Leveraging DIGITAL CONTENT To Differentiate Learning: Results of a New Research Study
Study results presented by:

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Many thanks to:
Project Tomorrow, a global education nonprofit organization

- Research on digital learning trends
- Evaluation of the impact of digital learning
- School and community programs
- Advocacy for new teaching/learning models

Speak Up Research Project on Digital Learning

Annually collects and reports on ideas of 500,000 K-12 students, educators and parents
Today’s discussion

- Trends in digital learning
- Background on a new study undertaken with DreamBox Learning
- Sampling of study results
- Leadership insights
- Your comments, questions, ideas

The source for some data results is the national 2015 Speak Up findings. 35,909 teachers and 4,536 administrators completed a Speak Up survey in fall 2015.
“I never teach my pupils. I only attempt to provide the conditions in which they can learn.”

Albert Einstein, Scientist and Educator
Something new in the air in schools this year . . .
Key trends from our research:

1. An era of new expectations:
   - Learning will be personalized
   - Instruction will be tailored to fit the sweet spot of learners’ interests
   - Say good bye one size fits all, say hello to differentiated learning
   - Leverage best of both worlds – face to face with digital learning experiences
An expectation of a new type of learning experience

Personalized learning

Differentiated instruction
“Knowing it and seeing it are two different things.”

Suzanne Collins, Mockingjay
Key trend from our research:

2. Increased access and use of digital content
   - Catalyst to meeting new expectations
   - Creates learning that is engaging, interactive and personalized
   - Enables differentiated instruction that is both rigorous and relevant
   - Supports new professional practices in the classroom
Translating dreams into reality

Emerging evidence:

IEPs for every student including personalized and differentiated paths

- Good idea says 1/3 of school and district leaders in 2015
- Only 1/5 said the same in 2010

Digital content usage effectively supports personalized learning for every student

- Agreed – 60% of school principals in 2015
- 33% increase in principals sharing this belief since 2009
What digital approaches are already demonstrating positive results in academic achievement?

- **Digital content**
  - Positive results: 54%
  - Too early for results: 28%
  - Considering: 8%
  - No plans: 10%

- **Online assessments**
  - Positive results: 47%
  - Too early for results: 33%
  - Considering: 9%
  - No plans: 11%

- **Games**
  - Positive results: 27%
  - Too early for results: 22%
  - Considering: 13%
  - No plans: 38%

- **Online textbooks**
  - Positive results: 25%
  - Too early for results: 23%
  - Considering: 10%
  - No plans: 41%

- **Blended learning**
  - Positive results: 22%
  - Too early for results: 27%
  - Considering: 15%
  - No plans: 36%

- **1:1 mobiles**
  - Positive results: 16%
  - Too early for results: 10%
  - Considering: 11%
  - No plans: 63%

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SpeakUp
Which of these classroom models would be best for your child?

<table>
<thead>
<tr>
<th>Models</th>
<th>Parents of K-5 students</th>
<th>Parents of Gr 6-8 students</th>
<th>Parents of Gr 9-12 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>46%</td>
<td>40%</td>
<td>38%</td>
</tr>
<tr>
<td>Blended</td>
<td>55%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>Flipped</td>
<td>19%</td>
<td>23%</td>
<td>25%</td>
</tr>
</tbody>
</table>

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The cornerstone of personalized learning: the classroom teacher
Research questions for new study

How are **teachers adopting and adapting** digital content, tools and resources to differentiate instruction?

What insights from understanding this process can support school and district leaders?

What is needed to move from expectations to reality with **personalized learning and differentiated instruction**?
Study logistics

• Conducted by Project Tomorrow for DreamBox Learning

• Informed by Speak Up data results

• Used methodology and tools developed as part of an NSF grant to study teachers’ readiness to use digital content

• Compared behaviors, attitudes and values of two teacher cohorts:
  - Teachers using DreamBox solutions who also received training from DreamBox
  - Other digital content using teachers from the NSF study
Key study findings

1. Increased access and usage of digital content resulted in **higher teacher confidence**

2. But usage is not a satisfactory metric on its own – need to examine how **digital content supports personalized, differentiated learning**

3. Importance of a **mindset for professional learning**

4. Successful differentiated instruction depends upon **high quality digital content**
Study results: Using digital content within classroom instruction
Growth in teacher use of digital content – 3 years

- Videos - found online: 2012 = 9%, 2015 = 21%, 2015/2012 = 68%
- Teaching aids: 2012 = 27%, 2015 = 30%, 2015/2012 = 36%
- Games: 2012 = 20%, 2015 = 30%, 2015/2012 = 48%
- Online curriculum: 2012 = 21%, 2015 = 36%, 2015/2012 = 36%
- Content subscriptions: 2012 = 33%, 2015 = 36%, 2015/2012 = 9%
- Software apps: 2012 = 20%, 2015 = 30%, 2015/2012 = 30%
- Online textbooks: 2012 = 21%, 2015 = 30%, 2015/2012 = 27%
- Animations: 2012 = 20%, 2015 = 30%, 2015/2012 = 27%

2012 N = 53,947
2015 N = 35,909

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Differences in the use of digital content

