Wyoming Perkins Innovation & Modernization Project

Secondary Computer Science (CS) Micro-Credential (MC) Pilot

BY THE NUMBERS

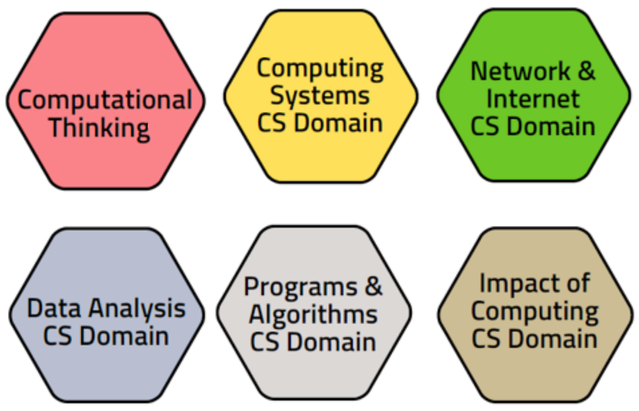
PILOT PARTICIPATION

60 teachers signed up for the project

- 34 teachers from 17 districts are still enrolled
- 4 teachers transferred to the Elementary Pilot
- 22 teachers dropped out

THE MC PROJECT

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



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

MCs EARNED

14 teachers from 9 districts have earned at least 1 MC

- 3 teachers earned all 17 MCs
- 1 teacher earned 16 MCs
- 1 teacher earned 11 MCs
- 3 teachers earned 4-6 MCs
- 6 teachers earned between 1-3 MCs

20 teachers from 8 districts have not earned any MCs

- 2 teachers submitted 1 MC for review
- 1 teacher has 5 MCs in progress
- 1 teacher has 3 MCs in progress
- 4 teachers have 1 MC in progress
- 12 teachers have not started any MCs

TIME COMMITMENT

The time required to complete and earn all 17 MCs is comparable to a college course.

~210-269 hours across 17 MCs
based on first 3 earners

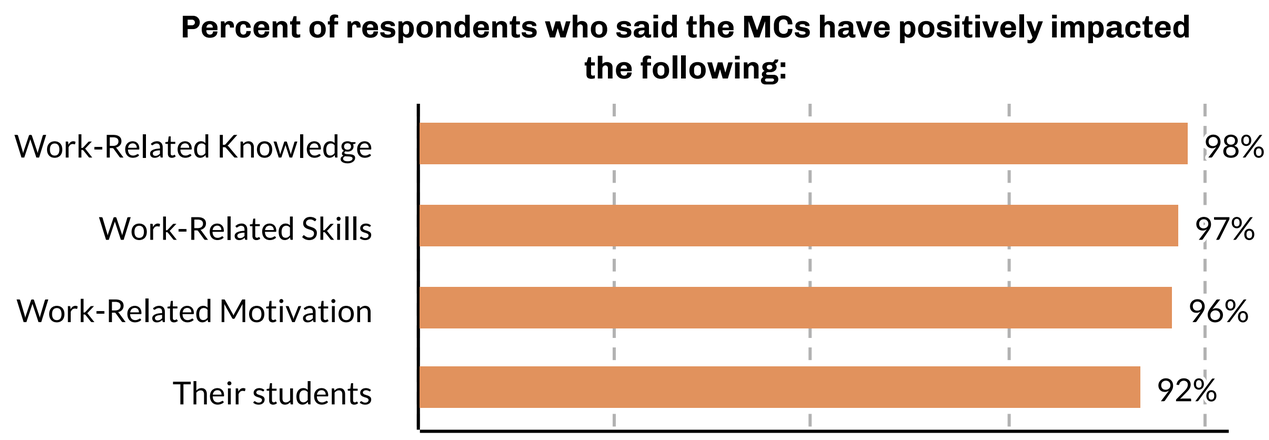
VS.

