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Focus

on academics and foundations

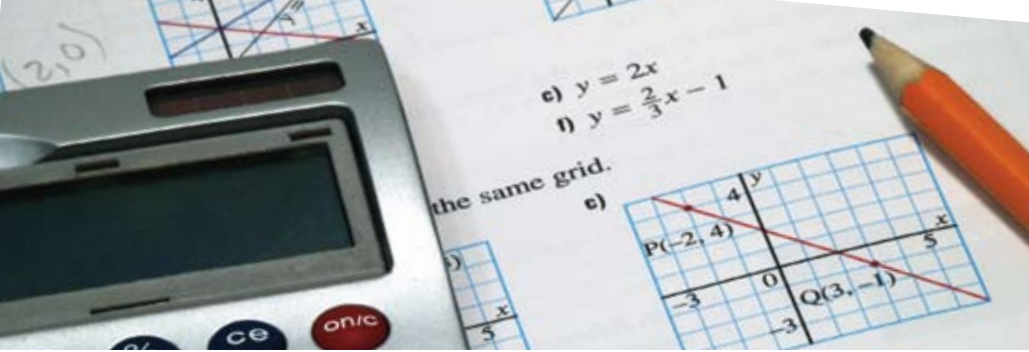
Considering that many of our future graduates' jobs do not yet exist, what is the foundation of knowledge, skill, and problem-solving ability that every student needs to be ready for today's ever-changing global economy?

The answer lies within End 2 (E-2): "Academics and Foundations." As *Focus* newsletter explores each of the District's five End learning goals in the 2008-09 school year (see "E-4, Technology," December), this edition spotlights those parameters that shape the District's academic program. E-2 states, "Upon graduation, students will be academically prepared and confident to pursue higher education or specialized career training." E-2 also lists required proficiency areas: critical thinking, language arts, a word language, math, science, geography, history, and concept application.

Overall, university placement statistics and state, national, and international assessments indicate that our students are academically competitive. For example, Issaquah's eighth-graders' average score ranked seventh highest when compared to all countries that administered an international math and science assessment last year. These external indicators, however, do not tell the full story of the higher-level thinking skills our educators embed in classrooms to prepare students for life.

"We can't imagine what new types of information will exist in the world," explains Lynn Brogan,

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Focus on academics

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Issaquah's Chief Academic Officer. "So what we teach needs to go beyond a finite body of knowledge. Our focus needs to be teaching how to think."

Students master fundamental knowledge, skills, and concepts; apply them in complex projects; and use them to create and solve their own problems. Armed with curricula aligned with state learning standards, District educators continually train in research-based instructional practices to engage students in these deeper thinking skills.

What does it look like in the classroom? Teachers may begin at a basic level, asking students to list or name facts they have read about in textbooks. Then they go a step farther: Students must use those facts to create hypotheses and solve real-world problems. The classroom becomes a collaborative, exploratory environment as students undertake projects such as planning a city park based on geometric, financial, social, and environmental core concepts.

As a framework for classroom instruction, schools implement annual learning plans

that strategically target struggling students. Teachers District-wide give common diagnostic classroom assessments so that a student who is falling behind receives immediate, appropriate support.

The overall goal is to motivate and stretch every student through lessons that are relevant and that capitalize on students' unique learning strengths—ultimately giving students the academic foundation and critical thinking skills necessary to succeed in today's dynamic global environment.

"Problems in the real world are generally complex and messy," Brogan says. "If we always make lessons easy and cleanly defined, students miss the opportunity to think deeply in real-life scenarios while still in a safe classroom environment."

Please flip inside to read the full text of End 2 and explore several District programs built on higher-level thinking skills. For more updates on what's happening in the Issaquah School District—including information about the 2010 levy—please visit www.issaquah.wednet.edu.

Ends: What every grad needs to know

Mission: Our students will be prepared for and eager to accept the academic, occupational, personal, and practical challenges of life in a dynamic global environment.

Ends: Academics and Foundations (E-2), Citizenship (E-3), Technology (E-4), Personal Awareness and Expression (E-5), and Life Management (E-6).

