide more resources, etc.
• Measure student growth/progress.
• So many others....
CHANGES I HAVE MADE...

• Continue to use reflections weekly in my course.

• Change the questions to reflect time in the term not necessarily student skills-registration, advising, upcoming exams, etc.

• Use course discussion for student success skills.

• 10% of grade is for discussion/reflection
SAMPLE DISCUSSION QUESTIONS

• What new study techniques have you tried since Exam 1? How has this worked for you?

• Choose 1 problem that you missed on the exam. Write that problem here (If you have figured out what you have done incorrectly explain what you did wrong and where you made a mistake. If you are unsure what you missed, ask your classmates for help- include your thoughts on where you got stuck and what you think you could try to find the solution.

• Discussion Questions
QUESTIONS???

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