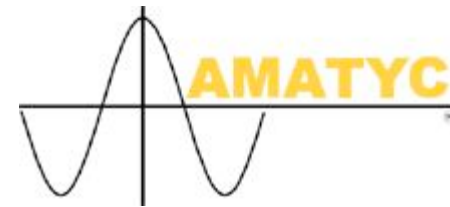


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*MAC<sup>3</sup> Sharing Session:*

## *What Did Jane Find?*

Deann Leoni, MAC<sup>3</sup> co-PI  
Edmonds Community College  
dleoni@edcc.edu



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# MAC<sup>3</sup> EVALUATION

MAC<sup>3</sup> Evaluator: Dr. Jane Korey

Dartmouth College (Retired)

MAC<sup>3</sup> Evaluation Process offers 3  
measurement points:

- ❑ Institute experience
  - ❑ Faculty implementation
  - ❑ Student results
-

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# Run the Numbers...

## Since 2005:

- 160 Faculty
  - 59 Interdisciplinary Teams
  - 36 Colleges
  - 19 States
-

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# STUDENT RESULTS

**Evaluation Goal:** To understand the impact on student learning of different teaching strategies and curricula, to give faculty participants feedback about their courses, and to learn factors for increased student success.

## **Instrument:**

- 21-statement pre-post student mathematics attitude and learning survey.
  - Post-survey self-assessing skills gains
-

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# STUDENT SURVEY RESULTS

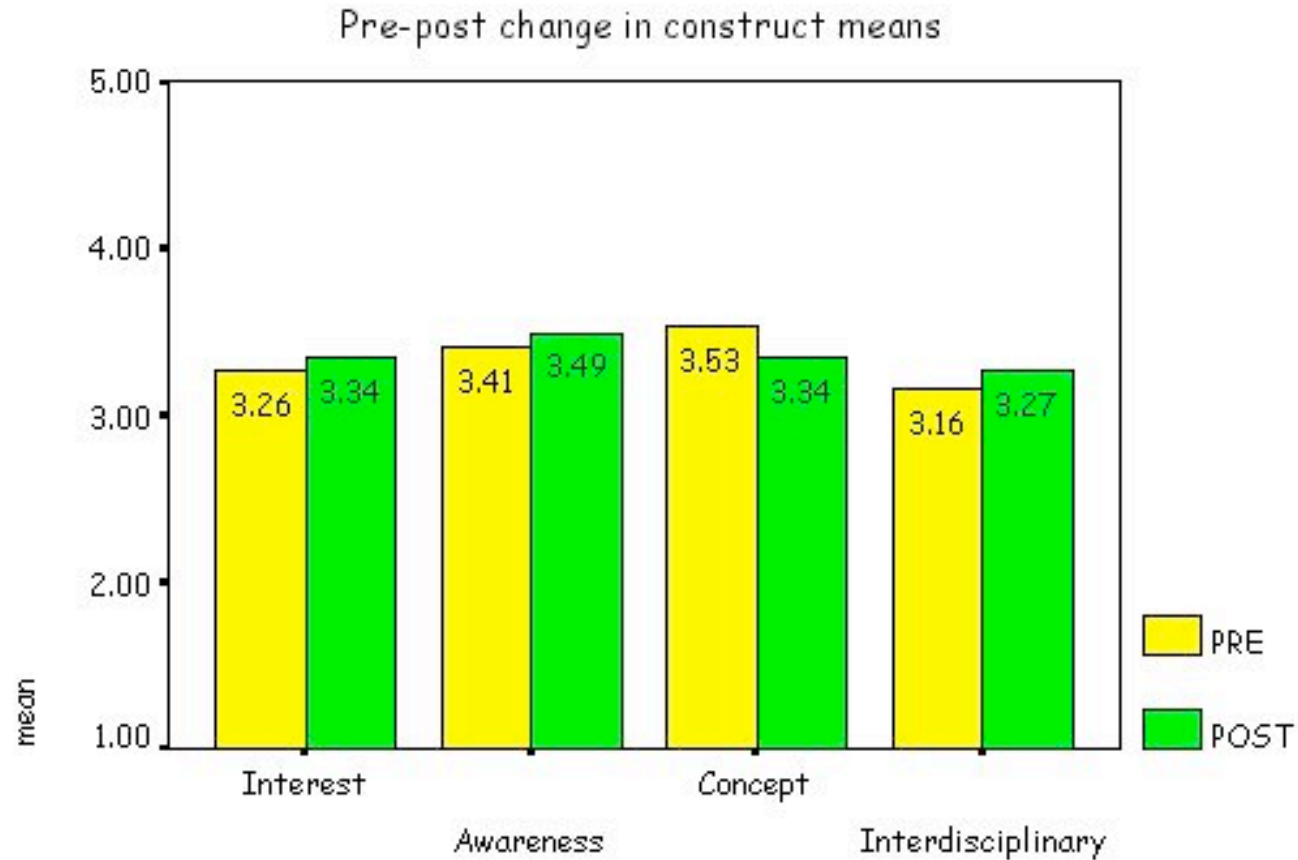
- Excellent participation by faculty:
    - 57 MAC<sup>3</sup> courses have completed pre- and post-surveys
  - 850 matched pre-post student surveys
  - Demographic summary:
    - 37% male; 63% female
    - Ages from 18-58 years; 67% were 18-22 years
    - Ethnicity: 62% Caucasian; 17% Latino/Hispanic  
7% Asian; 8% Black; 2% Native American; 4% other
-

