Anthony Rebora
Managing editor, *Education Week Teacher*
Using Technology to Personalize Learning in Elementary Schools

Expert Presenters:

Matthew Renwick, principal, Howe Elementary School, Wisconsin Rapids, Wis.; author of forthcoming book Digital Student Portfolios: A Whole School Approach to Connected Learning & Continuous Assessment; and blogger, Reading by Example

Ben Wilkoff, co-director of blended learning, Denver school district; creator, Learning is Change
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
WHAT IS YOUR BLEND FOR PERSONALIZATION?
ARE WE JUST PICKING A FLAVOR?
WE CAN DO BETTER THAN SWEET.
LIKE THIS
OR, THIS
OR, THIS

2008

SHIRAZ, CABERNET SAUVIGNON, AND MERLOT
BUT, WE NEED A BETTER PURPOSE.

“...education can — and probably should — look different for every student.”

Damian Bariexca for Purpos/ed
A LEARNER'S BLEND
What is a Personalized Learning Environment?
Using Real-Time Data to Create Adaptive Learning Paths within:
- Instructional and Collaborative
- Synchronous and Asynchronous
- Online and Physical
WHAT ARE YOUR "ANDS, ORS, AND WITHS"?
WHAT ARE THE SYSTEMS TO SUPPORT A LEARNER'S BLEND?
WHERE IS THE DIGITAL HOME OF YOUR CLASSROOM?

A LEARNING MANAGEMENT SYSTEM
WHERE DO YOU GO WHEN YOU NEED TO ASK A QUESTION?

A COMMUNICATION, COLLABORATION, AND SHARING SYSTEM.
How do you know what "best practice" is?

An assessment, content, tools and process system.
HOW DO YOU REFLECT UPON YOUR LEARNING?
A LEARNING EXEMPLAR PORTFOLIO SYSTEM.
How do you know where you are in your learning? A data and dashboard system.
HOW DO YOU CREATE COMMUNITIES OF INTEREST AND NEED?
A DYNAMIC GROUPING AND CLASSROOM MANAGEMENT SYSTEM
HOW DO YOU KNOW WHAT COMES NEXT IN YOUR LEARNING?
A LEARNING PATH SYSTEM
HOW DO YOU PROVIDE CHOICE?
AN ADAPTIVE LESSON PLANNING SYSTEM
WHAT IS YOUR LEARNER'S BLEND?
WHAT IS YOUR BLEND?

BEN WILKOFF - @BHWILKOFF
DreamBox Combines Three Essential Elements to Accelerate Student Learning

**Rigorous Elementary Mathematics**
- Common Core State Standards
- Standards for Mathematical Practice

**Intelligent Adaptive Learning™ Engine**
- Millions of individualized learning paths
- Tailored to a student’s unique needs

**Motivating Learning Environment**
- Student directed, empowering
- Gaming fundamentals, rewards
Digital Student Portfolios

A Whole School Approach to Connect Learning and Continuous Assessment
Why Student Digital Portfolios?

“Start with why.”

-Simon Sinek
World Class Learners
by Yong Zhao (Corwin, 2012)

• Standardization leads to reduction in creativity and entrepreneurship

• When one right answer = fear of failure (China looking to emulate our school system)

• Lack of confidence a result. Confidence = key element of entrepreneurship

• Need to raise learners, people who will create their own jobs
### Personalized Education (Zhao, 2012) vs. Individualized Instruction

<table>
<thead>
<tr>
<th>Personalized</th>
<th>Individualized</th>
</tr>
</thead>
<tbody>
<tr>
<td>• designed around student</td>
<td>• designed around learning styles, preferences</td>
</tr>
<tr>
<td>• meet unique needs</td>
<td>• everyone has an IEP</td>
</tr>
<tr>
<td>• strengths-based</td>
<td>• grant the child total control</td>
</tr>
<tr>
<td>• grant the child autonomy</td>
<td>• teacher working harder than the students</td>
</tr>
<tr>
<td>• student responsible for learning</td>
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</tbody>
</table>
"In many schools, students are educated from the waist up and attention eventually comes to focus on their heads, and particularly their left side" (117).

"It is an interesting feature of cultural change that, for a period of time, new technologies tend to be used to do the same old thing" (204).
Six Tips from *Why School?*

by Will Richardson (TED Conferences, 2012)

1. Share everything (or at least some things)
2. Discover, don't deliver, the curriculum
3. Talk to strangers
4. Be a master learner
5. Do real work for real audiences
6. Transfer the power
How do we implement digital student portfolios?

Our vision...
We are the best we can be by learning in exciting, interesting, and challenging ways.
We respect and accept one another.
We create a nurturing, safe, clean, friendly, positive environment.

Do you have your instructional house in order?
How we’d like it to go:
What implementation really looks like:
Access: A Cornerstone

- Audience
- Purpose
- Access
Year 1: School-Led Training

- Developmental pilot – Teachers interested in iPad received one with expectations to use it.

- Advantage of directed instruction: We don't know what we don't know

- Disadvantage: Little ownership, more difficult to connect with context

- Verdict: Too much information, not enough time
Year 2: Teacher-Directed PD

- Full Pilot - All teachers have a device; no one can opt out.

- Focused more on a single concept but still provided choice (Digital presentations = iMovie, Educreations, Explain Everything)

- Measured effectiveness of training through staff surveys via Google Forms.

