

De Anza College Developmental Math Pilot Results, Fall 2006

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Outline

- The Partnership
- Implementation
- Fall 2006 Results
- Findings

De Anza College

- Located in the heart of Silicon Valley in Cupertino, CA
- Operates on a 12-week quarter system
- Serves approximately 22,000 – 24,000 students per year
- Transfers approximately 2,500 students per year

The Partnership

- A Partnership was formed to increase the success rates in Pre-Collegiate math courses
- Components:
 - Math and Counseling faculty
 - EnableMath – Course Software
 - Noel Levitz – College Student Inventory
- Using technology, provide students timely information on their progress as well as information about their motivations

The Partnership

- Math instructor, Susan Dean, piloted software in her classes in Spring and Summer 2004
- Two-year Math Retention Project proposal made to De Anza in Summer 2005
- We are currently in the 2nd year of the project

Math Department

- Developmental math sequence consists of pre, elementary, and intermediate algebra
- Offer 175 class sections per year of developmental math (37% of all math department courses)
- Historically, a 55% success rate in developmental math courses
- 31 full-time instructors, 45 part-time instructors
- Class size is 40

Implementation

- Class components
 - EnableMath software
 - Counseling
- Class structure
 - 5 hours per week
 - 2 hours per week in computer lab
- Class evaluation
 - EnableMath assignments included in grade

Implementation

- EnableMath Software
 - No other text used
 - Adjustable content
 - Visualizations of concepts
 - Mastery based homework system
 - Grade book
 - Mail system

Implementation

- EnableMath Software
 - Dated Assignments
 - Locked/unlocked and dated quizzes
 - Management system tracks student progress
 - Homework done in lab, in open lab, and at home
 - All tests are written (not done on computer)

Implementation

- Counseling
 - Counselor assigned to each class
 - Students required to complete College Student Inventory, CSI
 - Survey to enhance advising and improve retention
 - Students required to meet with counselor
 - Counselors hold special CSI office hours

Implementation

- Week 1: CSI completed in lab
 - Students receive automatic email with logon and password
- Week 2 - 3: Counselor and student reports generated
 - Counselor presents reports to students in lab
 - Counselor meets with students during lab

Implementation

- Counselor and Instructor ensure follow up for identified at-risk students
- Week 6: Counselor returns to lab
 - Meets with students during lab
- Last week: students complete online end of class survey

Implementation

- Coordinator organizes and oversees:
 - Training of faculty
 - EnableMath software
 - CSI
 - Smooth and timely administration of CSI
 - Meeting of instructors and counselors every two weeks
- Coordinator is the liason with Noel-Levitz and EnableMath

Program Evaluation

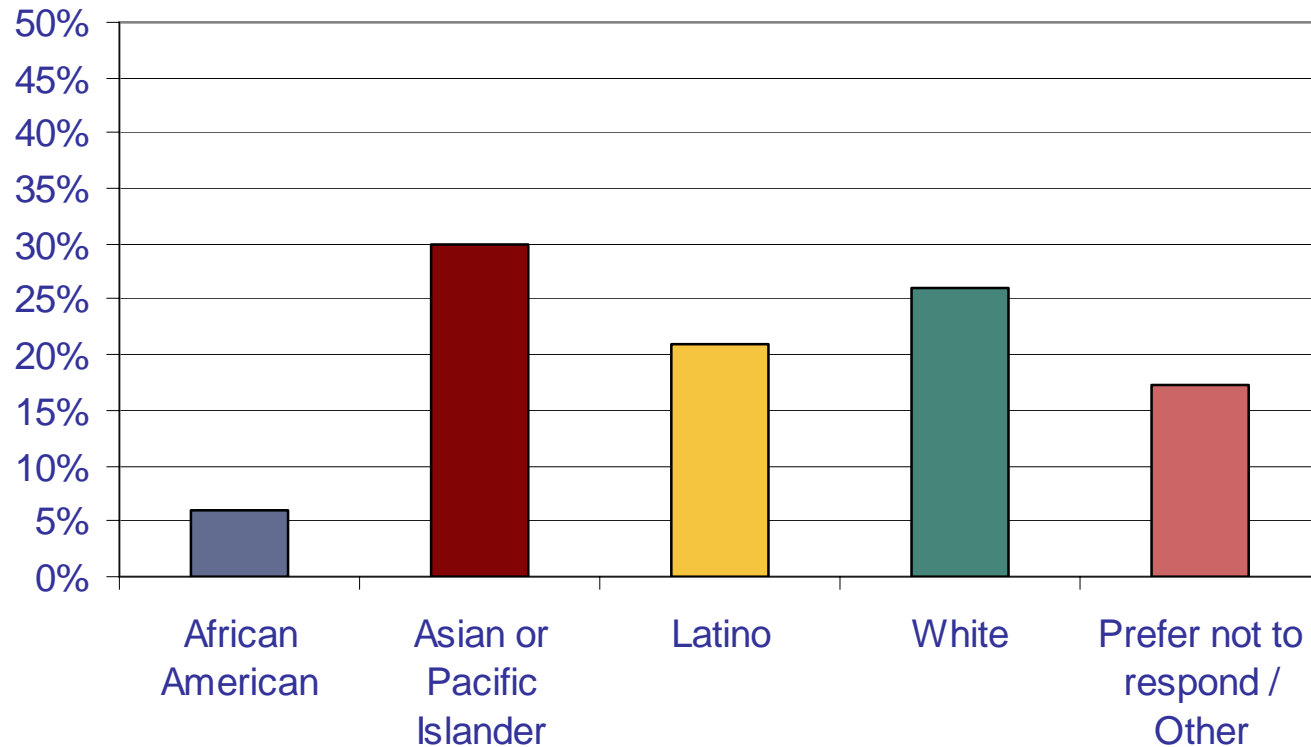
- Early results look promising but vary by term, instructor and course
- No independent measure of success
- More research is needed to determine the relative effect of each intervention

