E-4: Technology - May 22, 2013

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 during their K-12 ISD educational experience up through graduation, students 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 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 embedded in TechSmart class at middle school.
- Requirements: TechSmart class at middle school; Introduction to Computer Science, AP Computer Science, Web Site Design, IB Computer Science (2013-2014), or Software Applications 1 class at high school, or through 2013-2014, 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, 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 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 continues 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 curriculum which is delivered primarily on-line using Moodle software.

This is the second year of the class. Currently there are end of project assessments for three of the current modules. TechSmart teachers will meet for three days in August to align the curriculum and to create a pre-test and final test for the TechSmart class.

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 Opportunities:

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

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

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

Additional Information

A) The Issaquah School District Computer Science programs continue to participate in a partnership with local high-tech companies organized through TEALS.K12.org. TEALS volunteers co-teach with existing Career and Technical Education teachers in order to provide instruction in current technologies. The program builds a structured pathway for students interested in post-secondary education and eventual careers in computer science. The program has expanded into each high school. All high schools offer "Introduction to Computer Science." Issaquah High School and Liberty High School offer an additional "AP Computer Science" for those students who wish further study. The program is unique in that it provides students with relevant, industry-based exposure to tools and practices not possible otherwise. At the same time, Issaquah School District teachers experience newer software development tools that supplement their current knowledge and abilities.

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

Continuing to focus on "computational thinking theory," each course allows students to develop skills in algorithmic thinking, formulating problem statements, creating simulations, and visualizing data. While these thinking skills are practiced in the Middle School TechSmart class, the expanded development of high school-level courses provides a meaningful program of study where student learning is 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 is testing 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 can 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, recently 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 uses GradeCam including instant access to item analysis. He also distributes writing prompts with student numbers only for anonymity. The assignment rubric is included on the prompt page so once Mr. Moore has completed his scoring he can run the student pages with his comments and score through GradeCam. The data is exported to a CSV file which is 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 be downloaded into Homeroom, the assessment dashboard that includes all student assessment data for principals and staff to access.

C) This school year 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 meets for three weekend sessions during the school year. This 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 require that the students are using the technology in their classroom.

As an example, Carrie Reckling, Spanish teacher at Beaver Lake Middle School and a recent ITP participant, recently 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 is 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 student who were struggling with some math vocabulary. In order to help them cement their knowledge, she had them create a simple presentation

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using a free app called Haiku Deck. The presentations demonstrate that the students were able to not only learn the terms, but also use their creative skills.

http://www.haikudeck.com/p/ntM6VVOniZ/geometry-vocab-byadilene

http://www.haikudeck.com/p/K5zV5HZytE/math-shapes-by-dylan

   D) 2012-2013 is the first school year that all District teachers must have a classroom website available to parents and students as part of their job responsibility. All students have access to their teachers' websites and can always 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 are the basics required for all classroom websites.

Many teachers have significantly expanded their website past the basic requirements to provide blogs, files, wikis, and videos to support their students' learning. Some examples are:
Jaclynn Claudon, Issaquah High School
Darrel Nichols, Grand Ridge Elementary
Robert Shipp, Maywood Middle School

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

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OSPI 8th Grade Technology Literacy Indicators May 2012				
	Tier 1-Personal use and communication	Tier 2-Collect, integrate, evaluate information	Tier 3-Solve problems, create solutions	Students completed/Total Students
BLMS	6%	47%	47%	223/271
IMS	2%	50%	48%	235/252
MMS	5%	58%	37%	303/324
PCMS	7%	53%	40%	223/260
PLMS	7%	46%	47%	214/229
Total Students	5%	51%	43%	1198/1336

1198 8th grade students responded of 1336 registered.

