



BOARD MEETING DATE:
May 20, 2013

ONLINE LEARNING UPDATE

Per a School Board request, Deputy Superintendent Carl Mead and Online Learning Specialist Paul Ottum will provide an update on current research and developing practices of online learning and the integration of technology into the instructional core.

Online Learning Update – May, 2013

“There are basically only three ways you can increase learning and performance:

- I. Increase the knowledge and skill of teachers
- II. Change the content
- III. Alter the relationship of the student to the teacher and the content”

Richard Elmore, Harvard

<http://www.uknow.gse.harvard.edu/leadership/leadership001a.html>

Background

There is a perception by many stakeholders that BSD is ‘playing catch-up’ and not responding to demand when it comes to online learning and integration of technology into the instructional core. While the demand does exist and BSD has lost enrollment to alternative options, when the research and data that aren’t vendor-sponsored are analyzed, it is clear that online learning is not a panacea nor is it to be implemented quickly. There is, however, potential to use technology in ways that do “increase the knowledge of teachers” and can “alter the relationship of the student to the teacher and the content”. This will require a consideration of all the different ways technology can be implemented to support the instructional core.

The latest data indicate approximately 1.75% to 3% of students in the U.S. enroll in online courses. In Oregon, the 2012-13 enrollment data show 6,817 students (1.2%) enrolled in online schools. The majority of students nationwide taking online courses are high school students (74%) and do so out of extenuating circumstances - not because it is their first choice.

Summary of Findings

- Research consistently shows that online learning has unacceptably low success and completion rates and has virtually no unbiased review process or quality standard
- Powerful business and political stakeholders are successfully marketing online learning driving high demand and misconceptions about what it is
- When research does show positive outcomes for online learning, the following characteristics are present:
 - A ‘hybrid’ or ‘blended’ model where the students meet face to face with the teacher and other students regularly
 - A highly qualified, content-area certified teacher that has been trained in online learning practices, is highly interactive and responsive with the students and demonstrates caring
 - An admission process that sets clear expectations about what online learning is and what is required to be successful
 - Strong accountability practices requiring students to demonstrate proficiency in the presence of the teacher using authentic, reliable assessment tools
 - Students are post-secondary or professionals using online learning for work-related training

Recommendations

Considering the available data and research and the goals, needs and current financial situation of the district, the Online Learning Specialist makes the following recommendations for the fall of 2013.

- 1 Online hybrid course offerings - Continue to support 'special circumstances' and smaller program implementations while gathering data, improving accountability and putting into place district-wide more formalized policies and practices based on past experiences. These would include practices like those considered by NCAA for online course eligibility.
- 2 Online Math Assessment Project - Currently two elementary schools are piloting a free online math assessment and curriculum product from the vendor ALEKS. A middle school pilot is also being considered. Based on the data gathered from these pilots, implement this product or a similar one that has the potential to offer:
 - a A consistent, objective diagnostic math assessment for grades 3 - 12. This data could then be used to find areas where students need support or have the chance to accelerate.
 - b Coursework that can be used for scaffolding, enhancement, grouping and target or credit recovery.
- 3 Learning Management System implementation - There are currently three different learning management systems (LMS) being used and tested in the district - Apex Classtools Virtual, Canvas by Instructure and Moodle 2.2 offered through the Oregon Virtual School District. Based on current usability data, professional development resources and costs, implement two of these systems in a larger pilot. These systems have the potential to:
 - a 'Flip' classrooms for those teachers that choose to. Flipping means to record video lectures that usually would happen during class time and have the students watch them instead of using the time for homework. That way teachers can spend more of their time assisting students while they work.
 - b Provide teachers a platform to deliver lessons and assessments online toward the goal of BSD developed, fully online courses.
 - c Supply teachers and administrators data that can be analyzed to drive classroom, school and district-wide strategies for improvement.

Costs, Benefits and Risks

Due to variations in implementation costs and choice of allocation, financial impacts have been left off of this overview. Estimated costs can be provided by the Online Learning Specialist upon request.