Program Evaluation

- The data allow a discussion of student learning behaviors and motivation, even though the pilot is not a randomized trial
- Using multiple forms of evaluation (e.g. student grades, satisfaction) provides feedback to instructors as well as administration on implementation

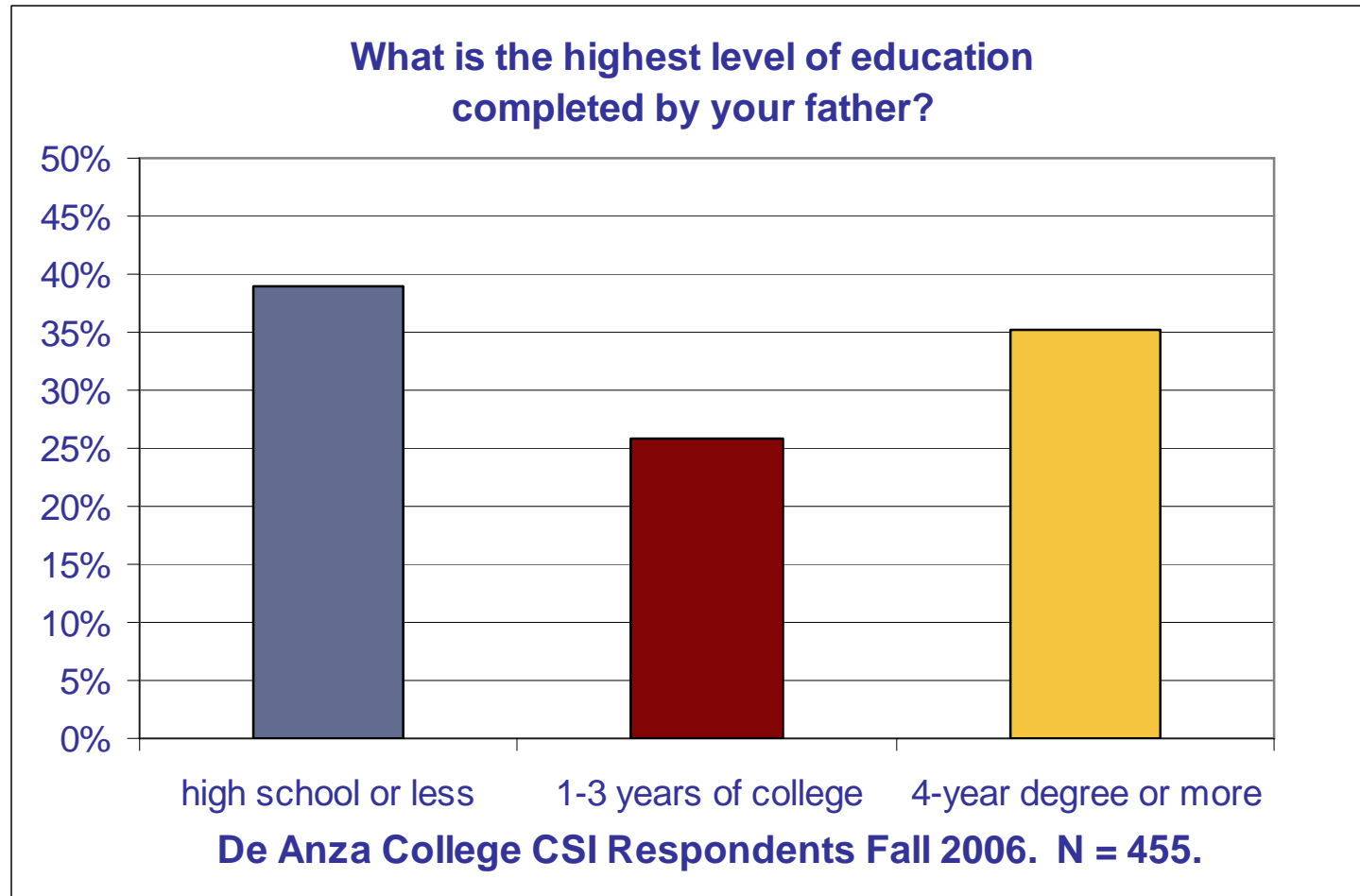
Demographics of CSI Takers

How would you describe your Racial / Ethnic Origin?



De Anza College CSI Respondents Fall 2006. N = 481.

