



# **Summer Fast Track Review Course for Development Math Students**

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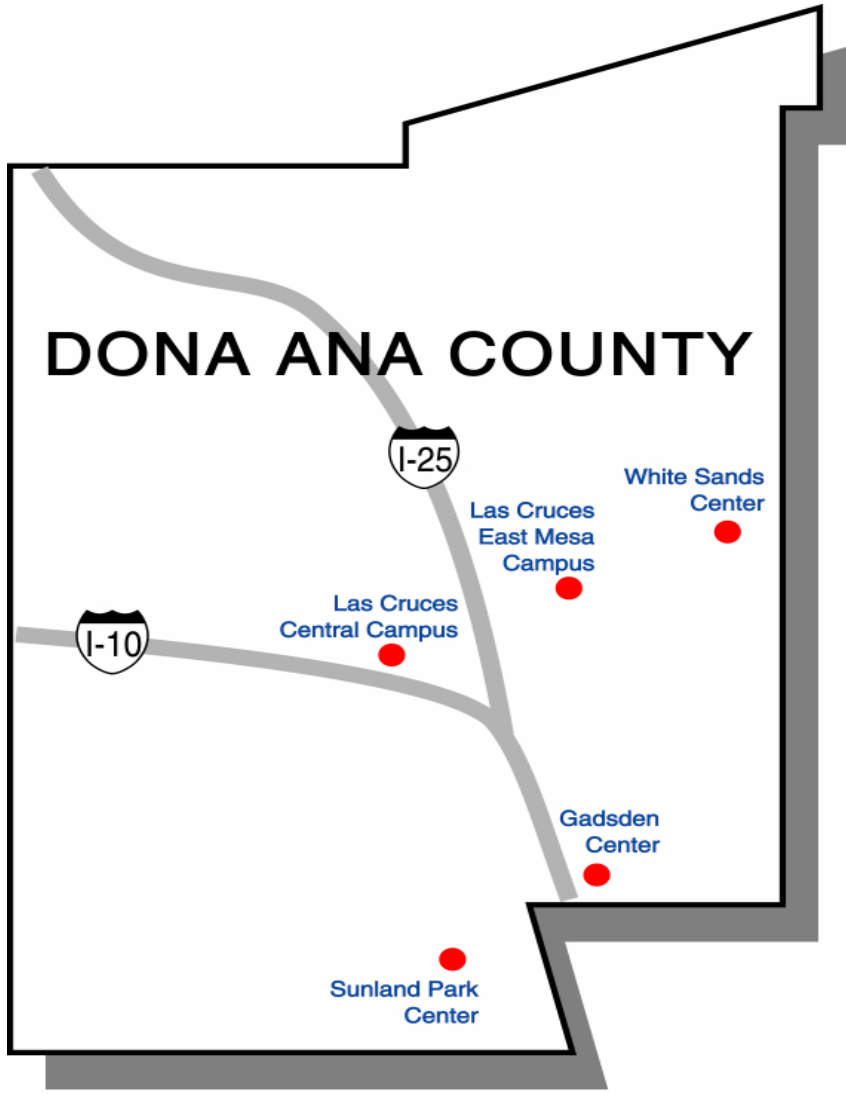
*Institutional Effectiveness & Planning Office, DACCC*

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# Presentation Outline

- DACC Overview
  - Demographics
  - Retention
  - Placement
- Fast Track Workshop
  - Montgomery College Model
  - DACC Fast Track Workshop Summer 2006
- Fast Track Fall 2007
- Discussion

# DONA ANA COUNTY



# Overall Credit Enrollment

	<b>Fall 2000</b>	<b>Fall 2006</b>	<b>Fall 2007</b>
FTE	2,397	4,005 (67%)	4,261
Seatcount	11,178	18,768 (68%)	19,853
Headcount	4,881	7,184 (47%)	7,671

*Note: Fall 2000 and Fall 2006 based on final SIF; Fall 2007 based on census SIF.*