225 hours for 15 CS credit hours

IMPACT OF THE MCs

END-OF-MC RATINGS

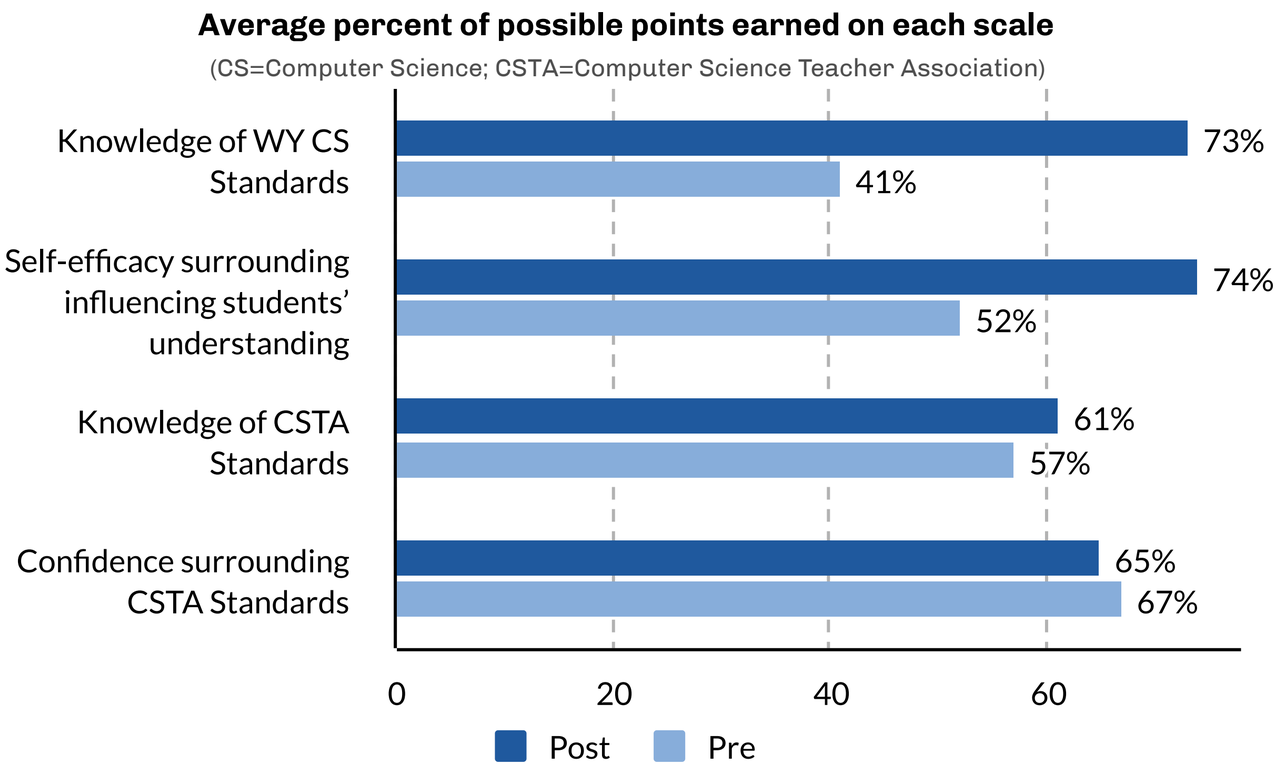
Teachers rate the MCs highly.



86% of teachers would recommend the MCs to other teachers.