Demographics of CSI Takers



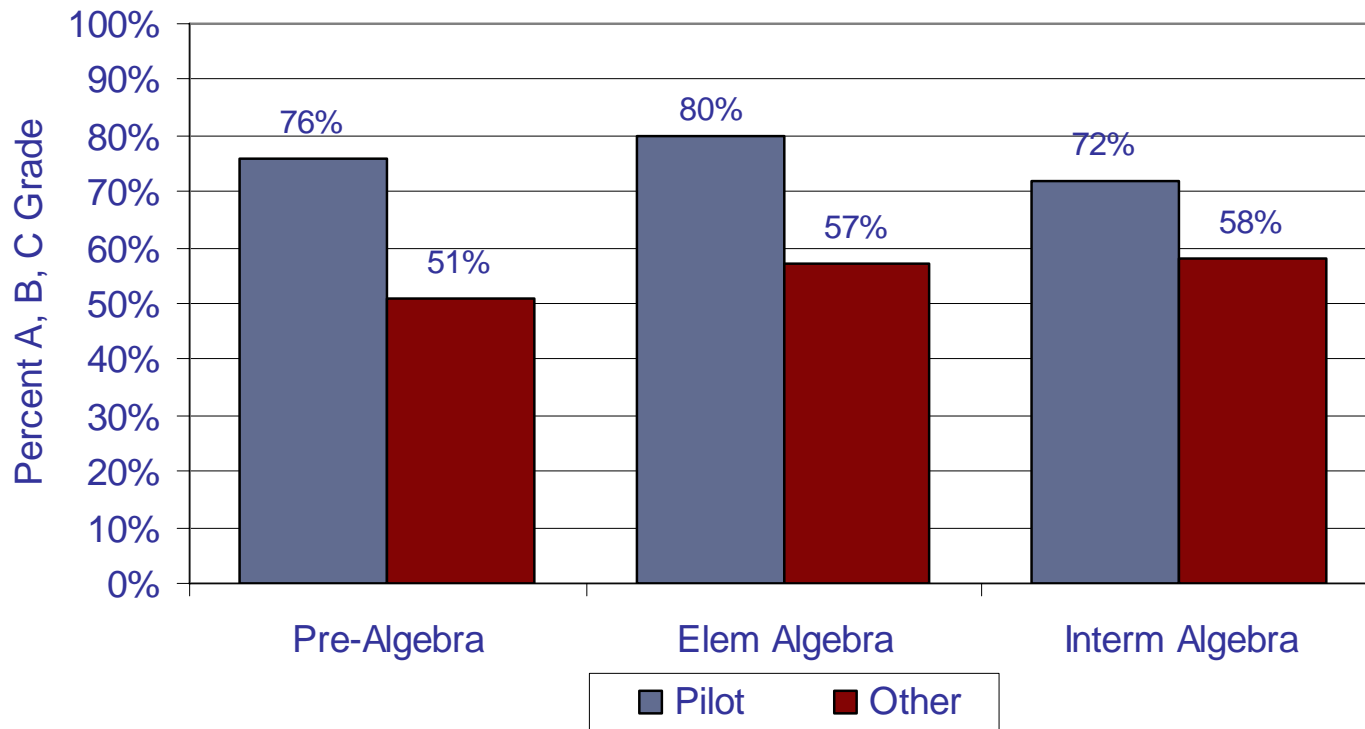
Results Fall 2006

De Anza College Math Pilot Sections / Students, Fall 2006

<u>Course</u>	<u>Group</u>	<u># Sec</u>	<u>HC</u>
Pre-Algebra	Pilot	4	132
	Other	10	358
Elem Algebra	Pilot	5	194
	Other	16	601
Interm Algebra	Pilot	4	155
	Other	19	641
Total	Pilot	13	481
	Other	45	1,600

Results Fall 2006

Course Success of Fall 2006 EnableMath / Noel Levitz Sections Compared to All Other Sections, De Anza College



Note: Students in the Pilot group used the EnableMath Software and completed the CSI.