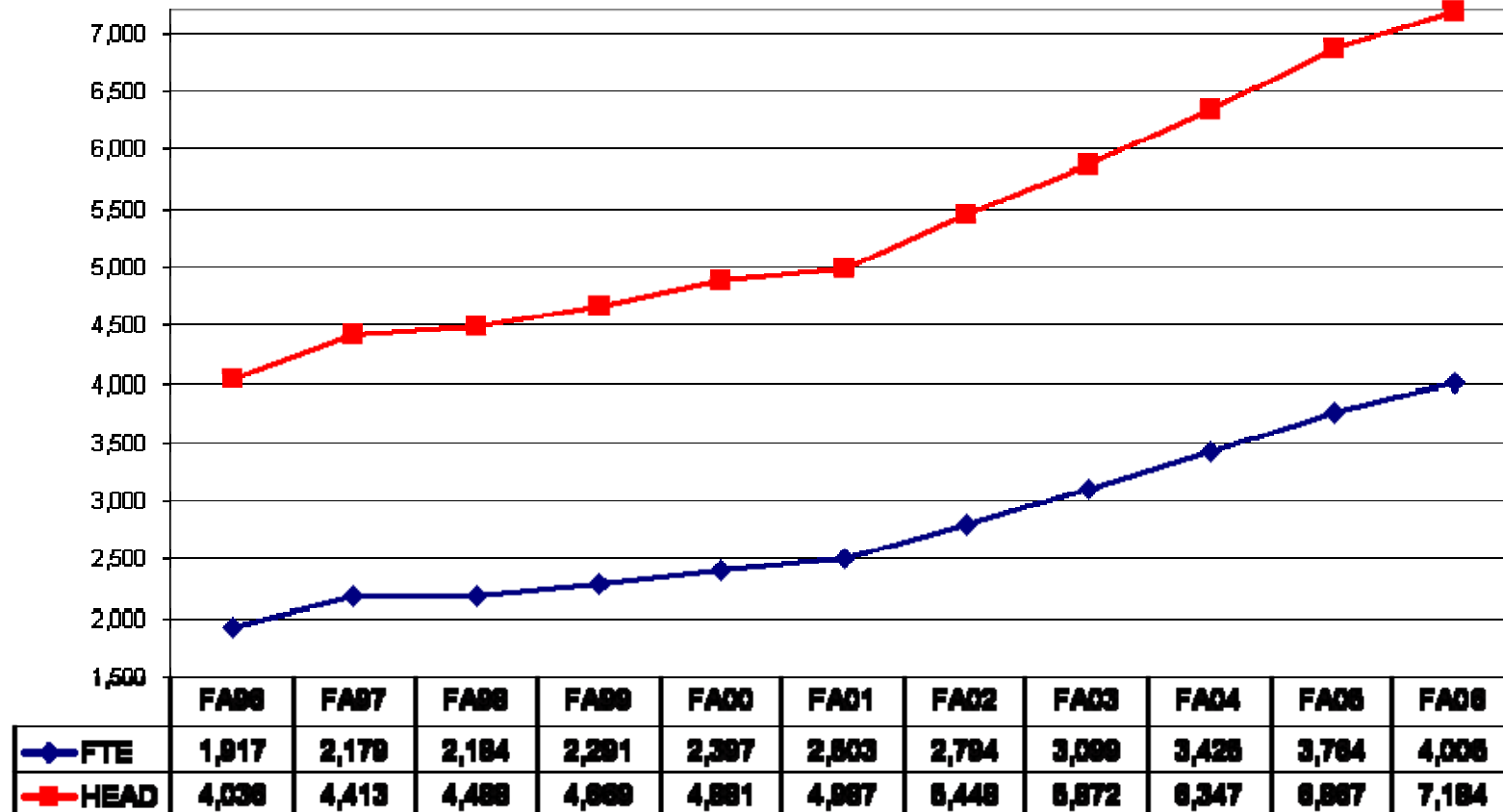
# Overall Credit Enrollment

	<b>Fall 2006</b>	<b>Fall 2007</b>
Female	57%	58%
Hispanic	61%	65%
Average Age	26.0	25.7%

