

BY THE NUMBERS

IMPACT OF THE MCs

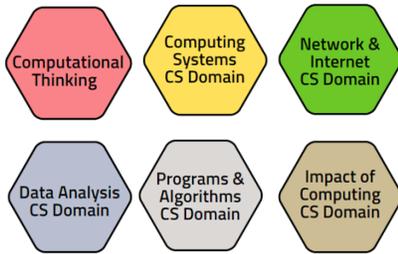
PILOT PARTICIPATION

74 teachers signed up for the project

63 teachers from 13 districts are still enrolled
1 teacher transferred to the Secondary Pilot
10 teachers dropped out

THE MC PROJECT

The MC Project consists of 17 MCs grouped in 6 stacks:



Teachers ("Earners") must earn all 17 MCs in order to be endorsed as a CS teacher.

MCs EARNED

30 teachers from 7 districts have earned at least 1 MC

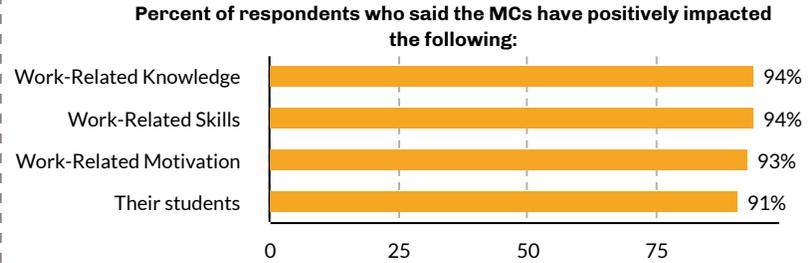
15 teachers earned all 17 MCs
3 teachers earned 10-14 MCs
9 teachers earned 2-7 MCs
3 teachers earned 1 MC

33 teachers from 9 districts have not earned any MCs

4 teachers have 2 or more MCs in progress
10 teachers have 1 MC in progress
17 teachers have not started any MCs

END-OF-MC RATINGS

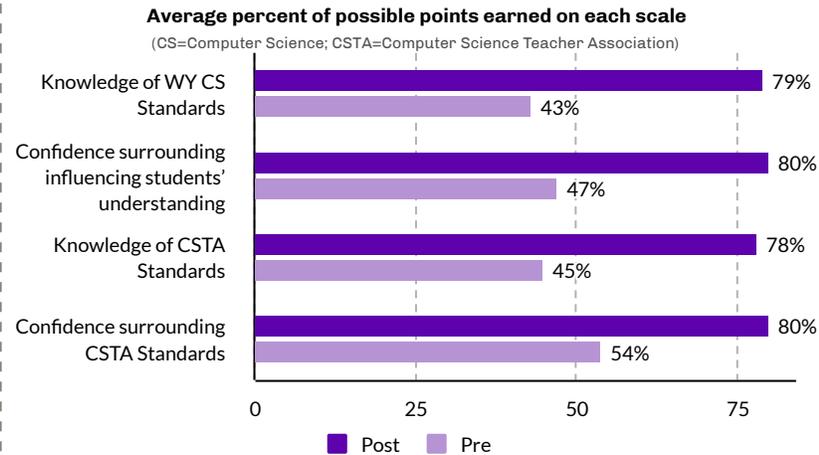
Teachers rate the MCs highly.



80% of teachers would recommend the MCs to other teachers.

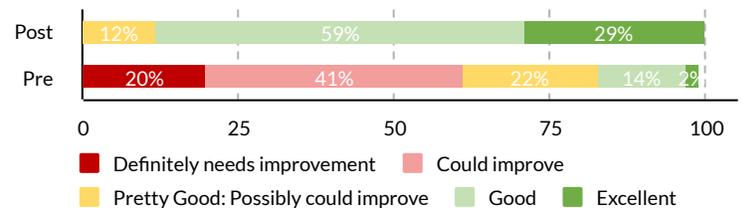
PRE/POST-ASSESSMENT RATINGS

Teachers rate their knowledge and confidence higher after completing the MCs.

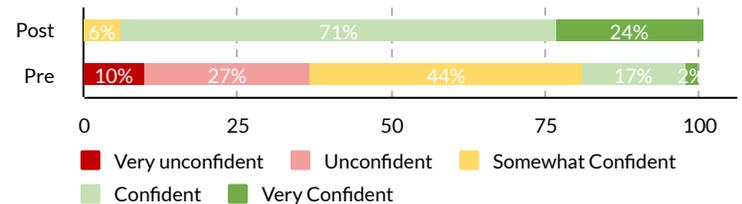


Example of pre/post ratings on a WY CS standard

Rating of Teacher Knowledge of CS Standards in Program Development



Rating of Teacher Confidence Regarding Influencing Students' Understanding of Algorithms & Programming