Results Fall 2006

Course Success of Fall 2006 EnableMath / Noel Levitz Sections Compared to All Other Sections, De Anza College

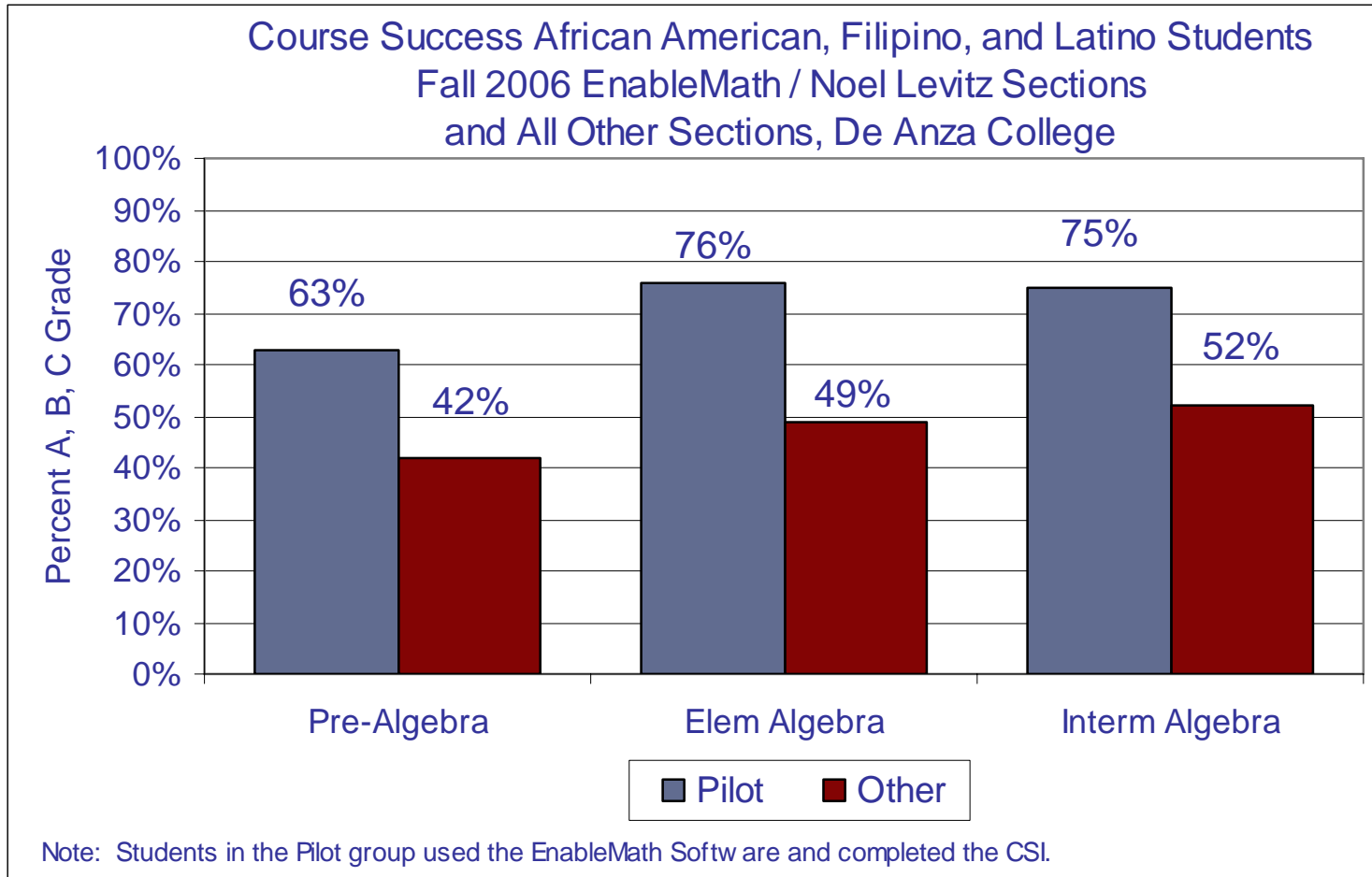
Course	Group	Pass		Did Not Pass		Withdrawn		Total	
		Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Pre-Algebra	Pilot	100	76%	17	13%	15	11%	132	100%
	Other	182	51%	92	26%	84	23%	358	100%
Elem Algebra	Pilot	156	80%	27	14%	11	6%	194	100%
	Other	342	57%	136	23%	123	20%	601	100%
Interm Algebra	Pilot	111	72%	30	19%	14	9%	155	100%
	Other	372	58%	106	17%	163	25%	641	100%