*Note: Fall 2006 based on final SIF; Fall 2007 based on census SIF.*

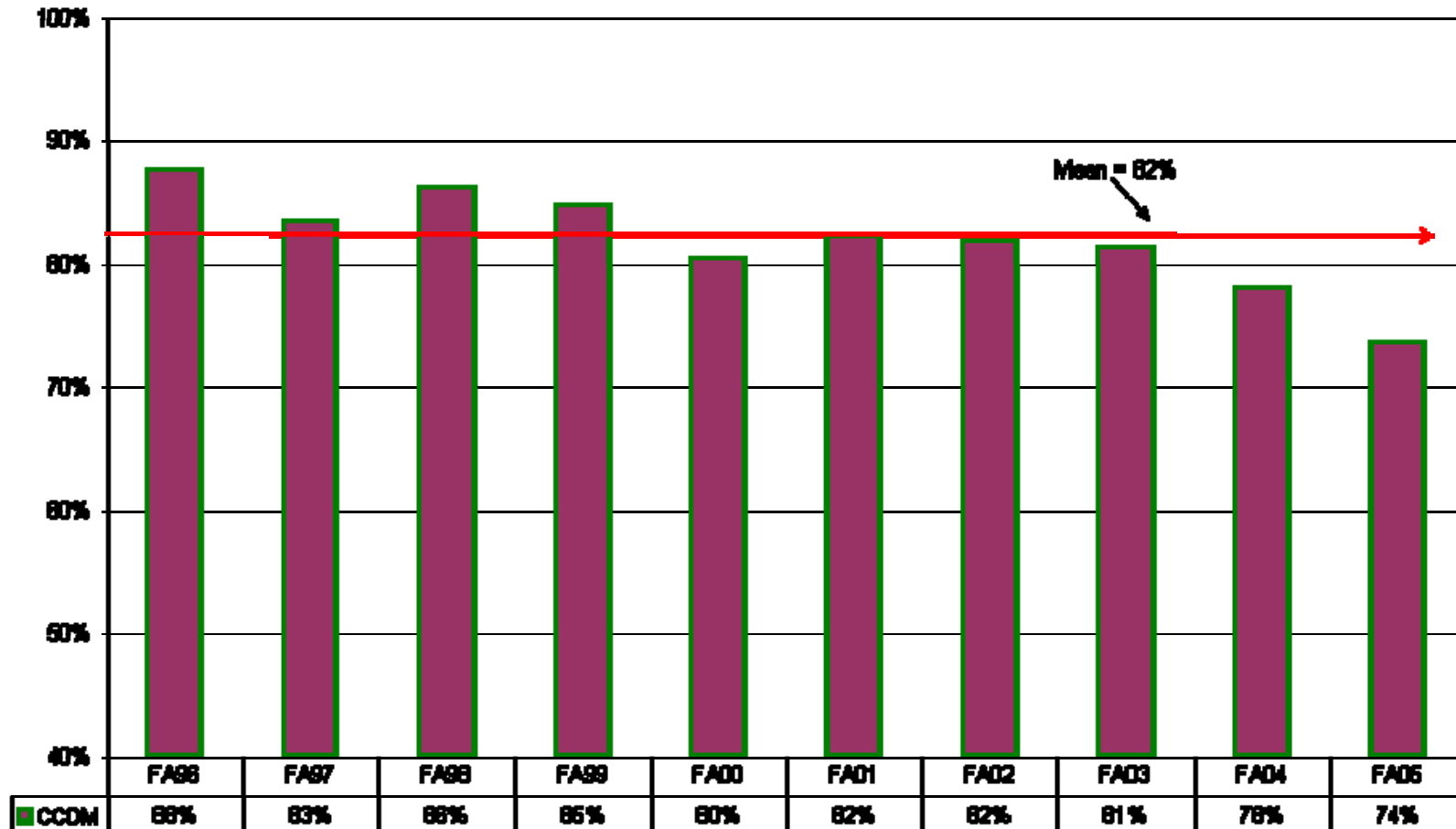
# Overall Credit Enrollment

## DACC Fall Final Enrollment (1996 - 2006) 10 Years of Growth



# Math Students Served

## Percent of Fall New Students Taking Developmental Math at DABCC





# Math Placement



# CCDM 103

## Prealgebra

Fundamental mathematics  
operations and arithmetic  
computations.



