

E-4: Technology Monitoring Report May 28, 2014

Students will understand and apply current and emerging technologies to extend their personal abilities and productivity.

Interpretation:

- We interpret *Students* to mean all Issaquah students up through 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 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 demonstrate their skills and proficiencies using technology to successfully extend their personal abilities and productivity.

Types of evidence: Technology embedded in the K-12 system for 2012-2013 year

- Alignment: Specific technology standards and E-4 were embedded in TechSmart class at middle school.
- Requirements: TechSmart class at middle school or Introduction to Computer Science, AP Computer Science, Web Site Design, 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 successfully met the Technology requirements.
- Application: Percentage of students who failed TechSmart in middle school, high school Software Applications 1 class, Introduction to Computer Science, Web Site Design, or AP Computer Science class.
- 8th grade Student Technology Self-Assessment.

High School Technology Graduation Requirement

- Three rounds of the Proficiency Test were offered at the middle and high schools.

- The on-line tutorial preparation software was available and accessible to all interested students.
- The Proficiency Test was reviewed and updated to meet current practices.
- TechSmart was completed for the second year at each middle school.
- Students in the remaining transition years between the previous middle school Technology Class and TechSmart need to complete the requirement. In addition to the proficiency test and Software Applications class, students could take the Introduction to Computer Science class, or AP Computer Science Class to meet the technology proficiency requirement.

The TechSmart class is delivered primarily on-line using Moodle software.

2012-2013 was the second year of the TechSmart class. End of project assessments were created for three of the current modules.

The TechSmart class:

- Satisfied the high school technology graduation requirement.
- Aligned with K-12 Educational Technology standards.
- Aligned with OSPI Technology Integration in the Classroom Tier 3 standards.
- Introduced students to on-line learning through a common core curriculum.

Additional Opportunities:

The middle schools offered classes in Digital Photography, Video Media and Advanced Video Production, TV Production, and Digital Design/Multi Media.

In addition to the classes that met the Technology requirement, the high schools also offered Graphic Design, Video Production 1 and 2, Interactive Media, and Studio Graphic Arts.

Student leadership opportunities were provided through robotics clubs, video clubs, and FIRST Robotics.

Additional Information

A) The Issaquah School District Computer Science programs continued to participate in a partnership with local high-tech companies organized through TEALS.K12.org. TEALS volunteers co-taught with existing Career and Technical Education teachers in order to provide instruction in current technologies. The program built a structured pathway for students interested in post-secondary education and eventual careers in computer science. The program expanded into each high school. All high schools offered “Introduction to Computer Science.” Issaquah High School and Liberty High

School offered an additional “AP Computer Science” for those students who wished further study. The program continued to be unique in that it provided students with relevant, industry-based exposure to tools and practices not possible otherwise. At the same time, Issaquah School District teachers experienced newer software development tools that supplemented their current knowledge and abilities.

The program proved attractive to students, and enrollment in computer science-related courses has increased. In addition, the program allowed the District to develop new, IB Computer Science, and revised Website Design courses.

Continuing to focus on “computational thinking theory,” each course allowed students to develop skills in algorithmic thinking, formulating problem statements, creating simulations, and visualizing data. While these thinking skills were practiced in the Middle School TechSmart class, the expanded development of high school-level courses provided a meaningful program of study where student learning was sequenced toward eventual post-secondary studies.

B) Assessment of student learning is a critical component in teachers’ daily work. With classroom based assessments, required district assessments, state assessments, and the ongoing formal and informal assessment teachers do as part of their instruction, the recording and analyzing of student data requires an increasing amount of teacher time. The district tested an online program called GradeCam to assist teachers with that work. Using a document camera and computer already present in the classroom, teachers or students scan test data directly into a file that uploads into Gradebook. That is the technical piece. Even more valuable is the instructional and learning data immediately available to the student and the teacher.