Includes end of term grades of students enrolled at census (3rd week).

Note: Students in the Pilot group used the EnableMath Software and completed the CSI.

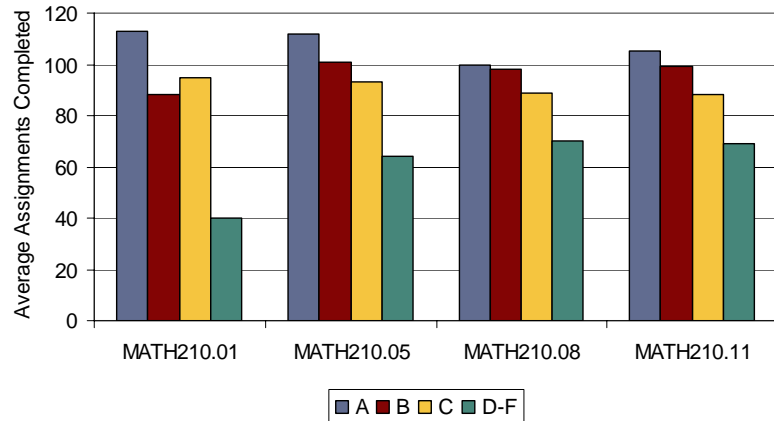
Using Chi Square at .05 the results from each course are statistically different using a 2x2 methodology where one dimension is success/nonsuccess and the other is Pilot/NoPilot.

Fall 2006 Results by Ethnicity



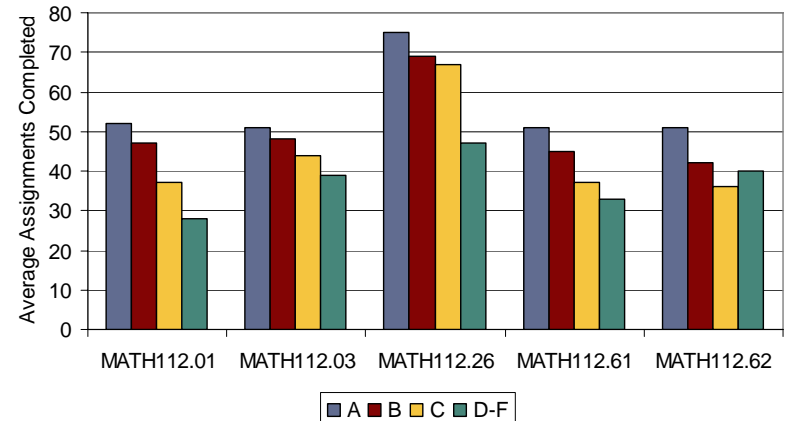
Fall 2006 Results

Average Enable Math Assignments Completed by Grade
De Anza College, Fall 2006, Pre-Algebra



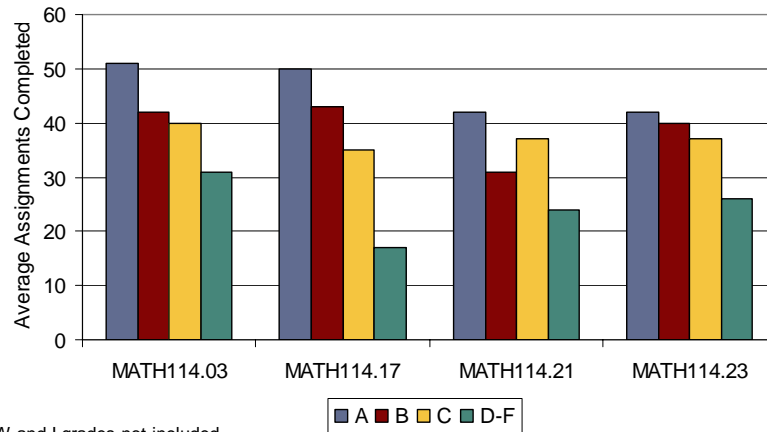
W and I grades not included.