The School Board's mission and five Ends provide a roadmap of the skills and knowledge every graduate needs to succeed in today's global environment. It is the Board's primary responsibility, then, to ensure that the District makes progress toward achieving the Ends.

The Board has embarked on a yearlong process to monitor the mission and Ends by intensely reviewing student data and evidence of Ends success at its meetings. This will culminate in a comprehensive evaluation before the cycle begins anew. Everyone is invited to participate in person or to track the data—and read the full text of the Ends—at www.issaquah.wednet.edu/board/.

To parallel the Board's work, the *Focus* newsletter will spotlight one End per issue for the school year. This edition explores E-2.



E-2: Academics and Foundations

Full Ends statement: Upon graduation, students will be academically prepared and confident to pursue higher education or specialized career training. Students will:

- (2.1) think and solve problems using both creative and critical thinking skills;
- (2.2) read, write and speak the English language effectively for a wide range of purposes;
- (2.3) communicate effectively in oral and written form in another world language;
- (2.4) know and apply mathematics to a level of fluency that ensures a broad range of post secondary opportunities and career choices;
- (2.5) use analytic and scientific principles to draw sound conclusions;
- (2.6) understand geography, natural resources, and their shaping effect on government, economics and social patterns;
- (2.7) understand the concept of community within the context of national and world history, comparative forms and influences of governments and major world religions;
- (2.8) apply academic skills to life situations.

Inquiry science

Hands on = brains on throughout the District

Maywood Middle School students in Marla Crouch’s science classes will never look at French fries the same after rhythmically squeezing a potato through yards of nylon tube to demonstrate the digestive system and analyzing the diffusion rate of starches in digestive organs.

“Is this what’s happening in my intestines?” one seventh-grader asked his partner during the diffusion lab as he poured carefully measured starch solution into a semi-permeable membrane.

“Yea, but probably crazier, messier—you had a big lunch,” his friend replied.

Mrs. Crouch says that she knows students are learning when they begin to make these kinds of real-world connections and develop their own answers to their natural curiosity.

“Sometimes students are tentative in class because they want to be sure they have *the* right answer,” Mrs. Crouch says, “but as science teachers, we ask the students what they think and why. When students can use evidence to support their reasoning, they are successful. When students understand and use scientific principles, they are thinking—and history is full of unexpected discoveries and mistakes that work.”

Across all grade levels, Issaquah science teachers are committed to “inquiry” instructional methods. While students study core science concepts in textbooks, they spend the majority of their class time in labs applying and investigating the concepts. “Inquiry science is a teaching and learning model that parallels the work that scientists do, the way scientists uncover knowledge, and how they solve problems,” says District Science Specialist Debbie Nye. “As teachers guide students to approach and solve problems like a scientist, the students gain skills that are invaluable to other academic disciplines and their everyday life.”

Among the tangible outcomes of inquiry science—aside from the classroom invasion of model skeletons, plasma balls, chrysalis cages, dissection kits, and more—are Issaquah’s student scores on the science WASL (Washington Assessment of Student Learning). The number of students showing proficiency has steadily increased in the last five years while remaining 20 to 30 percentage points above the state. Among the less tangible outcomes are the many young brains being turned on to science.

“They are excited to come to class,” Mrs. Crouch said. “That makes all the difference!”



Liberty's Marcell Bell: real world academics

According to Liberty High School Dean of Students Dana Greenberg, Marcell Bell is a popular, empathetic, academically outstanding athlete with natural leadership abilities. He's also a junior "who definitely makes people smile when he walks by."

But it wasn't always that way. As a freshman, Marcell had a challenging time finding a focus and struggled academically. Both Dana and Marcell credit his turnaround to a combination of factors tied to the District's efforts to combine academics and life skills, and apply creative solutions to the challenges faced by individual students.

"I'm connected to so many people here," Marcell explained. "The help from the Liberty staff, the sports program, my teachers—it's like one big community here. I have a lot of peer support and staff support. It's a big motivator for me to be the first person to graduate from my family. And a lot of people here are willing to help me to succeed."