# CCDM 114

## Algebra Skills

Fundamental algebra operations:  
algebraic expressions, solving  
linear equations, factoring,  
radicals, exponents.



# MATH 120

## Intermediate Algebra

Real numbers, linear equations, inequalities, systems of equations, polynomials and factoring, exponents, powers and roots, quadratic equations, graphing, exponential and logarithmic functions.

# Math Students Served

## CCDM103 – Fall 2005

- ACT Placement
  - 48% did not have an ACT score
  - 50% placed into CCDM103
  - 1.7% placed into CCDM114
  - 0.4% placed into MATH120
- COMPASS
  - 51% did not have a COMPASS score
  - 48% placed into CCDM103
  - 1% placed into CCDM114

# Math Students Served

## CCDM114 – Fall 2005

- ACT Placement
  - 28% did not have an ACT score
  - 14% placed into CCDM103
  - 50% placed into CCDM114
  - 8% placed into MATH120
- COMPASS
  - 69% did not have a COMPASS score
  - 22% placed into CCDM103
  - 9% placed into CCDM114
  - 0.1% placed into MATH120

# Math Students Served

## MATH120 – Fall 2005

- ACT Placement
  - 35% did not have an ACT score
  - 22% placed into CCDM103
  - 19% placed into CCDM114
  - 25% placed into MATH120
- COMPASS
  - 69% did not have a COMPASS score
  - 22% placed into CCDM103
  - 8% placed into CCDM114
  - 1% placed into MATH120

# Math Students Served

On average, 82% of new students at DACC take at least one Developmental Math course sometime during their instruction at DACC.



# DACC Longitudinal Retention Model

# Focus on Retention

Results of DACC's retention study indicate that of our first-time freshmen:

- Roughly 24% will not return after one semester;
- Up to 40% will not return after two semesters;
- This means that over 60% will not return after two semesters.

# Focus on Retention

## Fall to Spring Math Retention:

- 43% of DA new students take CCDM103 their first semester
- Overall pass rate of 62%
  - Pass rate of “Retained” students: 71%
  - Pass rate of “Not Retained” students: 22%.

# Focus on Retention

## Fall to Spring Math Retention:

- 16% of DA new students take CCDM114 their first semester
- Overall pass rate of 52 %
  - Pass rate of “Retained” students: 59%
  - Pass rate of “Not Retained” students: 17%

# Focus on Retention

Of the 6,235 new DACCC students:

- 66% took Dev. Math their first semester;
- 40% of those students did not pass;
- 65% of students that didn't pass did not come back;
- 26% of those who took CCDM
  - Did not pass their class AND
  - Did not return the next semester.



# Fast Track Review Course



# Montgomery College Model

# Fast Track Review Course

## Based on the Montgomery College Model

- **2nd Largest Community College in Maryland**
- **Objectives:**
  - **Save time (1 or 2 semesters)**
  - **Save money**
  - **Improve placement of students**
  - **Increase Retention**

# Fast Track Review Course

## Montgomery College Model cont...

- **Target Population:**
  - **Graduating high school seniors**
  - **Adults returning to school after long absences**

# Fast Track Review Course

## Statistics from Montgomery College:

- Between fall 2000 and summer 2006, 585 students with a placement score have completed the fast track program and were retested;
- 65.1% of those were placed one or two levels higher than previously determined.

# Fast Track Review Course

## Statistics continued...

- 63% of the students who come from Fast Track earned a C or better in elementary algebra, compared to 44% of non-Fast Track students.
- A higher percentage of A/B grades was earned by those coming from Fast Track than by those who did not come from Fast Track.



# Fast Track Review Course At DACC

# Fast Track Review Course at DACC

## *Description:*

**An intensive and rigorous 1-week review course prepares students to exempt out of Prealgebra (CCDM 103N) and enter directly into Beginning Algebra (CCDM 114N).**

# Fast Track Review Course at DACC

## Target Population:

Recent Doña Ana County graduating high school seniors who:

- Placed into CCDM 103N;
- Have a history of success in high school math;
- Have passed:
  - Algebra I with an A or B, or
  - Geometry or Algebra II with a C or better.