Average Enable Math Assignments Completed by Grade
De Anza College, Fall 2006, Elem Algebra



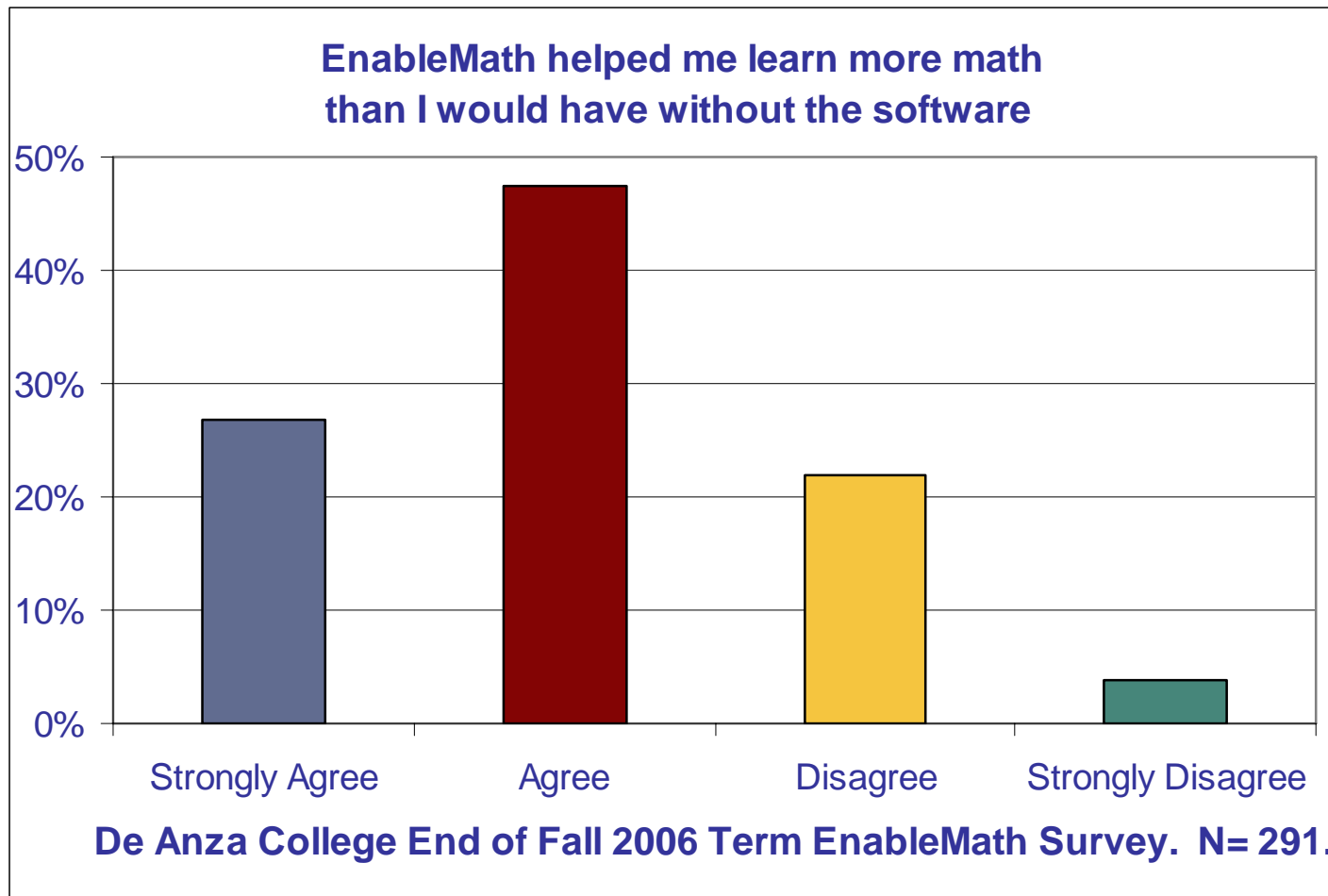
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Average Enable Math Assignments Completed by Grade
De Anza College, Fall 2006, Interm Algebra