Did you know? E-2 academic facts

- Extended graduation rate: 95%
- Students attending college or specialized training a year after graduation: 80%
- High school students demonstrating mastery of state reading and writing standards on the WASL (Washington Assessment of Student Learning): 95%
- High school students demonstrating mastery of state math standards on the WASL or completing an acceptable alternative: 95%
- Issaquah fifth-graders scoring in the 90th percentile or higher on the national Stanford Achievement math test: 623 (or 49 percent of the fifth-grade class)
- Assessment data shows an achievement gap exists between the performance of all students and that of Black and Hispanic students. At some grade levels in some content areas, gaps exist between low-income students and all students. At the elementary level, there is a consistent gap; by seventh-grade, gaps are closing (writing scores show almost no gap between demographic categories). The District and individual schools form improvement plans each year to try to address this by specifically targeting groups of struggling students.

Engineering encourages innovation

High school students have access to cutting edge tools as they learn fundamental engineering skills



There's a low, busy clatter of tapping keyboards and quiet questions as the 24 students in Kevin Houghton's Introduction to Engineering Design course at Pacific Cascade Freshman Campus (PCFC) settle down to their work. They're learning Computer-Aided Design (CAD) and their job today is to recreate a model train from scratch—wheels, gears, and moving parts that must fit together perfectly. The class—also offered at Liberty High—is just one example of how the District encourages students to use core knowledge to solve real-life problems.

When they're finished with their CAD work, those who have excelled on the assignment may get a chance to "print" their design on PCFC's 3D printer, an amazing bit of high tech gear that can turn their designs into solid, three-dimensional objects by molding plastic

resin. The process is slow and somewhat expensive, so it's important that students get their designs exactly right.

"The 3D printer reminds students of the incredible potential of innovation, brings their learning to life—and definitely ups the 'cool factor' of the class!" Houghton says.

Today, the class is working on one piece of their train design, and the room is buzzing with hushed talk about tangents, circles, parallel lines, commands, and code as the students focus intently on their monitors. Houghton circles the room, giving advice here, asking questions there, and responding to numerous raised hands.

"How come we're jumping from D4 to D6? There you go! Impressive! We're doing

well—I'm seeing success all over!"

Through it all, the class never loses its focus.

"This is challenging stuff, and the kids seem to thrive on it," Houghton says. In fact, the elective, now in its second year, has already attracted twice as many students as last year.

"Our class follows the nationally recognized 'Project Lead the Way' curriculum," Houghton says. "Emphasis is placed on innovation and communicating ideas. It's a project-based course, and math, science and engineering technology are integrated."

"It's really a fun class," said 9th grader Ian Crouch (pictured, foreground). "I want to be an architect eventually, so it's great to be learning about CAD."

Points of Pride

A few of the reasons you have to be proud of your schools

Out of this world

Eleven District juniors are Washington Aerospace Scholars: Issaquah High's Nathaniel Bean, Janella Shu, David Bramwell, Kanav Gupta, Melina Hughes, Jerald Lim, Max Sugarman, Maria Tilden, Alan Trihn, and Skyline High's Taylor Chin and David Pedroni. Between now and May, they will study an online NASA-designed curriculum and select a final topic for an essay project.

President honors freshman

Pacific Cascade Freshman Campus' Anna Magidson was honored in March for exemplary volunteerism with a President's Volunteer Service Award. As a member of the Issaquah Youth Advisory Board, Magidson plans and runs positive events to unite young people across the region. She is particularly passionate about the upcoming "Hoops of Hope" shoot-a-thon, which she is spearheading in spring to raise money to aid African orphans.

Special needs bus road-eo!

Our special needs students are in good hands—some of the best in the nation!—while riding on District buses. Drivers Donna Patterson and Alaine Tibbets recently won fourth place at the National Special Needs Road-eo competition in Indianapolis, where they demonstrated superior driving skills and transportation know-how.

Complete stories at: www.issaquah.wednet.edu/news/