Mr. Josh Moore, IHS Social Studies teacher, allowed district staff to observe how GradeCam informs his instruction during a psychology class. At the conclusion of classroom instruction and student discussions, Mr. Moore distributed questions and a pre-slugged answer sheet with the student’s number and the assignment name. Students took a few minutes to answer the questions and when completed took their answer sheet and placed it under the document camera. The student’s score was immediately recorded and displayed to that student. The student stepped away and the next student went through the same process. In about three minutes all students had completed scans of their sheets. Students had that instant feedback and Mr. Moore was able to view the class results. From those results he determined that a concept in two of the questions was not well understood. Just as students were ready to leave class, Mr. Moore ‘teased’ them with an anticipatory statement for the next day’s instruction that focused on that specific concept.

After the students left Mr. Moore described other ways he used GradeCam including instant access to item analysis. He also distributed writing prompts with student numbers only for anonymity. The assignment rubric was included on the prompt page so once Mr. Moore had completed his scoring he ran the student pages with his comments and scores through GradeCam. The data was exported to a .csv file which was uploaded into Skyward with a few clicks.

GradeCam can link questions to state standards and Common Core standards and generate standards-based reports. Assessment data uploaded into Skyward can then be downloaded into

Homeroom, the assessment dashboard that includes all student assessment data for principals and staff to access.

C) In 2012-2013 the Issaquah Technology Project offered teachers four paths from which to choose to integrate different technologies in their classrooms to meet the goal of E-4 and to provide Tier 3 classrooms for students. The paths were ActiVotes or Expressions, Netbooks, Video cameras, or iPads. During the five day summer class teachers participated in different learning modules using each of the paths. During the time they reflected on the options, selected the one they thought would best suit their classroom and wrote up a plan for implementation.

Each ITP group met for three Friday after school and Saturday sessions during the school year. Teachers brought the assignments they had created for their students using the ‘path’ they had chosen and discussed the impact on students. “What was the outcome, evidence of learning for the tech standard, how did the inclusion of technology impact student learning?” Teachers met with their ‘path’ cohort to discuss and share the lessons they had created and to begin working on the next two required lessons. The lessons all required that the students used the technology in their classroom.

As an example, Carrie Reckling, Spanish teacher at Beaver Lake Middle School and a recent ITP participant, used her student iPads to teach a conversational Spanish lesson. The students first created a script that noted what each character was going to say and when. Once the script had been practiced, the students went to a quiet place to record their short (30-40 second) Spanish conversations using the free Sock Puppets app. The students then uploaded their finished videos to Mrs. Reckling’s student Connect site. For homework the students watched someone else’s video and transcribed it in Spanish.

This activity was an excellent example of a Tier 3 student assignment, since students collaboratively wrote and produced a digital product, integrated within the curriculum. Every student was able to complete the activity within one period. They were engaged, excited, and learning Spanish along the way.

As another example, Valerie Buck, a Math teacher at Maywood and another recent ITP participant, used her student iPads with math students who were struggling with some math vocabulary. In order to help them cement their knowledge, she had them create a simple presentation using a free app called Haiku Deck. The presentations demonstrated that the students were able to not only learn the terms, but also use their creative skills.

D) 2012-2013 was the first school year that all District teachers were required to have a classroom website available to parents and students as part of their job responsibilities. All students had access to their teachers’ websites and could find contact information, a list of homework or projects with due dates, syllabi or classroom expectations, and a calendar of classroom events or activities. Those four items were the basics required for all classroom websites.

Many teachers-significantly expanded their website past the basic requirements and provided blogs, files, wikis, and videos to support their students' learning.

Data

The OSPI Tiers of 8th Grade Technology Literacy Indicators are based on the National Educational Technology Standards (NETS) for Students.

Tier 1 addresses student use of technology to complete their school work and for their own personal use.

Tier 2 includes students expanding their skills to use technology for research and for creating and presenting presentations of their work.

Tier 3 focuses on students using technology in their lives to problem-solve, work together, share ideas and information, and support their learning in all content areas.

