

E-4: Technology

Throughout life, students will understand and apply current and emerging technologies to extend their personal abilities and productivity.

Interpretation:

- We interpret *throughout life* to mean that once a student leaves our K-12 system they have demonstrated proficient application of current technologies and have acquired 21st Century skills. These skills include the ability to persevere, be flexible, take informed risks, think critically and understand how to adapt to, and extend future technologies to enrich and advance their personal and working lives as well as enable them to connect and communicate within the global community.
- We interpret *students* to mean each student in the graduating class of the current year.
- We interpret *understand and apply* to mean that our students demonstrate knowledge, application and proficiency throughout their K-12 school experiences.
- We interpret *current* to mean technology tools and access available to students each year in our K-12 system.
- We interpret *emerging technologies* to mean the constantly innovating, evolving, and developing hardware and software, and escalation in access.
- We interpret *to extend their personal abilities and productivity* to mean that our students use technology embedded in their learning activities, rather than as an end in itself, to expand their thinking skills, organizational skills, research skills, and communication skills.

Reasonable progress: We have confidence that students are meeting the target of E-4 when they participate in our K-12 educational program and through earning a diploma demonstrate the skills and proficiencies to successfully complete the course requirements. Therefore, the Superintendent will show evidence that E-4 is embedded in the K-12 system for all students.

Types of evidence: Technology embedded in the K-12 system for 2011-2012 year

- Alignment: Specific technology standards and E-4 embedded in new TechSmart class at middle school.
- Requirements: TechSmart class at middle school; Introduction to Computer Science, AP Computer Science, or Software Applications 1 class at high school, or be exempted by passing the Technology Proficiency Challenge Test,
- Graduation rate: Percentage of students (at minimum) who have successfully met these Technology requirements.
- Application: Percentage of students failing TechSmart in middle school, high school Software Applications 1 class, Introduction to Computer Science, or AP Computer Science class.
- 8th grade Student Technology Self-Assessment

High School Technology Graduation Requirement

- Three rounds of the Proficiency Test are offered at the middle and high schools annually.
- The on-line tutorial preparation software is available and accessible to all interested students.
- The Proficiency Test is reviewed and updated annually to meet current practices.
- TechSmart has been implemented at each middle school.
- Students in the two remaining transition years between the previous middle school Technology Class and TechSmart will need to complete the requirement. In addition to the current proficiency test and Software Applications class, students taking the Introduction to Computer Science class, or AP Computer Science Class meet the technology proficiency requirement.

The TechSmart class has been implemented at all middle schools this year. Middle School technology teachers, Dennis Wright, Director of Career and Counseling Services, and Career and Counseling TOSA and Instructional Technology TOSAs created the new curriculum which is delivered primarily on-line using Moodle software.

The TechSmart class:

- Satisfies the high school technology graduation requirement
- Aligns with K-12 Educational Technology standards
- Aligns with OSPI Technology Integration in the Classroom Tier 3 standards
- Introduces students to on-line learning through a common core curriculum
- Includes a common end-of-course assessment

Additional Data

Two anecdotal examples of how technology is integrated into curriculum and instruction are included in this report. Below are two examples of numerous opportunities for all students that integrate technology into student learning and technology support for special education students.

High School Math

Nspires are graphing calculators and come with the Navigator System which enables the teachers' computer to communicate with the students' handheld Nspires. The Nspires provide each student with the ability to graph and manipulate functions, work in lists and spreadsheets, and use dynamic geometry software in a handheld computer/calculator. The Navigator System software enables the teacher to connect to all students' calculators simultaneously. The teacher can view all students' calculator screens on the teacher's computer.

- Teachers can project a student's calculator screen (anonymously or named) for class discussion. That student can then drive the action while the teacher moves throughout the room, helping other students, asking questions, and checking for understanding
- Teachers can send quick polls - teacher created multiple choice or open response questions. When students send their answers back the teacher has instant feedback on student understanding and can discuss questions, answers, and misconceptions immediately.
- Teachers can send worksheets to students targeting specific learning goals. These might involve manipulating graphs, figures, spreadsheets, or making connections between them. Teachers can collect the student worksheets, score them, and share with the class.

High School Science

Technology recently implemented in high school physics and chemistry courses include virtual labs to simulate kinematics, force, motion, and chemical reactions. Additionally, students are taught the use of data collection devices and computer interfaces (Vernier and Pasco products) and through the use of these devices in meaningful lab experiences, students are obtaining real world application of science and technology.

A recent software upgrade for 7th grade Earth and Space Science (Starry Night Enthusiast) has also been implemented this year. The software provides students with the ability to explore our planetary system, the space station, and the composition of stars. All Starry Night activities are tightly linked to the curriculum as a whole.

Special Education Students

Our Special Education students have unique needs for which technology provides support. We have students from K-12 with hearing impairments. Personal FM systems and classroom amplification systems allow them to hear and participate in class and to work with other students. Students with speech impairments use a wide variety of augmentative and alternative communications systems. Students with deficits in reading and writing skills use several types of hardware and software to meet their unique needs from downloading textbooks the computer reads out loud to them to using specific software packages that help with a wide variety of writing disabilities. A selection of switches, alternative mouse devices, and specialized software supports students with significant motor impairments. Technology is critical to the learning and the success of our Special Education students.

To meet technology benchmarks and standards, Issaquah students must have ubiquitous access to technology at school. As technology is not funded by the state, the Issaquah community has been extraordinarily generous in providing funding for technology through Technology Levies. That funding has enabled the school district to provide the access needed by our students for their learning.

Data

Graduation Rate

Source: OSPI School Report Card

Data on 8th Grade Technology Literacy Self-Assessment Spring 2011:

This spreadsheet is a summary of the technology provided to OSPI for the 2012 on-line technology inventory.

Data on failure rate for required middle school TechSmart class:

Data on failure rate for Technology Proficiency Challenge Test:

Data on failure rate for required high school Software Applications 1 class:

Data on failure rate for Intro to Computer Science class:

Data on failure rate for AP Computer Science class: