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TEACHING & LEARNING SUMMIT 2016

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EUREKA! and the MCS Metacurriculum

The first-year seminar course in the Mellon College of Science, which debuted in Fall 2015, aims to help students:

- successfully navigate the transition from high school to college
- evaluate current study skills and develop effective strategies
- reflect on learning and prepare for their academic and professional future

Project Design

The MCS curriculum was designed to develop students in each of four key dimensions:

Metacognitive interventions in EUREKA! included:

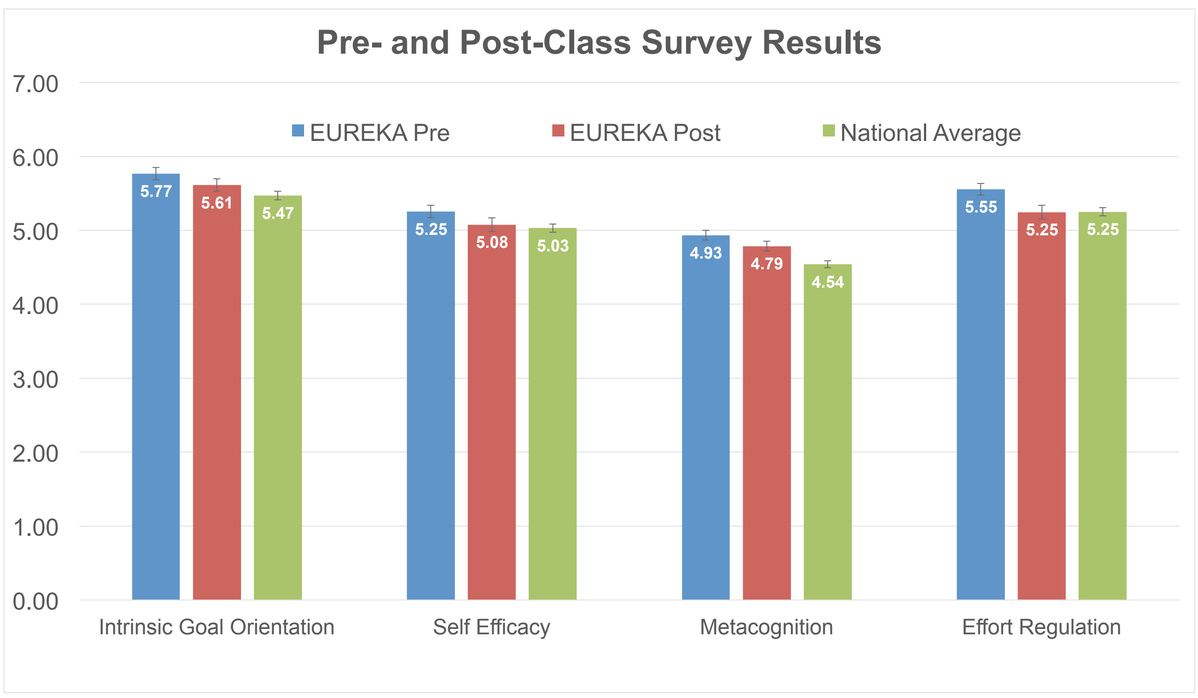
- Reflective writing exercises
- Wellness and study skills discussions
- Eberly seminar on evidence-based learning strategies
- Exam wrapper

Interventions were intended to help students not only in the *scholar* dimension, but also in evaluating their wellness skills associated with the *person* dimension.

Students completed a survey at the beginning and end of EUREKA! Questions were derived from the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, et al. (1991), to collect self-reported measures of metacognitive skills and practices.

Project Evaluation

Student surveys were assessed on a 1-7 point Likert scale. Students received credit for completing the survey, but were reassured that there were no right or wrong answers.



Four categories of questions from the MSLQ, including intrinsic goal orientation, self efficacy, metacognition, and effort regulation. The graph above shows aggregated averages (n = 155) for students who completed both the pre- and post-surveys, compared to the national average reported by Pintrich et al. (1991) (n = 380).

Lessons Learned

Based on the quantitative and qualitative data collected, we have found that

- **Students still may not know which study strategies are more effective than others**
  In the future, we plan to discuss both effective and ineffective study skills with EUREKA! students frequently, and at times when they are most inclined to listen (i.e., after the first midterm but before the second).
- **Use exam wrappers**
  By providing more opportunities for reflection, we hope that students become stronger self-regulated learners. Exam wrappers are now being used in at least eight MCS courses this semester (Fall 2016), many of which are large, introductory courses.
- **Champion Academic Development services**
  Many of the classes that MCS students are already supported through Supplemental Instruction and Walk-In Tutoring, and other services such as EXCEL, Academic Coaching, and workshops may help students develop other study skills.

Strategy	Number of students who reported using this strategy
Read/review book/notes	26
Study in groups	25
Practice problems/tests	21
Spacing practice	18
Office hours	18
Pre-read book/notes	17
Organization and time management	17
Academic Development/course center	11
Note-taking	9
Seek outside (online) resources	8
Self-made practice problems/questions	6
Study (more)	5
Asking questions	4
Study alone	2
Interleaving practice	1

In the post-survey at the end of the semester, students were asked to " describe any new strategies that you began using (or used much more often) in your math and science courses this semester compared to the past."

120 out of 157 students who completed the post-survey reported using 188 new study strategies, included in the table above.

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