

COLLABORATION, INNOVATION, AND TENACITY: EXEMPLARY HIGH-ENROLLMENT AP CALCULUS PROGRAMS FOR TRADITIONALLY UNDERSERVED STUDENTS

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Need for Study

- Rising graduation requirements.
- Challenge to districts serving traditionally underserved students.
- Research supports more exposure to high level mathematics in high school ensures college persistence and attainment.

Limitations of Study

- Examines enrollment not test taking or course quality.
- Examines programs at one point in time and is not longitudinal.
- Schools were chosen based on quantitative selection only and not exemplary sampling.

Site Selection

We visited three high schools in each of three districts:

1. The school was located in a district with more than 4,000 students, and two other schools that met criteria.
2. At least 40% of the school's students were eligible for the federal free or reduced-price lunch program.
3. The school was not an alternative or a magnet school.
4. The percentage of the school's eleventh- and twelfth-grade students enrolled in AP Calculus AB exceeded the 60th percentile for all Texas public high schools in the 1998–99 academic year.

Data Collection

- Three three-day site visits to each school.
- Observed an AP calculus class each visit.
- Conducted focus group with AP calculus students.
- Interviewed a variety of people at the school and district level.
- Collected student, school, and district information.

Data Analysis

- Filtered field notes from each site activity into analytic memos that combined to create a site memo for each visit.
- Transcribed and coded interviews and focus groups.
- Created a visual organizer to represent emerging themes and their relationships.

Results

- District as driver
- Outside agency as driver
- Teacher as driver
- Student as driver

District as Driver

- Creating a culture of high achievement,
- Planning and collaborating,
- Increasing enrollment,
- Training teachers,
- Aligning curricula, and
- Providing resources.

Outside Agency as Driver

- Working together,
- Recruiting teachers,
- Preparing teachers, and
- Recruiting students.

Teacher as Driver

- Teachers acted in the interests of their students, attending to their affective needs on multiple levels.
- Teachers used various delivery strategies to help students complete mathematics courses and feel confident enough to enroll in AP calculus.

Student as Driver

- Students faced a variety of barriers
- Students took the initiative to enroll in advanced-level coursework.
- Students found the motivation to persist in advanced-level coursework.

Analysis

- No excuses
- Ethic of Care
- Building Capacity
- Effective Instruction
- Collaboration and Planning

Conclusion

- Increased enrollment may lead to increased success on AP exam.
- Don't wait, start now.