



# Team Work and Pedagogy in the Co-Requisite Mathematics Courses

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# Introduction

- Remediation at Kennesaw State and Georgia
- Implementation of the co-requisite mathematics courses at Kennesaw State
- Teamwork required
- Pedagogy applied
- Data collected



# Remediation in Mathematics

## At Kennesaw State University after Fall 2015

- Consolidation / Transitions
- New Admission Standards
- Complete College  
America/Georgia
- Most Students in Co-Requisite  
Courses
- One Foundation Level Class  
Allowed

## Changes for Georgia Coming Fall 2018

- No Foundations Courses
- All Students in Co-Requisite  
Courses
  - Math 1001 plus Math 0997
  - Math 1101 plus Math 0998
  - Math 1111 plus Math 0999



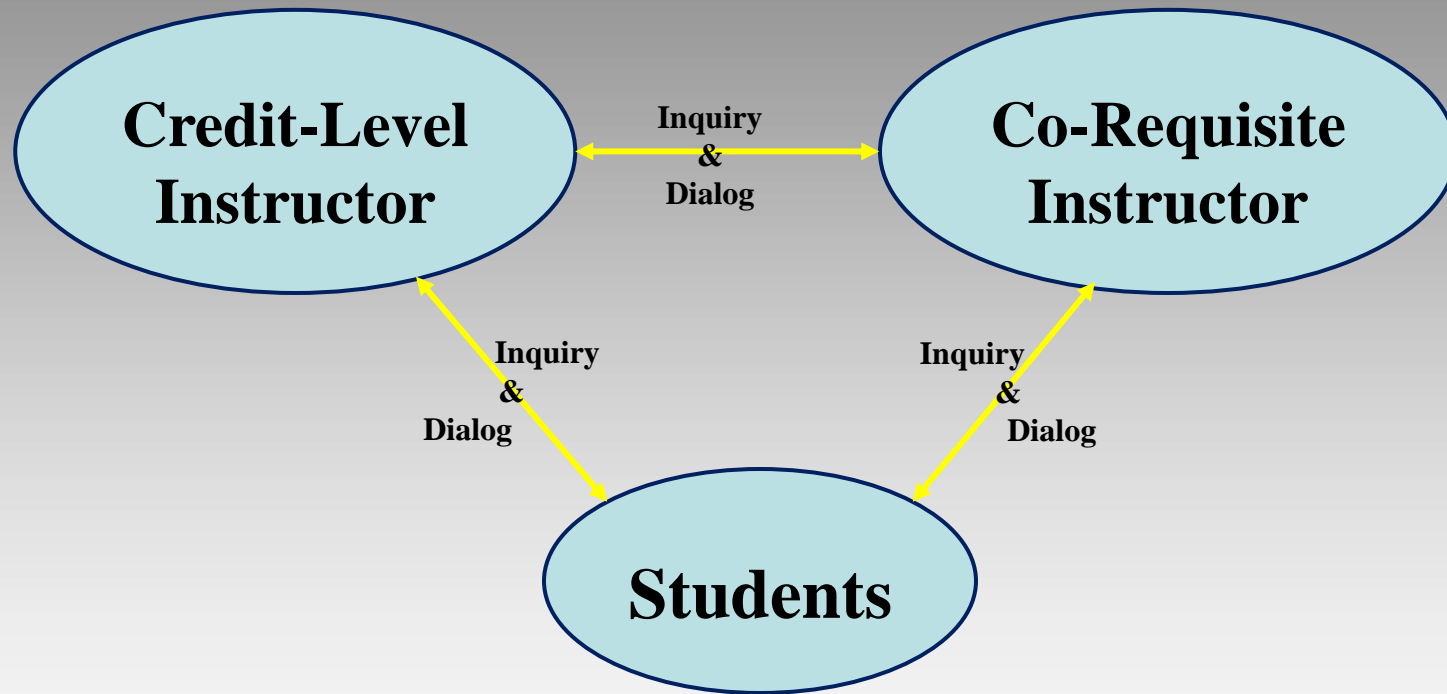
# Implementation of Co-requisite at KSU

- MATH 0998-Support for Mathematical Modeling
  - Taken with MATH 1101 Intro. To Math Modeling
  - 1 credit hour course meeting 3 hour per week
- MATH 0999-Support for College Algebra
  - Taken with MATH 1111 College Algebra
  - 1 credit hour course meeting 3 hour per week
- *Different Instructors* for the credit level and support courses (Requires Teamwork)

