

Academic Youth Development: Promising Findings and District Snapshots



The transition to high school is a defining—and often difficult—developmental period for teenagers. Faced with increased academic pressures and unfamiliar social circumstances, far too many adolescents experience decreases in grade point average, attendance, motivation, and sense of belonging.

Enrollment in Algebra I often coincides with the high school transition and is where many students who were otherwise on track encounter the most severe drop in academic achievement. Summer learning loss further exacerbates the challenges of Algebra I and the high school transition, particularly for low-income students. By taking explicit steps to prepare students for a successful transition to Algebra I and to high school, educators can help ensure academic success—not only in Algebra I but also along students' academic trajectory to college readiness.

Academic Youth Development (AYD)—created by Agile Mind in collaboration with leaders at the Charles A. Dana Center at The University of Texas at Austin and leading psychologists—translates the latest psychological and learning sciences research on student motivation, persistence, and understanding of intelligence into practical strategies that can smooth the transition to high school and improve student achievement in mathematics. Since its inception AYD has been implemented in nearly 500 schools in 12 states.

To date, Dana Center research and that of partner districts indicates that participation in AYD:

- Improves student achievement in mathematics
- Improves student motivation
- Improves teacher effectiveness and beliefs about learning

What does this mean, in practical terms that matter to education leaders? It translates into:

- Substantial gains in the number and percentage of students who pass Algebra I the first time through
- Savings in district budgets, many of which now include reteaching 1 of every 2 Algebra I students
- Transformed teacher motivation during a time of increased professional stress
- Measurable student success in domains by which teacher effectiveness is measured
- Retention of STEM educators
- Acceleration of more students to the true college readiness envisioned by the next-generation standards

We offer here select findings and statements from some of our partner school districts, as well as summaries of results of Dana Center studies, as evidence of the promise of AYD for students and teachers.

“This program has made an enormous difference in the school life of both our teachers and our adolescent students. AYD has changed the way teachers talk to students, students talk to teachers, and students talk to students.”

– Deputy Superintendent, Chicago, Illinois

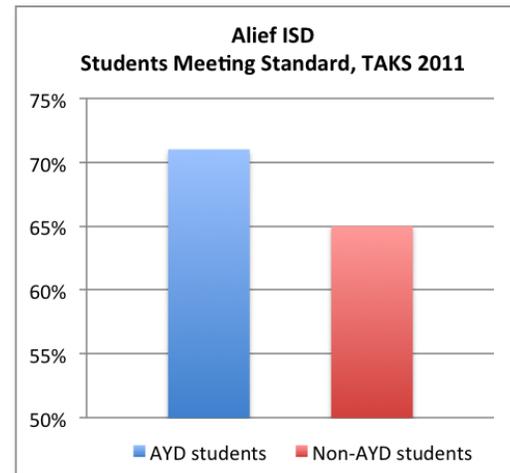
Improved Achievement in Mathematics

Districts report that enacting AYD leads to significant gains in student achievement in mathematics, particularly for low-income and minority students.

State Assessments: Students who participated in Summer-Start AYD met standard at a higher rate than non-AYD students.

Alief, TX

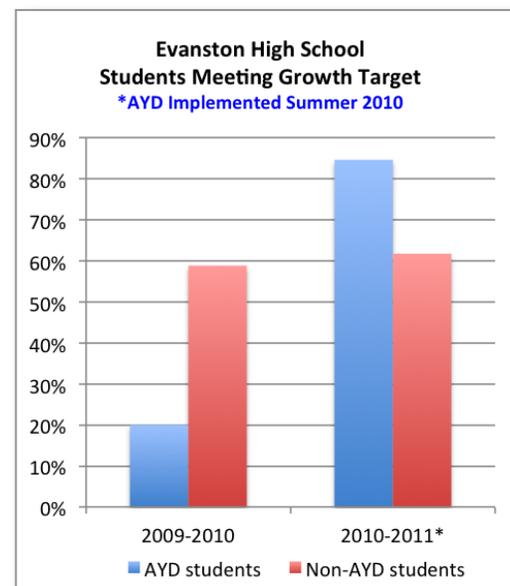
The Alief Independent School District, located in an economically distressed region, serves mainly low-income, Hispanic and African American students. AYD participants experienced higher performance on the state's mathematics assessment than did their non-AYD counterparts: 71% of AYD students taking Algebra I met the state standard for mathematics as measured by the Texas Assessment of Knowledge and Skills (TAKS), while only 65% of non-AYD students taking Algebra I met the state standard. Additionally, students who participated in Summer-Start AYD earned higher average grades for each 9-week grading period during the following academic year than did their non-AYD peers—by more than 11%.



MAP Benchmark Assessments: When compared after AYD implementation, more AYD students than nonparticipants met district growth targets.