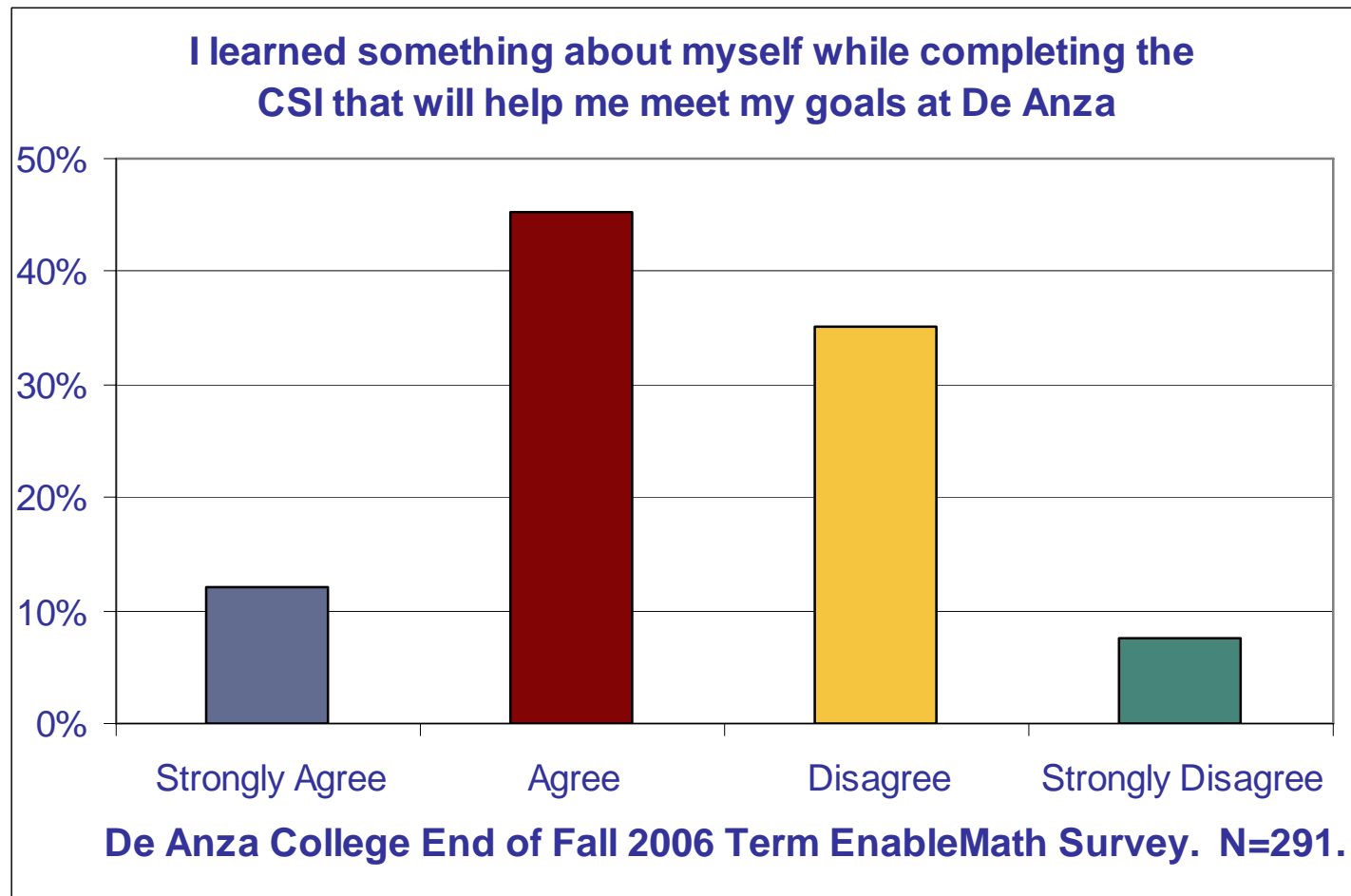


W and I grades not included.