# Teamwork and Coordination

- Two instructors
- Same learning outcomes
- Sharing course websites and Desire 2 Learn
- Sharing results
- Schedule
  - (Teach opposite days)
- Focus in credit level
  - course content
- Focus in support course
  - Foundation/Just in Time
- Constant Communication

# Teamwork and Coordination



# Pedagogy

## Credit Level Course

- Mostly Lecture
- Mixed classes
- Assigns HW's, practice tests, tests
- Grades
- Shares information with support instructor
- Team conferences

## Support Course

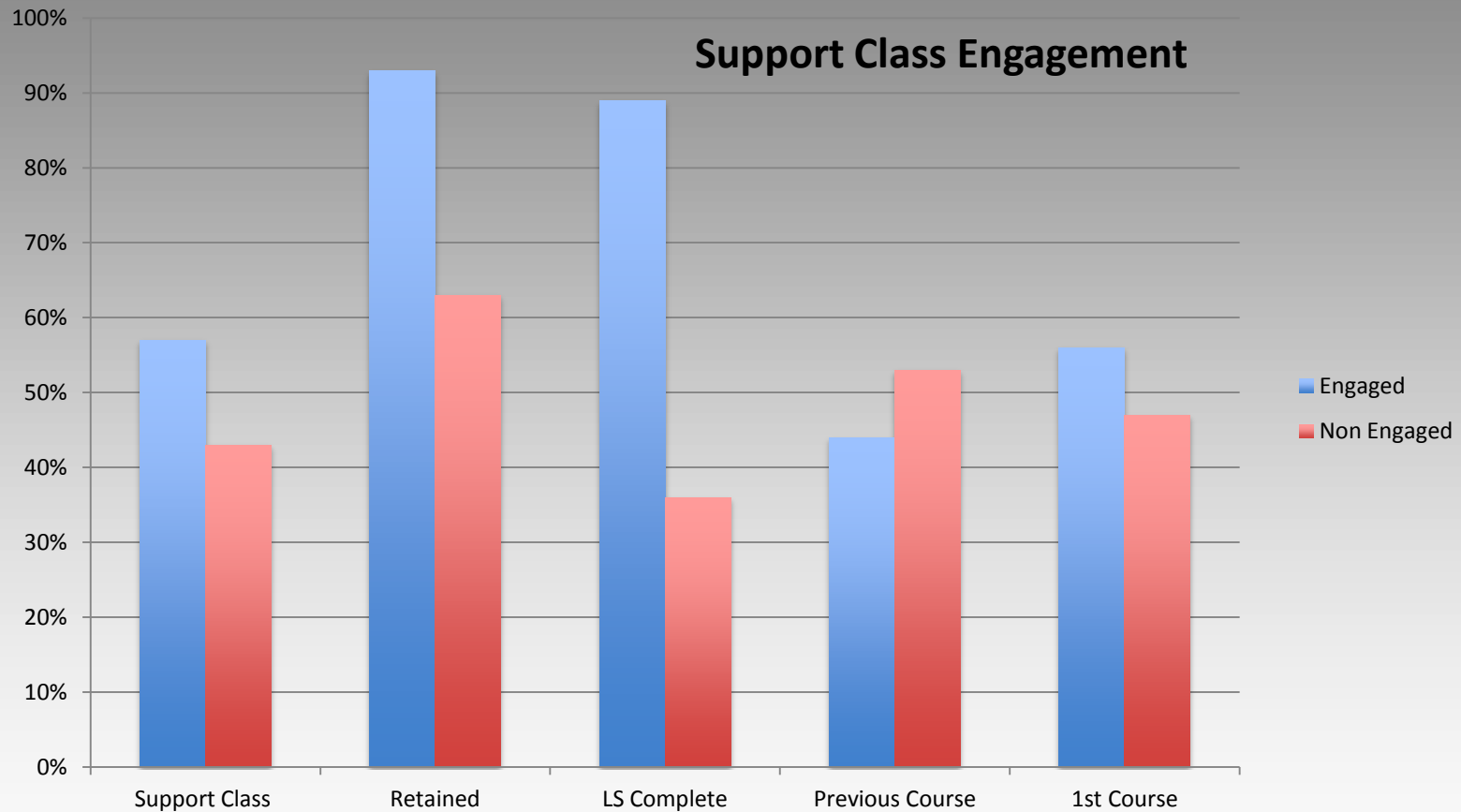
- Little lecture, focus on reviewing, doing, perfecting
- Apply similar methodologies
- Use correct terminology
- Group work, think-pair-share
- Brainstorming
- Inductive Method
- Team conferences

