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New Program Pairs Leadership Training with Math
Summer Program Gives High School Freshmen a Head Start
by Candace Wilson

Sixty 8th grade graduates participated in an exciting new program this past summer to help them transition smoothly into high school math. In classes at their future high school, the students learned leadership skills and problem-solving strategies while they formed relationships with their future math teachers. An interactive computer CSI-style murder mystery activity encouraged the students to collaborate and use their newfound problem-solving skills.

The program, called Academic Youth Development Initiative (AYD), is based on research that shows that students who learn well have a social group that also values education. Modest changes in the culture of ninth-grade classes can have powerful effects on student success. An important goal of the AYD initiative is to help students understand that intelligence is malleable, not fixed.

Karen Price, a math teacher at Everett High who participated in the summer program, sees many students who believe they can't do well in algebra. Price feels hopeful about the AYD program. "If you can get them to believe they can do it, that they are in charge of their math career, and if you give them tools, the sky's the limit!" Price sees a difference already. Students are more engaged. They raise their hands and help their peers.

Building a community of learners
The AYD program works to build a community of learners and to help students overcome any perception they may have that they can't do math. As AYD students model what they have learned in their math classes, ask questions and adopt problem-solving strategies in their classes, other students learn these skills.

Zachary Springer, a freshman at Jackson High School, enjoyed the interactive nature of the summer program. "Learning how to be comfortable asking questions helped a lot," he reports. "And for any question I ask, there are probably two or three others who have the same questions." Zachary adds that he learned about axons and dendrites in the brain: how they grow and become more complex and transfer information faster as you learn.

"The other important thing was learning strategies, ways to attack problems." But the best part for him was the mock murder investigation. "It was fun—and difficult. We had to do calculations." Prior to AYD, Zachary has done "ok" in math, but he likes it better now. He says it also helped to get to know his teacher.

Zachary is now enrolled in Kaye Peterson's algebra class. Peterson was interested in the opportunity to work with students in a different setting. She likes that AYD reinforces that students can learn and overcomes the "I can't" attitude. "The summer program went great," comments Peterson, "but the purpose is to see how they do in the school year." She was thrilled to see that AYD students had an "ah-ha" moment the second week of class when they connected something in algebra with the summer learning.

District Curriculum and Instruction Director Mary Anne Stine first heard of AYD and its effectiveness in Texas and California schools when she was at a conference a year ago. “The idea,” says Stine, “is to identify students who may not be the strongest in math but who show strong leadership ability. Then we give them intense up-front training about how we learn, how the brain grows, how we have the ability to move forward on our own initiative and make the brain work harder.”

Stine was pleased to see the students’ reactions when she visited sessions in the summer. “All were positive, and had things to say about the ‘cool math.’ A new student from Fiji said she was excited about what was happening. She was fitting in.” Stine will survey students this fall to get more feedback.

In addition to the summer program, students will meet as a group with their math teachers during the year and will need to complete 18-20 hours of additional material to receive their .5 elective credit.

Promoting on-time graduation through early math success

Funded by I-728 as a two-year pilot program, AYD fits well into the district’s focus to create a learning environment in which each student learns to high standards and graduates on time. The district has worked hard to remove obstacles to graduation, and gives students exposure to challenging classes and experiences as early as possible.

For several years, 8th graders have been encouraged to take Algebra 1, and the district’s efforts are paying off. The number of middle school students who take geometry and Algebra 1 has increased from over 400 in 2006-07 to almost 800 enrolled this fall. Middle school students who pass these classes may also earn high school credit. In high school, they then have more room in their schedules to take classes that are interesting and challenging to them.

In addition, taking math classes early gives students a greater chance of passing the WASL, and Everett students are encouraged to take the WASL as 9th graders. Once that test has been passed, students are free to focus on other graduation requirements. Although the WASL gets a lot of media attention, the bigger challenge to graduating is usually a student’s ability to get enough credits.