# Fast Track Review Course at DACC

*Funded by the Lumina Foundation's*

## **Achieving the Dream: Community Colleges Count Initiative**

# Fast Track Review Course at DACC

## Summer 2006 Fast Track Workshop

- Developed 40 pages of lecture notes to cover some basic ideas in Prep-Algebra such as: Decimal Notation, Real Numbers, Exponential Notation, Order of Operation, Introduction to Fraction, Solving Equations, Ratio, Proportions, Percent, Perimeter, and Area.
- Created a 26 page tutorial collection for the TI-83 Graphing Calculator.

# Fast Track Review Course at DACC

## Daily schedule

- Real life application and mathematical models.
- Algebraic approach solution
- Graphical approach using TI-83 Graphing Calculator
- EducoSoft; it's a multimedia electronic lecture and tutorial for students using multi-media technologies. The software is capable of showing step-by-step procedures with extensive pedagogically sound animation.



# **Fast Track Review Course Results for Fall 2006**

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review Summer 2006

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### Eligible Students

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Participated	16	47%
Did Not Participate	18	53%

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# Fall 2006 Fast Track Analysis

## Enrolled in CCDM103N

### Invited Students Who Attended Workshop

*N=3*

*Passed 100%*

*Sem. GPA: 3.43*

*Returned in Spring: 67%*

*Enrolled in Higher Math: 67%*

### Invited and Did Not Attend Workshop

*N=17*

*Passed: 76%*

*Sem. GPA: 2.67*