Three Year Table - OSPI 8th Grade Technology Literacy Indicators									
	Tier 1-Personal use and communication			Tier 2-Collect, integrate, evaluate information			Tier 3-Solve problems, create solutions		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
BLMS	6%	6%	6%	61%	53%	47%	33%	41%	47%
IMS	4%	4%	2%	62%	61%	50%	33%	35%	48%
MMS	6%	7%	5%	60%	54%	58%	33%	39%	37%
PCMS	n/a	5%	7%	n/a	50%	53%	n/a	44%	40%
PLMS	8%	4%	7%	58%	53%	46%	33%	43%	47%

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OSPI Eighth Grade Technology Survey May 2012						
1198 8th grade students responded of 1336 registered	All	BLMS	IMS	MMS	PCMS	PLMS
Students Responding	90%	82%	93%	94%	86%	93%
Question 12: What technology devices do you own? Please check all that apply						
Desktop computer	81%	83%	78%	86%	79%	76%
Laptop/Netbook computer	79%	80%	77%	78%	83%	81%
Cell phone	91%	94%	91%	89%	92%	91%
MP3 player/iPod	86%	85%	86%	89%	86%	85%
Game console	83%	84%	82%	84%	83%	81%
iPad/Tablet	49%	53%	53%	41%	51%	51%
Other: TV, CD. Gameboy, e-readers, DVD						
Question 13: If you have a cell phone does it include a data plan?						
Yes	67%	65%	71%	66%	70%	64%
No	33%	35%	29%	34%	30%	36%
Question 14: Do you have Internet access at home?						
Yes	99%	100%	97%	98%	99%	99.5%
No	1%	0%	3%	2%	1%	0.5%
Question 15: At which locations do you go online? Please check all that apply.						
Home	99%	99%	97%	99%	100%	100%
School	89%	94%	87%	88%	89%	90%
Library	62%	67%	64%	61%	64%	56%
Friend's house	77%	82%	78%	75%	79%	71%
Other: wherever there is wifi, grandparents						
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%
Question 17: What is the one site you visit most?						
Facebook. Google, YouTube	Wide variety with Facebook, YouTube, Google, and various webmail as the most common					

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

Site	All Instruc-tional Compu-ters	Class-rooms	Library	Labs & Lap tops	Tab-lets	Office	FTE as of 4/1/13	Ratio: Stud. to Instruc-tional Compu-ters	Votes-Expres-sions & Nspires	Slates	Doc Cams	Projec-tors	ACTIV boards & Interac tive Projec tors
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

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Failure Rate for Required Middle School TechSmart Class			
School	# of students who took Tech Smart Tri 3 in 2011-2012	# of students who took Tech Smart Tri 1 & 2 in 2012-2013	Failure Rate
Beaver Lake MS	0	278	0.00%
Issaquah MS	61	180	0.00%
Maywood MS	127	177	1.51%
Pacific Cascade MS	58	185	0.81%
Pine Lake MS	64	189	0.00%

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

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Failure Rate for Software Applications 1 Class

School	# of students who took Software Tech Semester 2, 2012	# of students who took Software Tech Semester 1, 2013	Failure Rate
Liberty HS	126	55	6.63%
Skyline HS	98	19	0.00%

Failure Rate for Introduction to Computer Science

School	# of students who took Intro to Computer Science Semester 2, 2012	# of students who took Intro to Computer Science Semester 1, 2013	Failure Rate
Issaquah HS	27	27	5.56%
Liberty HS	24	32	5.36%
Skyline HS	30	61	1.10%

Failure Rate for AP Computer Science

School	# of students who took AP Computer Science Semester 2, 2012	# of students who took AP Computer Science Semester 1, 2013	Failure Rate
Issaquah HS	16	39	3.64%
Liberty HS	27	24	11.76%

Failure Rate for Web Site Design

School	# of students who took Web Site Design Semester 2, 2012	# of students who took Web Site Design Semester 1, 2013	Failure Rate
Issaquah HS	0	24	0.00%
Skyline HS	33	67	4.00%

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Participation in Career and Technical Education FTE		
School	Average # of students	
	2010-2011	2011-2012
IMS	n/a	16
PCMS	n/a	21
IHS	89	239
LHS	248	221
SHS	211	202
TM	22	24

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. That has been noted and will be run for October 1, 2013.

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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