Here is a link to the table on the OSPI Educational Technology site:

<http://www.k12.wa.us/EdTech/TechLiteracy/TechLitTiers.aspx>

OSPI 8 th Grade Technology Literacy Indicators May 2013				
	Tier 1-Personal use and communication	Tier 2-Collect, integrate, evaluate information	Tier 3-Solve problems, create solutions	Students completed/Total Students
BLMS	5%	52%	43%	265/279
IMS	7%	56%	37%	239/248
MMS	8%	59%	33%	261/286
PCMS	6%	56%	38%	210/251
PLMS	7%	55%	38%	176/268
Total Students	7%	56%	38%	1151/1332
<i>1151 8th grade students responded of 1332 registered.</i>				

Three Year Table - OSPI 8 th Grade Technology Literacy Indicators									
	Tier 1-Personal use and communication			Tier 2-Collect, integrate, evaluate information			Tier 3-Solve problems, create solutions		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
BLMS	6%	6%	5%	53%	47%	52%	41%	47%	43%
IMS	6%	2%	7%	61%	50%	56%	35%	48%	37%
MMS	7%	5%	8%	54%	58%	59%	39%	37%	33%
PCMS	5%	7%	6%	50%	53%	55%	44%	40%	38%
PLMS	4%	7%	7%	53%	46%	56%	43%	47%	38%

OSPI Eighth Grade Technology Survey May 2013

1151 8th grade students responded of 1332 registered	All	BLMS	IMS	MMS	PCMS	PLMS
<i>Students Responding</i>	86%	95%	96%	91%	84%	66%
Question 12: What technology devices do you own? Please check all that apply.						
Desktop/Laptop/Netbook computer	93%	95%	93%	92%	92%	93%
Cell phone	91%	94%	91%	88%	93%	91%
eReader	29%	33%	27%	26%	26%	35%
MP3 player/iPod	80%	79%	83%	80%	80%	75%
Game console	75%	77%	70%	75%	79%	73%
iPad/Tablet	61%	59%	64%	56%	65%	61%
Other: xbox, Gameboy, Wii, nintendo						
Question 13: If you have a cell phone does it include a data plan?						
Yes	75%	74%	77%	69%	80%	77%
No	25%	26%	23%	31%	20%	36%
Question 14: Do you have Internet access at home?						
Yes	98%	99%	99%	97%	99%	98%
No	2%	1%	1%	3%	1%	2%
Question 15: At which locations do you go online? Please check all that apply.						
Home	98%	98%	98%	98%	99%	98%
School	87%	86%	84%	86%	91%	89%
Library	59%	65%	55%	53%	68%	55%
Friend's house	74%	76%	71%	74%	76%	73%
Other: anywhere with wifi						
Question 16: What online activities do you choose when you are outside school?						
Games	67%	75%	64%	68%	63%	66%
School research/homework sites	77%	80%	77%	70%	78%	80%
Social networking/chat	75%	78%	77%	74%	74%	71%
Video sites	68%	74%	67%	70%	65%	64%
Other: fan sites, Google, online games						
Question 17: What is the one site you visit most?						
	School web site, teacher's site, Google, Facebook, web mail, Skyward					