- Changed next training based on this feedback.

- Tech part of building plan, assigned own goal
Year 3: Student-Owned Learning

• Full Implementation – Multiple devices in each classroom

• Digital Learning Farm (from *Who Owns the Learning?* By Alan November, 2012)

• Technology embedded within academic goal

• One tool, many possibilities = Digital student portfolios as a warehouse for their mastery work...
Where to start: Learning Targets

• "Learning targets use words, pictures, actions, or some combination of the three to express to students, in terms the students understand, the content and performance they are aiming for" (from Learning Targets by Moss & Brookhart, 2012).

• Teacher Clarity = 0.75 effect size; One year of student growth associated with a 0.4 ES effect size (from Visible Learning by John Hattie, 2009)
What is Mastery Learning?

Highest level of attainment with support from teacher in terms of clear learning targets, a performance of understanding, differentiated for students' needs, structured cooperative learning, teacher feedback, and frequent formative assessments.
What is Mastery Learning?

Teacher and student determine mastery together

My visual representation from Learning Targets (Moss & Brookhart, 2012)
Shared Understanding
of the learning target for that day.

My visual representation from Learning Targets (Moss & Brookhart, 2012)
"What is Differentiation?"
by Carol Ann Tomlinson (2000)
(Article retrieved from Reading Rockets at http://www.readingrockets.org/article/263/ on 10/4/13)
An example:

"I can"

"I will show what I know by"

describe the life cycle of a butterfly

illustration/drawing
Evernote

"Remember Everything"
Performance vs. Progress Portfolio

**Performance**
- Mastery
- Summative assessment - "game-time" (from *So What Do They Really Know?* by Cris Tovani, 2011)
- Student-directed
- Destination
- Assessment of learning

**Progress**
- Growth over time
- Formative assessment - "practice" (from *So What Do They Really Know?* by Cris Tovani, 2011)
- Teacher-guided
- Journey
- Assessment for learning
Creating a Digital Student Notebook with Evernote

http://www.youtube.com/watch?v=l1jEJtdk2JY
Technology – Tools for Engagement, to Represent our Learning, and Be Responsive to Learners’ Interests and Needs

Access

Purpose

Audience
“Anyone can follow a path, but only a leader can blaze one.”

-John Maxwell, *Leadership: Promises for Every Day*
Reflection

• When we personalize learning for students, how does this impact both the progress and the performance of their work?

• What instructional strategies (e.g. formative assessment, reflection) can be enhanced when embedding digital tools into our teaching and learning?

• How does technology and being a connected educator allow us to differentiate for our students' needs?
Recommended Resources


DreamBox Combines Three Essential Elements to Accelerate Student Learning

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- Standards for Mathematical Practice

**Intelligent Adaptive Learning™ Engine**
- Millions of individualized learning paths
- Tailored to a student’s unique needs

**Motivating Learning Environment**
- Student directed, empowering
- Gaming fundamentals, rewards
DreamBox Learning: What We Do
Reinvent the Learning Experience

• **Truly Formative Learning:** Eliminate the wall between Instruction and Assessment

• **Conceptual Understanding & Procedural Fluency**

• **Common Core Aligned:** Consistent Progressions & Coherent Connections

• **Dynamic, continuous & real-time data feed the adaptive engine** – averaging 50,000 data points per hour per student
Intelligently adapt & individualize to:

- Students’ own intuitive strategies
- Kinds of mistakes
- Efficiency of strategy
- Scaffolding needed
- Response time
Students who demonstrate understanding of this concept skip the unit and move to a new skill assessment.

Students who don’t have these skills work through a unique sequence of lessons in the unit to learn these concepts.

Why is DreamBox so Effective?
Integrated Assessment and Instruction
Robust Reporting

Classroom Summary Report

<table>
<thead>
<tr>
<th>Student</th>
<th>Grade</th>
<th>Kindergarten Curriculum</th>
<th>1st Grade Curriculum</th>
<th>2nd Grade Curriculum</th>
<th>3rd Grade Curriculum</th>
<th>Time on Task (HH:MM)</th>
<th>Notifications</th>
<th>Student Reports</th>
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# Strong Support for Differentiation

## Concept: Multiplication: Double & Halve
Students use known basic facts and double one factor and halve the other to determine the product of a more challenging problem.

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<th># Completed with Proficiency</th>
<th># In Progress</th>
<th># Not Started</th>
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<td>10 students</td>
<td>9 students</td>
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<td>John P (about 1 month ago)</td>
<td>Avaneesh S (71%)</td>
<td>Anthony P</td>
</tr>
<tr>
<td>Jacob C (about 1 month ago)</td>
<td>Charles K (71%)</td>
<td>Brittany B</td>
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<td>Rebekah D (about 1 month ago)</td>
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You asked for DreamBox on iPad
It’s coming in the Fall of 2013

Sign up for updates at:
dreambox.com/iPad
For more information visit www.dreambox.com
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
Using Technology to Personalize Learning in Elementary Schools

Required Reading from *Education Week*:

**Spotlight on Personalized Learning**
Students are learning outside the classroom, receiving “digital badges” for academic achievement, and using technology to expand learning opportunities. The move to individual instruction has many policymakers, administrators, and teachers rethinking instruction in the 21st century. This Spotlight focuses on the new approaches and debates taking place around personalized learning.