Tangible Benefits

- Increased enrollment retention, re-enrollments and new enrollments (measured as number of enrollments)
- Increase in graduation rate decrease in course failure rates (Math) (as a %)
- Increase in average Math level achievement (average level achieved)
- Increased standardized test (OAKS, ACT/SAT or similar) achievement (raw scores)
- Reduction in achievement gap (measured by aggregating the metrics above)

Intangible Benefits

- Increase in organizational knowledge about technology and teaching online
- Improved teacher morale due to curricular and communication supports, student engagement
- Increased positive stakeholders perceptions about BSD using technology
- Increase in student 'institutional' and system knowledge
- Competition forces in-house educational process automation, analysis and reengineering

Dis-Benefits & Risks

- implementation is perceived as 'too late', 'too small', 'not competitive', 'bowing to association pressures' or in other negative ways
- reality doesn't match stakeholder expectations resulting in 'buyers remorse' and backlash
- objective data points out inequities and needs that cannot be funded or implemented
- this is viewed as a way to replace teachers and/or cut costs
- implementations don't result in benefits related to student learning or equity outcomes
- reduced teacher morale from fear of job loss, perception of dehumanization of teaching, difficulty learning new tools, 'just another fad' thinking
- IT overburdened reducing ability to service existing district needs
- incorrect demand estimates result in unused enrollments or assets
- increase in rigor results in higher course failure rates and decrease in graduation rate
- BSD high school enrollment decreases (more than current %) due to lack of online offerings that meet perceptions of what they should be like or allow

Summary of Latest Research

There is very little unbiased, peer-reviewed, high quality research about online learning in general and, when considering grades K-12 only, nearly none. Below is a summary of the current data.

VIRTUAL SCHOOLS IN THE U.S. 2013 POLITICS, PERFORMANCE, POLICY, AND RESEARCH EVIDENCE, National Education Policy Center, May 2013

- "Research conducted by the Center for Research on Education Outcomes (CREDO) at Stanford University examined the performance of Pennsylvania charter schools and found that 100% of cyber charters performed "significantly worse than their traditional public school counterparts in both reading and math." (p. 8)
- "Compared with conventional public schools, researchers found that full-time virtual schools serve relatively few Black and Hispanic students, students who are poor, and special education students. In addition, on the common metrics of Adequate Yearly Progress (AYP), state performance rankings, and graduation rates, full-time virtual schools lag significantly behind traditional brick-and-mortar schools." (p. ii)

Predicting Online Student Outcomes From a Measure of Course Quality, Teacher's College Columbia University, April 2013

- "...it seems that courses in which the instructor posted frequently, invited student questions through a variety of modalities, responded to student queries quickly, solicited and incorporated student feedback, and (perhaps most importantly) demonstrated a sense of "caring" created an online environment that encouraged students to commit themselves to the course and perform stronger academically."

- **Examining the Effectiveness of Online Learning Within a Community College System: An Instrumental Variable Approach, Teacher's College Columbia University, April 2013**
- "Estimates across all model specifications suggest that the online format had a significant negative impact on both course persistence and course grade."

What We Know About Online Course Outcomes, Teacher's College Columbia University, April 2013

- **Students More Likely to Withdraw From Online Courses**
"...failure and withdrawal rates were significantly higher for online courses than for face-to-face courses"
- **Course Completers Perform More Poorly in Online Courses**
"...students who completed online course sections were 3 to 6 percentage points less likely to receive a C or better than students who completed face-to-face course sections."
- **Developmental Students Particularly Challenged in Online Courses**
"...students who had taken developmental education online were far less likely to pass than students who had taken it face-to-face."
- **Achievement Gaps Tend to Widen in Online Courses**
"Some ... students had particular difficulty adjusting to online learning, including males, students with lower prior GPAs, and Black students. The performance gaps ... became even more pronounced in online courses"