**Summary of ISD Technology for OSPI
2013 On-line Technology Inventory**

Site	All Instructional Computers	Classrooms	Library	Labs & Laptops	Tablets	Office	FTE as of 4/1/13	Ratio: Stud. to Instructional Computers	Votes-Expressions & Nspires	Slates	Doc Cams	Projectors	ACTIVE boards & Interactive Projectors
AP	349	209	18	122	22	36	542	1.6	22	2	53	47	36
BW	300	206	20	74	7	37	427	1.4	26	1	45	45	37
CA	360	313	14	33	13	27	537	1.5	22	2	43	46	29
CH	254	188	24	42	26	37	457	1.8	19	1	38	40	32
CL	276	164	17	95	42	36	307	1.1	19	8	30	38	33
CR	300	254	21	25	20	37	574	1.9	19	30	43	41	35
CS	274	224	20	30	45	41	620	2.3	25	2	42	44	47
DS	302	206	18	78	24	23	550	1.8	17	0	35	39	35
EN	347	301	16	30	16	39	553	1.6	23	0	57	55	39
GR	275	221	23	31	21	37	837	3.0	37	5	49	64	50
IVE	343	210	25	108	49	28	522	1.5	26	13	39	43	38
MH	252	194	16	42	3	19	385	1.5	21	0	29	31	26
NC	340	204	22	114	27	56	518	1.5	24	17	36	69	31
SH	302	214	25	63	18	26	533	1.8	25	1	57	37	31
SS	400	268	19	113	9	21	538	1.3	16	12	41	42	35
BL	664	347	3	314	45	51	845	1.3	27	3	84	83	39
IMS	574	361	46	167	33	72	762	1.3	32	38	42	45	41
MMS	567	301	43	223	22	150	885	1.6	28	12	56	64	54
PC	579	306	37	236	59	81	796	1.4	25	4	44	56	18
PL	567	216	61	290	27	105	840	1.5	42	5	56	57	38
IHS	1142	846	8	288	95	148	1904	1.7	101	141	93	112	2
LHS	943	502	101	340	3	37	1160	1.2	14	4	69	90	24
SHS	1022	473	67	482	54	194	1900	1.9	39	62	91	105	17
TM	94	67	7	20	3	43	88	0.9	5	0	21	24	11

Failure Rate for Required Middle School TechSmart Class

School	Number of students who took Tech Smart 2012-13	Number of students who failed	Failure Rate
Beaver Lake MS	265	1	0.4%
Issaquah MS	233	0	0.0%
Maywood MS	285	4	1.4%
Pacific Cascade MS	250	1	0.4%
Pine Lake MS	242	0	0.0%

Failure Rate for Technology Proficiency Challenge Test

School	# of students taking test 2012-2013	Failure Rate
BLMS	89	31.5%
IMS	93	43%
MMS	35	62.9%
PCMS	n/a	n/a
PLMS	104	31%
IHS	346	35.3%
LHS	64	20.3%
SHS	129	27.1%
TM	n/a	n/a

Failure Rate for Software Applications 1 Class			
School	# of students who took Software Tech 2012-2013	# of students who took failed	Failure Rate
Liberty HS	130	17	13.08%
Skyline HS	19	0	0.00

Failure Rate for Introduction to Computer Science			
School	# of students who took Intro to Computer Science 2012-2013	# of students who took failed	Failure Rate
Issaquah HS	53	0	0.00%
Liberty HS	57	3	5.26%
Skyline HS	92	1	1.09%

Failure Rate for AP Computer Science			
School	# of students who took AP Computer Science Semester 2012-2013	# of students who took failed	Failure Rate
Issaquah HS	37	2	5.41%
Liberty HS	16	6	37.5%

Failure Rate for Web Site Design			
School	# of students who took Web Site Design 2012-2013	# of students who failed	Failure Rate
Issaquah HS	48	0	0.00%
Skyline HS	159	1	0.63%

Participation in Career and Technical Education Classes			
School	# of students		
	2010-2011	2011-2012	2012-2013
IMS	n/a	16	157
MMS	n/a	n/a	176
PCMS	n/a	21	98
IHS	89	239	138
LHS	248	221	203
SHS	211	202	270
TM	22	24	31 avg.

TEALS enrollment data – this is a “day one” count and does not reflect students who may have dropped over time. To be available, data for an October 1 count must be run on October 1.

TEALS Day One Enrollment Data						
School	Intro to Computer Science 2011-2012	Intro to Computer Science 2012-2013	Web Design 2011-2012	Web Design 2012-2013	AP Computer Science 2011-2012	AP Computer Science 2012-2013
IHS	28	56	27	53	16	40
LHS	59	69	n/a	n/a	31	25
SHS	54	65	56	169	n/a	n/a
TM	n/a	17	n/a	n/a	n/a	n/a

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