*Returned in Spring: 88%*

*Enrolled in Higher Math: 71%*

### Not Invited to Attend Workshop

*N=669*

*Passed: 61%*

*Sem. GPA: 2.11*

*Returned in Spring: 77%*

*Enrolled in Higher Math: 56%*

# Fall 2006 Fast Track Analysis

## Enrolled in CCDM114N

### Invited and Attended Workshop

*N=12*

*Passed: 92%*

*Sem. GPA: 3.13*

*Returned in Spring: 100%*

*Enrolled in Higher Math: 58%*

### Invited and Did Not Attend Workshop

*N=1*

*Passed: 100%*

*Sem. GPA: 2.92*

*Returned in Spring: 100%*

*Enrolled in Higher Math: 100%*

### Not Invited to Attend Workshop

*N=802*

*Passed: 63%*

*Sem. GPA: 2.24*

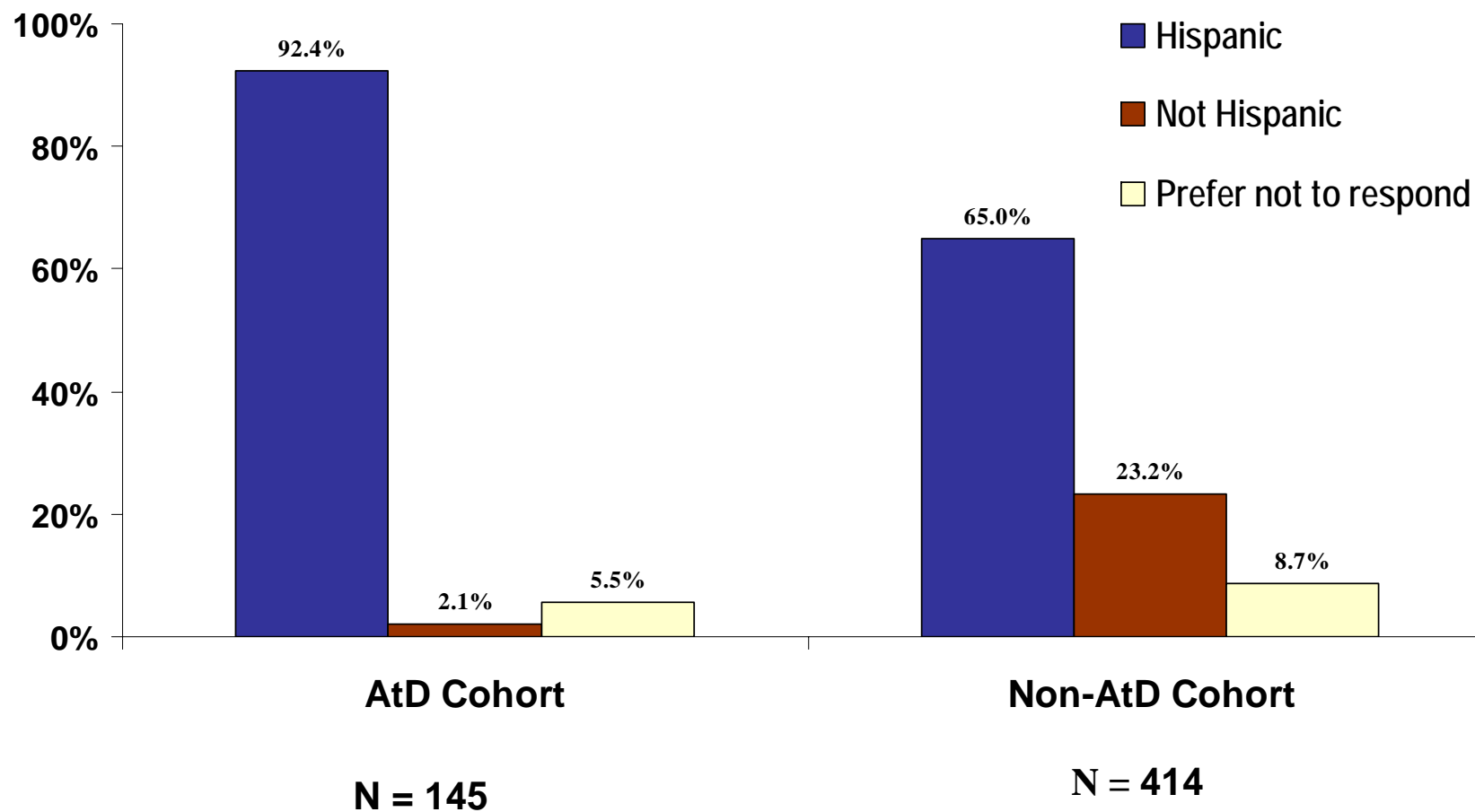
*Returned in Spring: 82%*

*Enrolled in Higher Math: 33%*

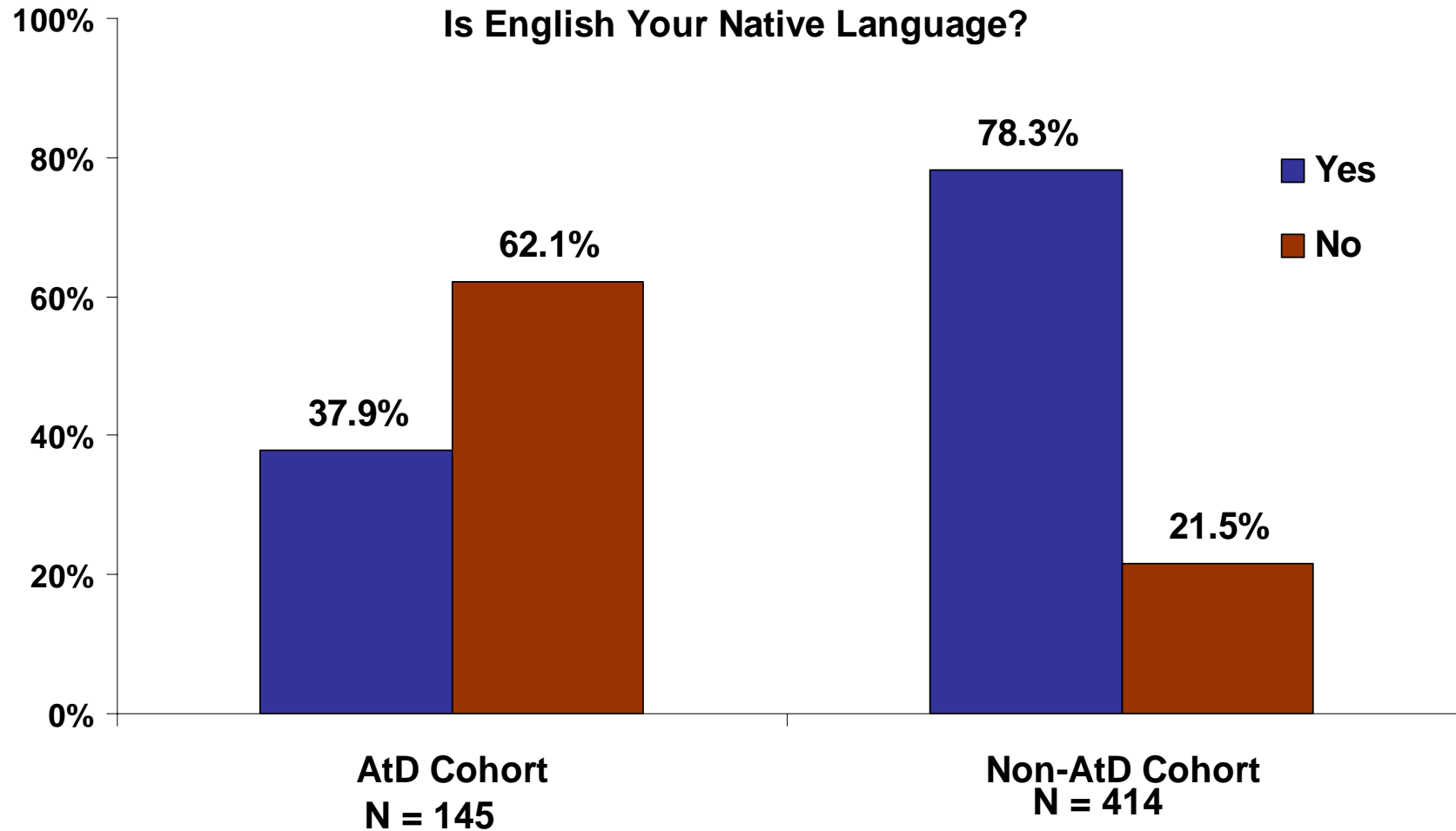


# Faces of the Future Survey

## 2006 Developmental Math AtD Cohort Faces of the Future Results



## 2006 Developmental Math AtD Cohort Faces of the Future Results



## 2006 Developmental Math AtD Cohort

### Faces of the Future Results

What is the highest level of education attained by your mother?

	AtD Cohort N = 145	Non-AtD N = 414
<HS Diploma	52%	25%
HS Dip/GED	25%	23%
Some College	7%	14%
Voc/Tech Deg	4%	6%
Assoc/2-yr Deg	5%	9%
Bachelor's Deg	3%	12%
Mas/Doc/Pro Deg	3%	8%

## 2006 Developmental Math AtD Cohort Faces of the Future Results

**What is the highest level of education attained by your father?**

	AtD Cohort N = 145	Non-AtD N = 414
<HS Diploma	54%	26%
HS Dip/GED	19%	25%
Some College	5%	14%
Voc/Tech Deg	7%	4%
Assoc/2-yr Deg	2%	6%
Bachelor's Deg	3%	11%
Mas/Doc/Pro Deg	3%	8%