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# STUDENT SURVEY RESULTS

- 4 constructs were extracted from the 21 statements
    - Combined questions sharing underlying themes as evidenced by strong correlation of responses ( $r > .7$ )
  - All statements scored so the “desired” response is “5” and “undesired” response is “1”
    - Higher values indicate a more desirable outcome
  - Solid student results
    - Significant gains in 3 of 4 main areas
    - Solid learning and skills improvement
-

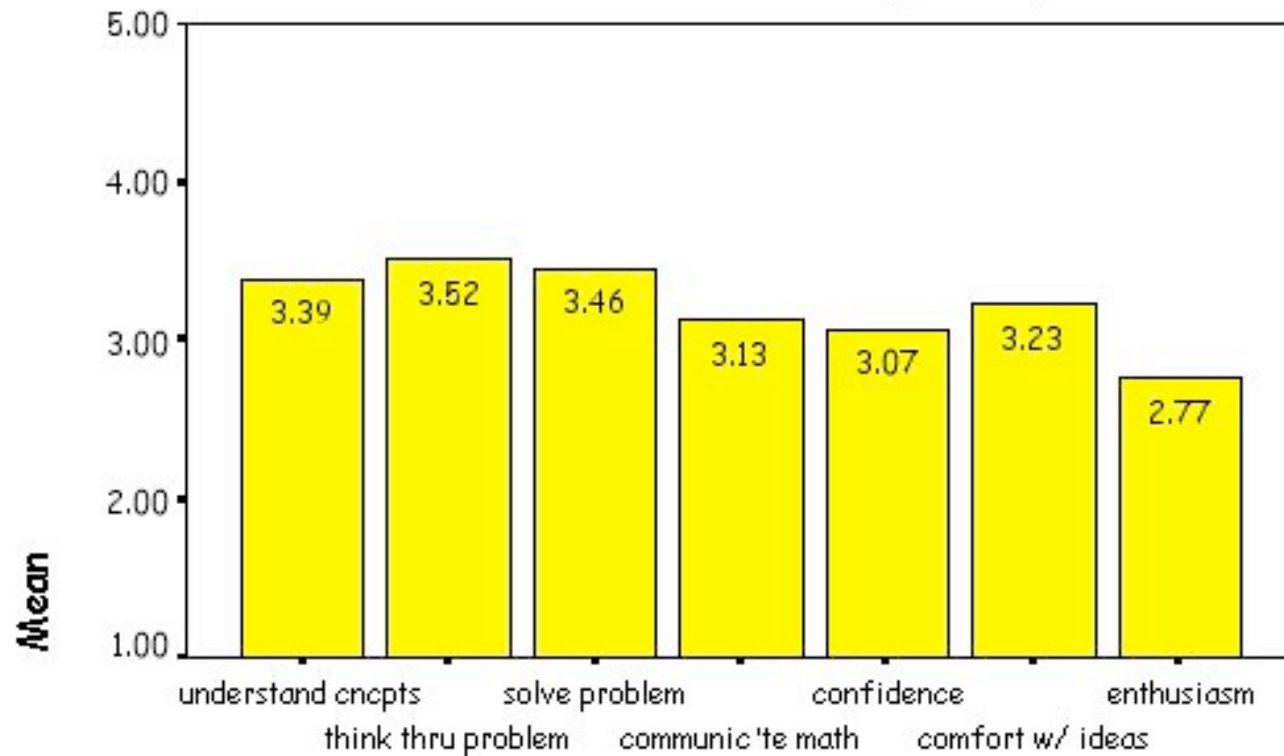
## CHANGE IN STUDENTS' MATH ATTITUDES



Based on matched pre-post surveys from 850 *MAC3* students.

## GAINS IN MATH SKILLS

Extent to which students said they made gains in...



Scale: 1 = "not at all;" 5 = "a great deal."

Based on post-surveys from 796 MAC3 students.



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# Gains in Content Learning

- Each collaborative team identifies 3-6 main concepts
  - Students self-assess on a scale of 1 (“not at all”) to 5 (“a great deal”)
  - Overall, the content gain score is a 3.7
-

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# INDICATORS OF SUCCESS

- Students in most courses showed attitude and skills improvement
  - No difference between the most and least successful courses in gender, age, subject integrated, collaborative style, or course format
  - The most successful courses
    - Were smaller
    - Were more diverse
    - Were in the context of math course (either a learning community or was a math course infused with another subject)
    - Combined math with science or humanities
-

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# Summary Statement

- “After a MAC<sup>3</sup> course, students showed increased interest and confidence in math, a greater awareness of its role in their lives, and a greater appreciation for the interdisciplinary learning environment. All of these attitude changes increase the likelihood that these students will continue to learn math in new and different situations.”
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# More to come...

- More interviews with faculty after implementation
  - Assessment of Traveling Workshops
-

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# For more information...

- See [www.mac3.amatyc.org](http://www.mac3.amatyc.org)
  - Contact Jane Korey
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  - Contact me: Deann Leoni  
[dleoni@edcc.edu](mailto:dleoni@edcc.edu)
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