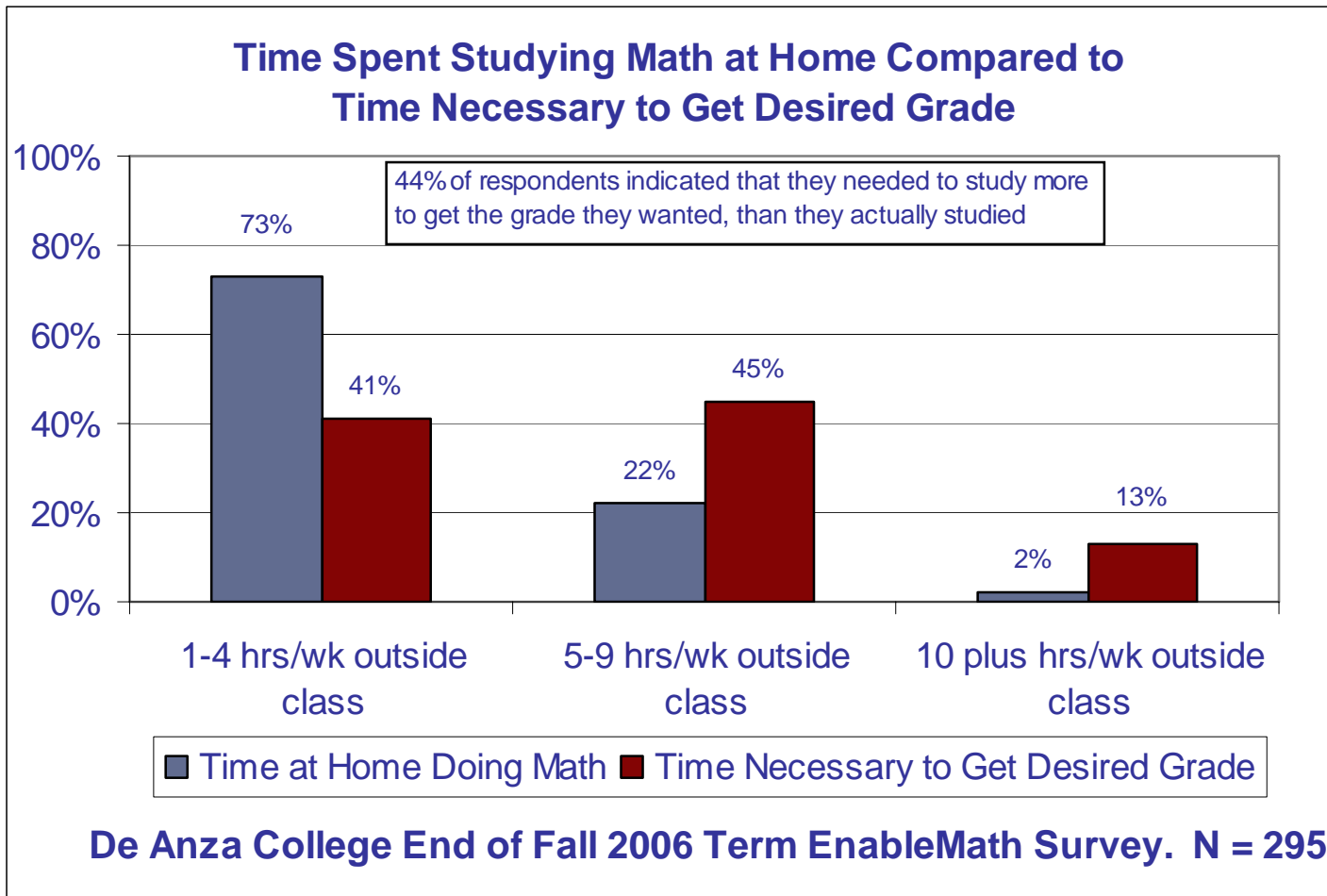
De Anza End of Class Survey



De Anza End of Class Survey



De Anza End of Class Survey



Findings

- Participating instructors & counselors want to continue
- Students currently in the project want to take next class in sequence
- These classes are filled before other math classes
- More faculty are wanting to participate

Findings

- Good rapport developing between instructors & counselors involved in project
- Students feel supported by team approach
- Instructors report students engaged and definitely doing more homework
- Instructors & counselors learn more about their students and can give more focused assistance

Findings

- No increased costs – taking existing resources and using them differently
 - Regular class period / time
 - Counseling time in the class instead of counseling center

Questions

This presentation can be found at:

http://www.research.fhda.edu/researchreports/file_library/mathpilot.pdf

or by emailing Andrew LaManque at:
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