# **Fast Track Review Course At DACC**

Proposed Evaluation Plan for  
Fall 2007

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review Fall 2007

### *Objective:*

- To 'refresh' previously learned mathematics skills so that students can place into a higher math class;
- Accurately place students so that they will perform better in a more challenging environment.

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review

### Successful Fast Track Students:

Assumption 1: Successful Fast Track students promoted to the next higher level math course are more likely to be successful in their promoted math course.

Assumption 2: Successful Fast Track students are more likely to continue to be successful in future math courses.

Assumption 3: Successful Fast Track students are more likely to be retained.

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review

### Groups to be Analyzed:

Group 1 - Eligible students who passed Fast Track and took higher level math course.

Group 2 - Eligible students who did not pass Fast Track and took lower level math course.

Group 3 - Eligible students who did not take Fast Track but took lower level math course.

Control Group - First-time “DA” students taking CCDM114N or MATH120 in Fall 2007 who were not involved in Fast Track.



# **CCDM103N to CCDM114N Fast Track**

# Fast Track Review Course at DACC

**Achieving the Dream Fast Track Review  
CCDM103N to CCDM114N**

## **Invited Students:**

- Placed into CCDM103N Prealgebra;
- Graduated from a local HS;
- HS GPA greater than 2.5;
- Targeted Hispanic students enrolled at either the GEC or SPEC.