# Purposes of Support Courses

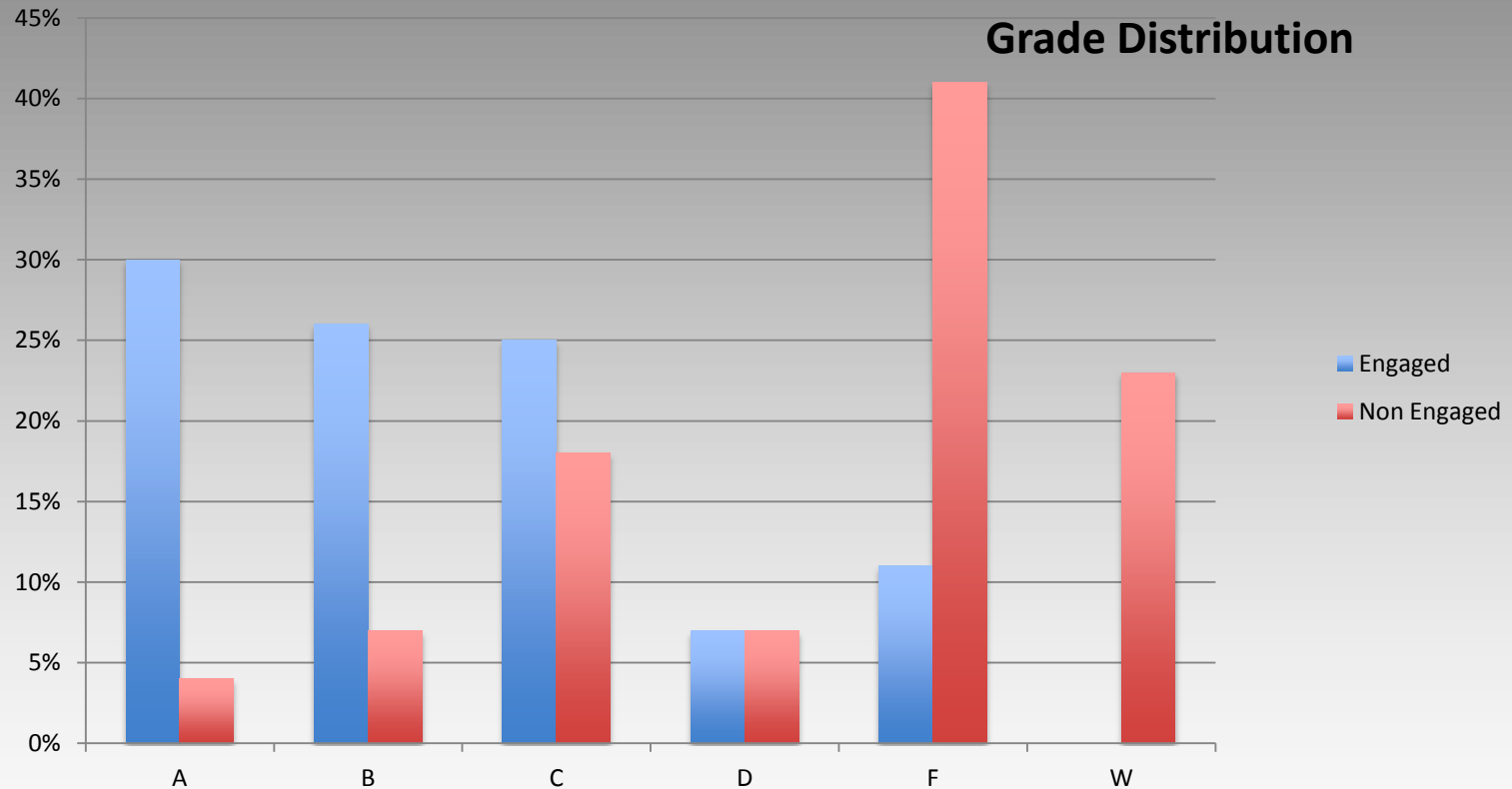
<b>Beliefs (Self-Efficacy)</b>	Bandura (1994), Pajares (2002), Young & Ley (2002)
<b>Recognition / Regulation</b>	Levin and Calcagno (2008), Zimmerman (2008)
<b>Group Collaboration</b>	Crone & MacKay (2007), Johnson & Johnson (1986), Moschkovich (2002), Schoenfeld (1992), Wooley et al. (2010)
<b>Group Progress And Growth</b>	Lave & Wenger (1991), Winbourne & Watson, (2010)
<b>Faculty Connection</b>	Price (2009), Tinto (1991), Wheeler & Montgomery (2009)
<b>Learning Community And Class Culture</b>	Boaler (1999), Lave and Wenger (1991), Schoenfeld (1985), Siegrist (2009), Solomon (2006), Tinto (1991)