Evanston, IL

In Evanston—a diverse mixed-income suburb of Chicago—Summer-Start AYD was enacted for rising 8th graders who had struggled in mathematics. In the school year before AYD was implemented, scaled scores for those students had increased by only 1 point on the Measures of Academic Progress (MAP) test, and just 20% met district growth targets. After AYD, students achieved a 12-point increase, and fully 85% met growth targets, while non-AYD students recorded a 6-point increase.



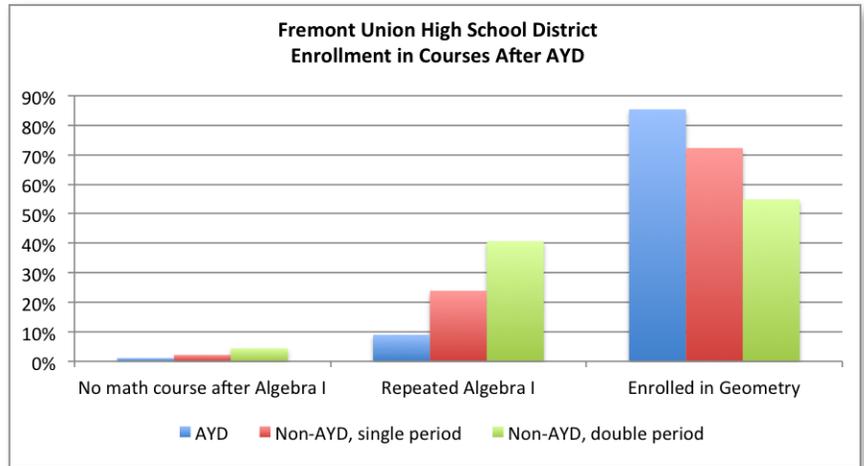
"With AYD, students are showing gains and experiencing greater success in mathematics while simultaneously increasing their level of confidence and their belief in the impact of their own effort."

- Math Curriculum Specialist, Paramount, California

Progress in Course Placement: Fewer AYD students repeated Algebra I, and more enrolled in Geometry, compared with non-AYD students.

Cupertino, CA

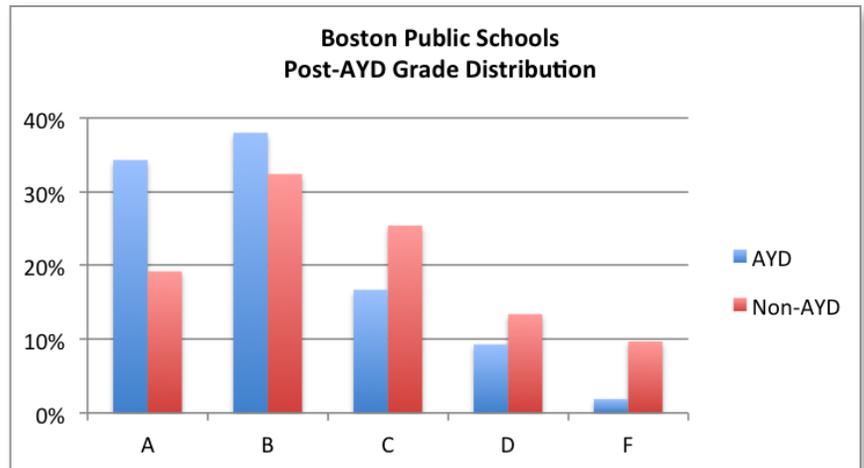
Evaluators in Fremont Union High School District examined the academic records of students one year after Summer-Start AYD enactment. They found that 85% of AYD students were able to go on to enroll in Geometry, compared with 72% of non-AYD students enrolled in single-period Algebra I and just 55% of those enrolled in double-period Algebra I. Fewer than 10% of AYD students repeated Algebra I in their sophomore year, compared with 24% of non-AYD students in single-period Algebra I and 41% enrolled in double-period Algebra I.



Course Grades: AYD students improved their Algebra I grade.

Boston, MA

Early in the 2009-2010 school year, evaluators at Boston Public Schools gathered data to measure AYD and non-AYD student achievement in Algebra I after the AYD summer experience. During the first marking period, twice as many AYD students as non-AYD students earned an A in Algebra, and the failing rate among AYD students was one fifth that of non-AYD students.



“All of our first year freshmen are in School Year AYD. Our Algebra I failure rate for this first nine week period was the lowest it’s ever been since I’ve been here.”
 - Principal, Port Isabel, Texas

Rio Rancho, NM

Rio Rancho is home to a large high school serving a diverse student body that includes significant populations of Hispanic and American Indian students. In studying AYD participants, district leaders found that, in the first semester of Algebra I following Summer-Start AYD, 85% of Summer-Start AYD students improved their mathematics grade, when comparing the spring semester of their 8th grade year, with 44% increasing by a full letter grade. And 73% of Summer Start AYD students earned passing grades of A, B, or C in both English and Algebra I during their freshman year.