Research shows that what students study in high school is a better predictor than test scores or grade averages for whether they will earn a college degree, and the level of mathematics students study has the strongest correlation with earning a college degree. Everett School District has a strong tradition of emphasizing math and was one of the first districts in Washington to require three years of high school math for graduation.

Chris Walters, also a math teacher at Jackson, thinks the strengths of AYD are two-fold. Half of the program’s focus is on teaching effective study habits, school behavior , time management, productivity, goal-setting, and communications skills. The other half is focused on developing life skills for solving problems: guess and check, look for patterns, ask questions. What are my resources? How do I do this?

"What impressed me the most," Cascade High teacher Diana McIntosh says, "is that kids came in four hours a day to work on math and were energetic, interested, and participatory. We had almost perfect attendance."

McIntosh's colleague Scott Stencil comments, "For freshmen, giving them a chance to get more comfortable with being active participants in class, to work with others, and to feel more comfortable with teachers, is a real strength of the program." The high point for him was seeing kids become excited and interested in getting right answers.

Stephanie Parker, Cascade High School teacher, reports that AYD students have carried their understanding of how the brain works into their current science classes and impressed their teachers with their understanding of neurons, dendrites and synaptic gaps. "It's great to see them making those connections!"

"The key message," says Stine, "is that kids can learn math. It is not always easy, but everyone can do it. It takes sticking to it, but you can be as successful as the next person."

Suggested Pull Quotes:

"The key message is that kids can learn math…It takes sticking to it, but you can be as successful as the next person." - Mary Anne Stine, Curriculum and Instruction Director

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"It was fun – and difficult!" - Zachary Springer, Jackson HS freshman

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Suggestion: Put in box:
2008-09 Strategic Plan
Student Learning Objective
Each student demonstrates achievement of district and state standards as each progresses toward graduation from high school and becomes a productive and responsible citizen.
(adopted by School Board (insert date) ____)

SIDE BAR
AYD was developed by the Charles A. Dana Center at the University of Texas at Austin in partnership with Agile Mind, Inc. The Dana Center was founded by Dr. Uri Treisman, whose graduate work with minority students demonstrated that building a collaborative community

markedly improves student success. Dr. Treisman was the recipient of the Harvard Foundation's Scientist of the Year award in 2006 for his work in math and science education.

SIDE BAR

Success for Each Student is District's Aim

On-time graduation is one measure of a school's performance. But it is also an important benchmark for each student. It affects their future success in higher education and the work world. Everett is focused on making on-time graduation possible for each student.

The district's efforts are showing results. Five years ago, graduation rates in Everett schools were at 50%. Now 80% of Everett students graduate on time.

High schools closely track students to make sure they are on target for on-time graduation. Every two weeks teachers receive a report that tells if a student is failing. Teachers and staff respond immediately to help the student get back on track.

Schools traditionally pour resources into helping struggling students and providing challenging opportunities for those who excel. Programs like AYD, AVID, and GEAR UP are designed to provide support for average students, those who represent the majority of most classes and have a B or C average. These students usually do fine. But failing just one class could pull an average student off track for graduating on time. And what might they achieve if they could change attitudes about stereotypes and self-perceived limitations? The Board, administration, teachers and staff of Everett Schools are committed to helping each student learn and succeed at their full potential.

SIDE BAR

Programs Create "College-Going" Culture

AVID (Advancement via Individual Determination) and GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) provide support for students at North Middle School and Everett High School to put them on track for on-time high school graduation and successful college entry.

AVID and GEAR UP target middle and high school students with average grades who are underrepresented among college students, such as minority students, the first college-goer in the family, and low income students. AVID is an elective class aimed to launch students into college. Students learn study techniques, focus on inquiry, and tackle tough class work in small groups. They spend one day each week exploring colleges and career fields. They are required in all of their classes to be on time, sit near the front, ask questions, take notes, and keep an organized binder of assignments. GEAR UP, another pre-college program, provides study help and instruction outside of class.

AVID started in California in the 1980's and has been widely successful throughout the U.S. Approximately 77 percent of 2007 AVID high school graduates enrolled in four-year colleges, per the AVID web site.