Oregon Virtual School Statistics 2011-2012

School (2011-12)	Students	State Rating	State Category	Met AYP?	Graduation (%)
Baker Web Academy	273	Needs Improvement, Fourth Tier	Academically unacceptable	No	12.2
Clackamas Web Academy	450	Needs Improvement, Bottom Tier	Academically unacceptable	No	
Estacada Web Academy	315	Needs Improvement	Academically unacceptable	No	19.4
Gresham-Barlow Web Academy	217	Needs Improvement, Bottom Tier	Academically unacceptable	No	20
Oregon Connections Academy	2857	Needs Improvement, Fourth Tier	Academically unacceptable	No	33.9
Oregon Virtual Academy	1333	Not rated	Academically unacceptable	No	N/A
Sheridan AllPrep Academy	89	Needs Improvement	Academically unacceptable	No	N/A
Silvies River Charter School	60	Needs Improvement	Academically unacceptable	No	10.5
Total	5594			Average	19.2

Anecdotal Data (a local district)

- Re-enrolled “over 40” students
- One middle school teacher said “1 out of my 6 students completed the course”
- “We won’t be offering AP anymore - that was a mistake - no one was successful.”
- “I don’t know what our status will be next year. They’ve cut funding and have pink-slipped all of the teachers. We’ll just have to wait and see.”

BSD Online (AP Computer Science online pilot course)

- Students completing the course (currently on track) - 15/22; 68.1%
- Students passing the course (est.) completers - 12/15; 80% all - 12/22; 54.5%
- Qualitative Data
 - “This class is harder than I expected.” True - 50%, False - 50%
 - “The online delivery makes the class harder...” True - 75%, False 25%

Current Implementations & Projects

Several implementations of online learning are in place currently across the district. This does not include single teacher-driven implementations or site-specific implementations that were already in existence (like ALEKS math lab at AHS and Apex Lab at Merlo).

- Evening Academy Expansion - offering more courses immediately to those Seniors at risk of not graduating due to schedule, geographic or course offering constraints. Apex Learning demo. Project Team: Vicki Lukich and Paul Ottum
 - ❖ 80+ students enrolled in 215 courses attempting to earn between 0.167 and 1.5 credits
 - ❖ Offering Language Arts, Social Studies, Algebra I, Geometry, Algebra II, Pre-Calculus
 - ❖ Courses taught by certified content area teachers
 - ❖ Courses take place at Aloha HS, Beaverton HS, Southridge HS and Health & Science
 - ❖ Students from seven different high schools are represented
 - ❖ Standards-based grading policies in place - clear learning targets, no behavior (e.g. late work) penalties, summative assessments count for a minimum of 80% of grade, multiple opportunities to demonstrate learning are available
- Online AP Exam Review Courses - AP exam review courses provided free for the entire state by ODE through Apex Learning. Implementation and support provided by Paul Ottum and Oregon Virtual School District (ORVSD)
 - ❖ Several hundred students and multiple teachers enrolled
- AP Computer Science Online - uses OVSD provided curriculum and Moodle LMS. Taught by Paul Ottum. Supporting LMS provided free by Canvas.
 - ❖ 16 students from AHS and SST
 - ❖ Using BSD OVSD customized server at OSU’s open lab
 - ❖ FLVS curriculum purchased by ORVED

- Westview Summer School - support Westview's Summer School program with Apex summer school curriculum and online learning systems. Project Team: Paul Ottum, Kacey Farrens, Greg Therrien, WVHS
 - ❖ Currently 100+ students enrolled in acceleration and exam/college prep courses
 - ❖ Planning on using Apex curriculum to scaffold and provide support for reduced seat time
 - ❖ Individual Student Support - provide curriculum and support to individual students and teachers in special circumstances. Project Team: Paul Ottum, Deer Park, Early College, BHS, WVHS
 - ❖ Providing HQ certified teacher-supported courses for students with extenuating circumstances (e.g. discipline, medical)
 - ❖ Canvas LMS for Teachers - several teachers across the district are using the free teacher Canvas LMS to support their classroom teaching.