# Results College Algebra

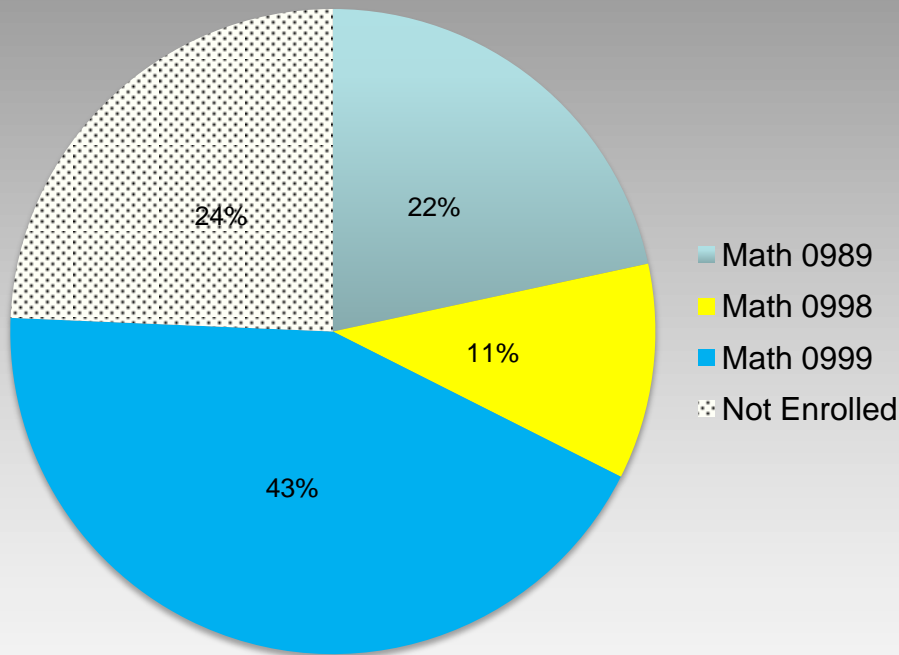


# Results College Algebra

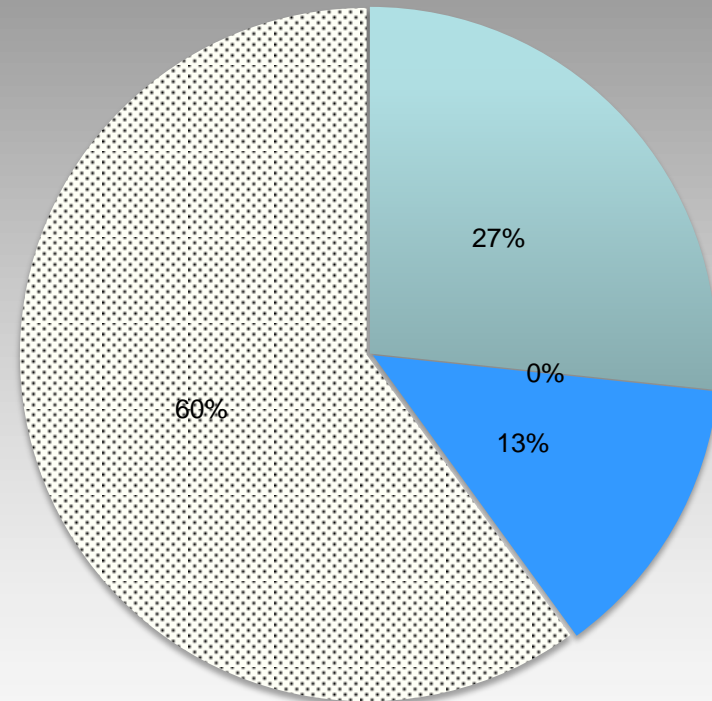


# Results from Foundations for College Algebra

## Students Enrolled for the 1<sup>st</sup> Time



## Students Previously Enrolled



# Conclusions

- College Algebra – Credit Level Courses
  - Students who engaged in the support class made better grades and were retained at a higher rate
  - Students for whom this was their first learning support class were more likely to be engaged in the support class
  - Students for whom this was not their first term in Learning Support were less likely to participate in the support class.
- Foundation Algebra – Non-Credit Course
  - Students for whom this was their first learning support class were more likely to progress to the co-requisite courses than those who were repeating a learning support course.
  - Time does indeed appear to be the enemy...(Complete College America, 2010)

# Next Steps At KSU

- Discontinuing Learning Support at KSU.



# References

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# Thank You

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