PRE/POST-ASSESSMENT RATINGS

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



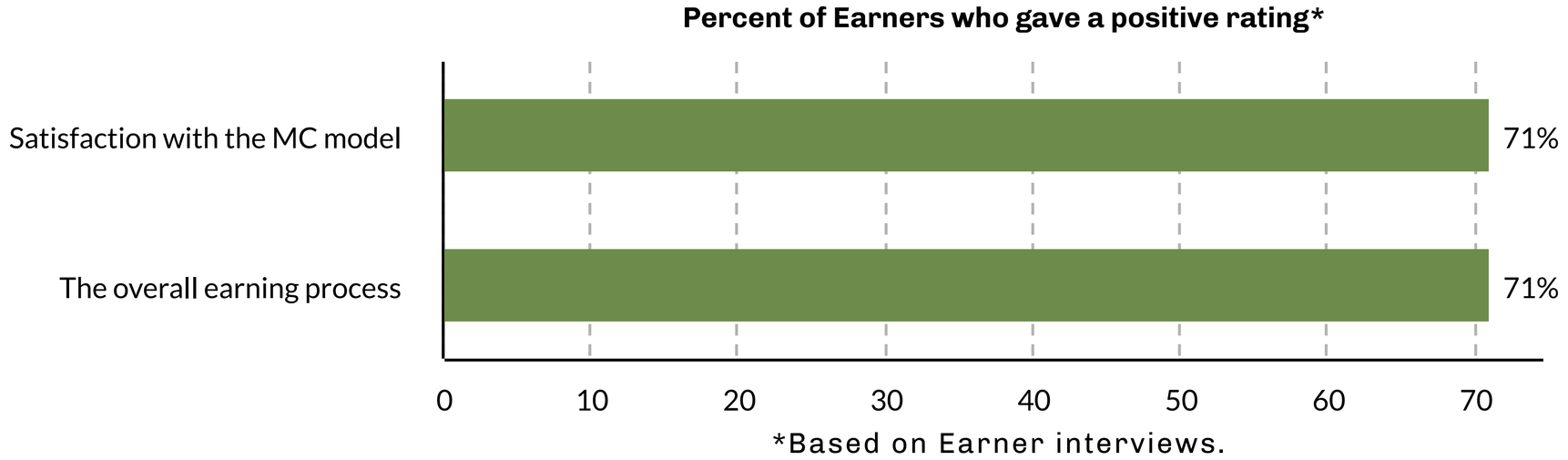
Example of pre/post ratings on a WY CS standard

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 secondary 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.

Review MC and resources → Complete ADDIE Model → Submit MC → Receive feedback from Reviewers → Make revisions and earn MC → Realize an increase in confidence and motivation → **Positively impact students**



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:

1 **Analyze (Unpack the WY CS Standard)**

97% positivity rating

“I liked that it forced you to dive deep into the standard and pull-out action verbs and concepts that are crucial. It challenged you to think about the vertical alignment. It gave you exposure to the teacher standards and I appreciated they were part of the task.”

2 **Design/Develop (Complete the Lesson Plan Template)**

100% positivity rating

“I liked it because it is helping me put my curriculum together and departmentalize and connect the standard to my lesson."

3 **Implement (Deliver the Lesson and gather student work/artifacts)**

97% positivity rating

"I liked that it gave us the opportunity to try it out with students and see if our design worked well with students and allowed us to test out our gauging. Are we going too fast etc.?”

4 **Evaluate (Complete the Evaluate worksheet)**

100% positivity rating

“I liked the fact that we were going back and reflecting and deciding what worked and what didn’t work and then deciding how can we change it.”

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 105 MCs earned *(as of June 13, 2022)*:

34% did not need to be resubmitted with changes
40% had to be resubmitted with changes one time
25% 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.

100% of reviewers stated that they are “very satisfied” with the reviewer process.

Example comment of the most satisfying aspect of the reviewer process: “Seeing the creativity and competence among Wyoming's teachers - it is inspiring.”

WHAT DO EARNERS SAY?

“The MC process is like PD on steroids. It was nice to be able to do this on an individual basis in my content area. I appreciated the process. Sometimes in PD there is no follow through. You sit and listen. But this [the MC process] bettered my practice."

“I would rate this higher [than other PD activities] because it is more relevant to me. We have all sat through hours of in- services that are not relevant. This process in reflecting on what I am doing in the classroom, is much more meaningful.”

“[Compared to traditional postsecondary courses] This is much more performance based. Traditional courses aren’t real application. This makes you get out and teach and understand the standards. You could not fake your way through this.”

“The MC process is one of the most challenging professional developments I have done but also one of the most beneficial.”

DATA DRIVEN ENTERPRISES