“AYD has provided a much needed intervention support for some of our students who seem to need a ‘re-booting’ exercise to get them better prepared for high school. The relationships, the learning strategies, the need for perseverance, all provide students with an access point for success. Students have told us repeatedly that AYD has helped them be better students and given them tools to meet the demands of high school.”

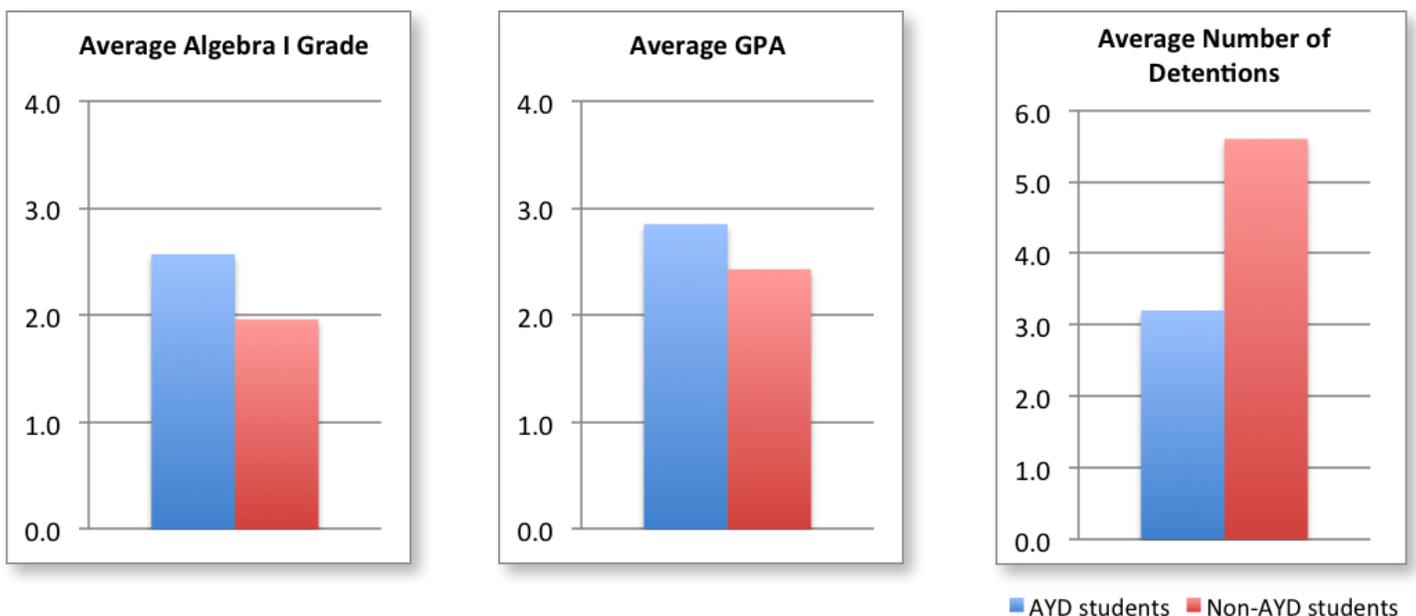
– Executive Director of Secondary Curriculum and Instruction, Rio Rancho, New Mexico

Course Grades and School Environment: AYD students improved their grades in mathematics, their overall GPAs, and had fewer discipline issues, compared with non-AYD students.

Chicago, IL

During the 2009-10 school year, the University of Illinois at Chicago organized an enactment of Summer-Start AYD in the Chicago Public Schools. Students who participated in AYD experienced a much smoother transition to high school than their non-AYD counterparts, as evidenced by better performance in mathematics and other coursework, as well as much lower rates of assignment to detention.