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

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### Eligible Students

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Participated	19	59%
Did Not Participate	13	41%

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# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

Ethnicity	Participated			
	Yes		No	
Hispanic	15	79%	12	92%
White, Not Hisp.	3	16%	1	8%
Other	1	5%	0	0%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

Gender	Participated			
	Yes		No	
Female	16	84%	8	62%
Male	3	16%	5	38%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

Enrollment Status	Participated			
	Yes		No	
Full-time	19	100%	10	77%
Part-time	0	0%	2	15%
Didn't Enroll	0	0%	1	8%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

Passed "Double Check Test"	Participated			
	Yes		No	
Passed	18	95%	-	0%
Did Not Pass	1	5%	-	0%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM103N to CCDM114N

Enrolled in Math	Participated			
	Yes		No	
CCDM103	2	11%	10	77%
CCDM112	0	0%	1	8%
CCDM114	16	84%	0	0%
Did Not Enroll	1	5%	2	15%



# **CCDM114N to MATH120 Fast Track**

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

### Invited Students:

- Placed into CCDM114N Beginning Algebra;
- Graduated from a local HS;
- HS GPA greater than 2.75;
- Targeted Hispanic students enrolled at either the GEC or SPEC.

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

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### Eligible Students

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Participated	22	59%
Did Not Participate	15	41%

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# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Ethnicity	Participated			
	Yes		No	
Hispanic	20	91%	13	87%
American Indian	1	5%	0	0%
White, Not Hisp.	1	5%	1	7%
Other	0	0%	1	7%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Gender	Participated			
	Yes		No	
Female	15	68%	9	60%
Male	7	32%	6	40%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Enrollment Status	Participated			
	Yes		No	
Full-time	21	95%	13	87%
Part-time	0	0%	2	13%
Didn't Enroll	1	5%	0	0%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Passed "Double Check Test"	Participated			
	Yes		No	
Passed	8	36%	-	0%
Did Not Pass	14	64%	-	0%

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Enrolled in Math	Participated			
	Yes		No	
CCDM112	1	5%	0	0%
CCDM114	12	63%	12	80%
MATH120	5	26%	1	7%
Did Not Enroll	4	18%	2	13%



# **Fast Track Review Course At DACC**

Proposed Analysis of the Data

# Fast Track Review Course at DACC

**Achieving the Dream Fast Track Review  
CCDM103N to CCDM114N**

Assumption 1: Using CCDM114 final exam as the dependent variable, mean test score of Group 1 will be compared to the mean test score of the Control Group.

Assumption 2: Math120 pass-rate of Group 1 will be compared to the pass-rate of the Control Group.

# Fast Track Review Course at DACC

## Achieving the Dream Fast Track Review CCDM114N to MATH120

Assumption 1: Using MATH120 final grade (quantified) as the dependent variable,

- mean final grade of Group 1 will be compared to the mean final grade of the Control Group
- mean final grade of Group 2 will be compared to the mean final grade of the Group 3

Assumption 2:

- Group 1 to CG comparison may not be possible
- Math120 pass-rate of Group 2 in will be compared to the pass-rate of the Group 3

Assumption 3: Compare retention-rates of Group 1, Group 2, Group 3 and Control Group.



# **DISCUSSION**

## **Question**

## **Comments**

## **Suggestion**

# Sources

CCSSE Community College Survey of Student Engagement (2006) Conducting Focus Groups to Help Improve Retention and Student Success. Retrieved October 10, 2006, from <http://www.ccsse.org/retention/toolkit.cfm>

Coe, W. (2006). Improving Placement and Retention Rates with the Use of Mathematics Review Courses (pp. 55-62). National Association for Developmental Education. Retrieved February 19, 2007, from <http://www.nade.net/documents/Digest/NadeDigestFall06.pdf>

DACC Office of Institutional Effectiveness and Planning

NMSU VISTAS Student Record System and SCT Banner System

*PowerPoint Available at:*

<http://dabcc.nmsu.edu/info/insteffect/Reports/ReportList.htm>