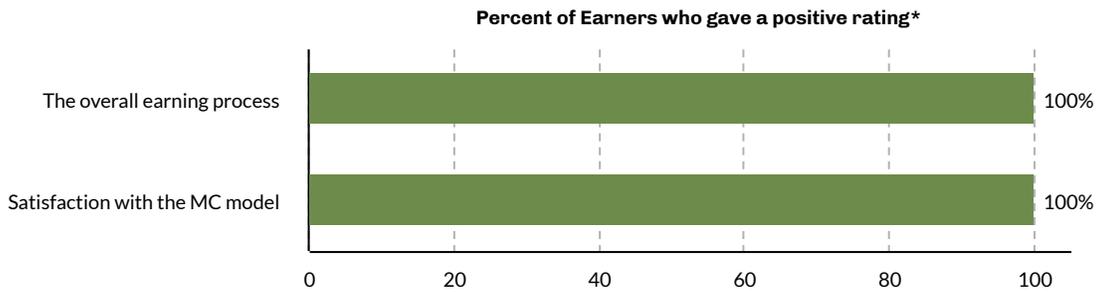
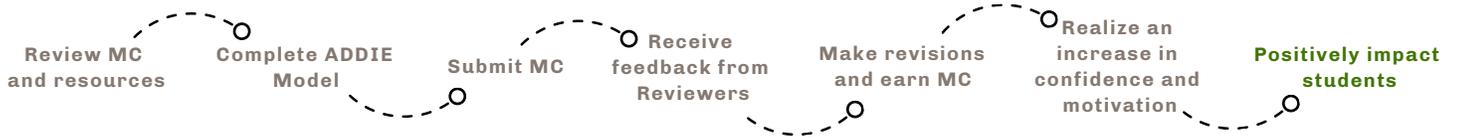


WHAT MAKES MCs UNIQUE?



THE MC MODEL

The rigorous tasks that an Earner completes in order to earn an MC provides teachers with the know-how for teaching CS to elementary students and results in a great sense of accomplishment which impacts the Earner and ultimately their students. Earners and Reviewers complete their work on the MIDAS platform.



*Based on 12 Earner interviews in spring 2023.

STRUCTURE

This is not a “sit-and-get” program, but rather, a “show-and-tell” program.

Teachers are required to follow the ADDIE model which is a learning model used by instructional designers to create effective learning experiences. The steps to the ADDIE model, the percent of Earners who rated that step positively, and some typical comments made by the Earners regarding each step are:

<h1>1</h1> <div style="background-color: #808080; color: white; padding: 10px; border-radius: 10px;"> <p>Analyze (Unpack the WY CS Standard)</p> <p>88% positivity rating</p> </div> <p><i>“I liked being able to break down the standard because it helped me focus on what I needed to teach and where students needed to go.”</i></p>	<h1>2</h1> <div style="background-color: #808080; color: white; padding: 10px; border-radius: 10px;"> <p>Design/Develop (Complete the Lesson Plan Template)</p> <p>99% positivity rating</p> </div> <p><i>“It is my favorite because we get to plan our fun lesson and decide on the steps and resources we want to use.”</i></p>	<h1>3</h1> <div style="background-color: #808080; color: white; padding: 10px; border-radius: 10px;"> <p>Implement (Deliver the Lesson and gather student work/artifacts)</p> <p>98% positivity rating</p> </div> <p><i>“I liked getting to look through the activities we gave the students and making sure they understood the task. The implement helped me reflect on who met the standard and why.”</i></p>	<h1>4</h1> <div style="background-color: #808080; color: white; padding: 10px; border-radius: 10px;"> <p>Evaluate (Complete the Evaluate worksheet)</p> <p>95% positivity rating</p> </div> <p><i>“It gave you time to look back at your lesson and plan what you would change which is important.”</i></p>
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Ratings based on End-of-MC Questionnaire and comments based on Earner Interviews.

SCORING PROCESS

The scoring process is rigorous.

Earners are required to score a 3 or 4 (proficient or advanced) on each proficiency scale before they can earn an MC. Each MC has proficiency scales for the WY Computer Science Content & Performance Standards and the Computer Science Teachers Association (CSTA) Standards for CS Teachers. This ensures that teachers have **both** the content and pedagogical knowledge/skills to teach computer science to secondary students.

REITERATIVE PROCESS

An Earner may submit the MC multiple times, each time receiving targeted, constructive feedback on how to show that the Earner has mastered the knowledge and skills of the WY CS Standard.

Of the 327 MCs earned (as of January 2, 2024):

40% did not need to be resubmitted with changes

48% had to be resubmitted with changes one time

11% needed to be resubmitted with changes more than one time

REVIEWERS

The scoring process is rigorous. Reviewers go through a calibration process to make sure they provide reliable and valid ratings.

Of the three reviewers, two stated that they are “satisfied” with the reviewer process; one said they are “neutral” about the process.

Example comment: “[The most satisfying aspect of the Reviewer process is] seeing all of the creative ways that teachers around the state are using to teach CS and knowing that I am helping teachers earn their certifications.”

WHAT DO EARNERS SAY?



“Developing and teaching this lesson made me realize the importance of helping students understand the concept of decomposition, and helping them connect to other content areas where they use it (math, science).”

“After completing the Algorithms and Programming stack, this Microcredential helped me visualize the greater concept of computational thinking, and understand each of the components better.”

“I liked the focus CSTA of student collaboration opportunities. It helped me to understand the importance of giving multiple opportunities to get feedback.”

“I liked being able to break down the standard before creating an activity.”