**Chicago Public Schools
University of Illinois at Chicago AYD Pilot Program, 2009-10**



Improved Student Motivation

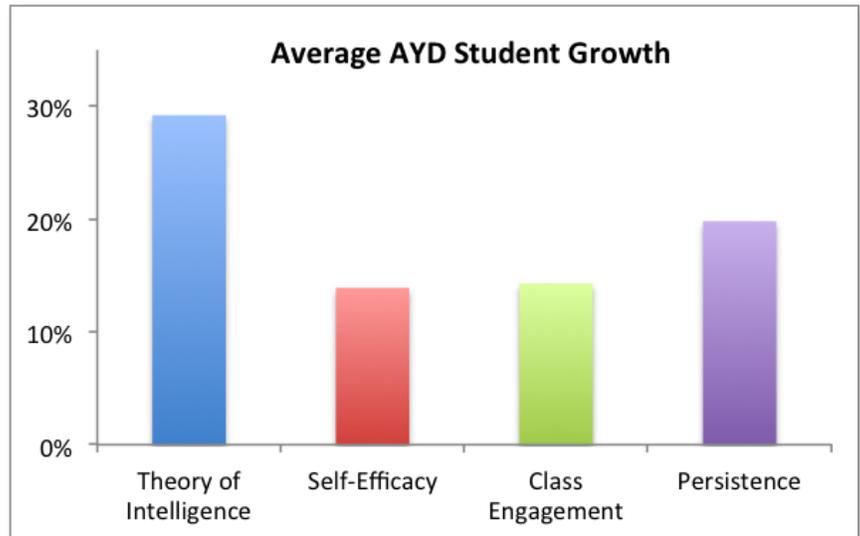
Motivation is a complex set of beliefs and behaviors that includes engagement, persistence, self-efficacy, and theory of intelligence—all of which correlate with academic success. In extensive Dana Center studies, AYD students reveal that they come to understand, through participation in the program, that intelligence is not fixed, but increases through effort, and that engaging and persisting through challenge increases their mathematical intelligence.

Students show significant gains in their understanding about beliefs and behaviors associated with motivation.

Student Respondents in 2013

In response to surveys administered before and after their participation in Summer-Start AYD, a majority of students showed increases in their beliefs about all four components of motivation measured. The average increases for each component are shown here—all are statistically significant changes.

AYD students report that working harder or being persistent in working through challenges embedded in the program makes them smarter—and more able to succeed in mathematical problem solving. Students who experience AYD are also less likely to give up when frustrated by a math problem or study only the easy parts of a math lesson, and they are more likely to analyze their thinking and apply proven problem-solving strategies to challenging tasks.



"I'm so glad I did AYD—it helped me figure out stuff by myself and gave me new problem-solving skills. AYD changed my outlook on math a lot; it gives you lots of confidence; it gives you different strategies you wouldn't think of if you hadn't gone."

- AYD Student, McAllen, Texas

Improved Teacher Effectiveness and Satisfaction

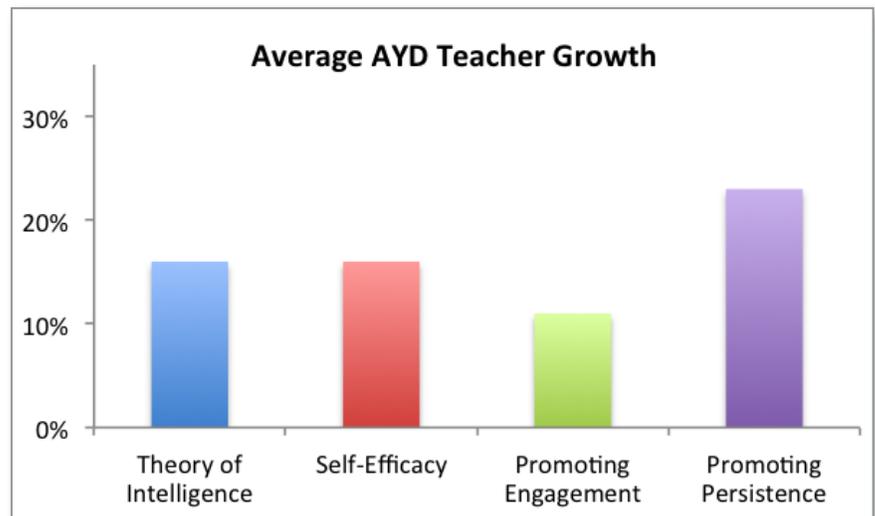
Teachers who enact AYD report changes in their beliefs about intelligence, effort, and success in mathematics. They also indicate an increase in their ability to promote student engagement and persistence—both positively correlated with most teacher effectiveness measures.

Teachers show significant gains in their beliefs about student learning and their effectiveness.

Teacher Respondents in 2013

In response to surveys administered before and after Summer-Start AYD enactment, a majority of teachers showed increases in their beliefs about student learning and their ability to promote engagement and persistence.

The average increases for each component are shown here—all are statistically significant changes. Crucial for the achievement of the promise of next-generation standards, AYD teachers report growth in their understanding of the value of productive struggle and in their belief that enabling students to persist in challenging academic tasks can improve achievement.



"I love the whole program. The language, the idea that your mind is agile. I think it's probably the most effective professional development I've had since I've been a teacher. That's how powerful I think this is, and I truly believe in it. [My co-teacher] and I, we drill effort. And we praise it. It's like the point of the class is to give your best effort, grow your brain and to become smarter. That's my teaching philosophy now."

- Algebra I Teacher, Pennsylvania

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