<table>
<thead>
<tr>
<th>Instructional Practices with Digital Content</th>
<th>% of Teachers using DreamBox who say this is a regular practice</th>
<th>% of Teachers not using DreamBox who say this is a regular practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use digital resources to reinforce concepts</td>
<td>100%</td>
<td>87%</td>
</tr>
<tr>
<td>I use digital resources to introduce new concepts or topics</td>
<td>61%</td>
<td>42%</td>
</tr>
<tr>
<td>I use digital resources to plan my lessons</td>
<td>54%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Differences in the use of digital content: Contributing factors

1. More *frequent use of digital content* within instruction by the teachers using DreamBox

2. DreamBox using teachers had *higher levels of confidence* in their abilities to match digital resources to learning goals

3. Teachers using DreamBox were more likely to take advantage of both formal and informal *professional learning opportunities* to improve their craft
Mindset for professional learning
Leadership insights

Goal:

Moving from usage to impact with the use of digital content within instruction

Strategies:

- Creating a school culture that supports professional learning
- Listening to what teachers say they need to develop greater proficiency and confidence
Leadership insights: what do teachers say they need?

Classroom set of mobile devices  (59% of teachers say this)

Planning time to work with colleagues  (57%)

Professional development   (52%)

Tech support as needed    (48%)

Consistent, reliable, high bandwidth Internet access   (46%)

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Study results: Creating differentiated learning experiences using digital content
Defining differentiated instruction

In an effectively differentiated classroom, it is understood that:

• Students differ as learners in terms of background experiences, culture, language, gender, interests, readiness to learn, modes of learning, speed of learning, support systems for learning, self-awareness as a learner, confidence as a learner, independence as a learner, and a host of other ways.

• Differences profoundly impact how students learn and the nature of scaffolding they will need at various points in the learning process.

• Teachers have a responsibility to ensure that all of their students master important content.

• Teachers have to make specific and continually evolving plans to connect each learner with key content.

• Teachers are required to understand the nature of each of their students, in addition to the nature of the content they teach.

• A flexible approach to teaching “makes room” for student variance.

• Teachers should continually ask, “What does this student need at this moment in order to be able to progress with this key content, and what do I need to do to make that happen?”

Leading and Managing a Differentiated Classroom

Does digital content help teachers differentiate instruction?

Teachers in 2013: 24% say yes

Teachers in 2015: 55% say yes
Does digital content help teachers differentiate instruction?

Teachers in 2013: 24% say yes
Teachers in 2015: 55% say yes

64% of the teachers using DreamBox agree with this statement also
Differentiated instructional practices

<table>
<thead>
<tr>
<th>Differentiated Instructional Practices</th>
<th>% of Teachers using DreamBox who say this a regular practice</th>
<th>% of Teachers not using DreamBox who say this is a regular practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using digital content data to better understand individual student needs, learning processes, and areas for supplemental help</td>
<td>84%</td>
<td>29%</td>
</tr>
<tr>
<td>Personalizing learning by encouraging students to use digital resources independently and to self-direct their learning processes</td>
<td>73%</td>
<td>33%</td>
</tr>
<tr>
<td>Adapting digital resources to meet specific learning needs of individual students</td>
<td>52%</td>
<td>33%</td>
</tr>
</tbody>
</table>
Leadership insights

**Goal:**

Changing classroom learning experiences through personalized, differentiated instruction

**Strategies:**

- Access to a set of high quality, standards-based digital content
- Data-rich digital content empowers personalized instruction
- Supportive administration
- Professional learning opportunities
Leadership insights: what types of professional learning do teachers want?

Learning how to use technology to differentiate instruction (55% of teachers say this)

Using educational games within instruction (50%)

Using technology to support formative assessment (39%)

Using mobile devices to enhance learning (38%)

How to implement a blended learning environment (27%)
An expectation of a new type of learning experience

Personalized learning

Differentiated instruction
Research questions for new study

How are teachers adopting and adapting digital content, tools and resources to differentiate instruction?

What insights from understanding this process can support school and district leaders?

What is needed to move from expectations to reality with personalized learning and differentiated instruction?
Ending thoughts and key insights from the study

✓ Greater usage = more familiarity = stronger teacher self-confidence on how to be effective using digital content

✓ Value of digital content is amplified when the usage is purposeful – i.e., to personalize and differentiate instruction for each student

✓ Data derived from high-quality digital content is the fuel for empowering personalized learning and differentiated instruction

✓ Professional learning plays an increasingly critical role in this process

✓ School and district culture matters – especially when there is a laser focus on creating optimal environments for student learning
More Speak Up?  www.tomorrow.org

National Speak Up reports and infographics

Targeted and thematic reports
Digital learning trends
Mobile learning & social media
Games in the classroom
Blended learning outcomes

Presentations, podcasts and webinars

Services: consulting, workshops, evaluation and efficacy studies

Participate in Speak Up 2016 and learn about the views and values of your students, teachers, administrators and parents.
Online survey site open how thru Jan 13.
Thank you for inviting me to be part of this discussion!

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DreamBox Learning® K–8 Math
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• Kinds of mistakes
• Efficiency of strategy
• Scaffolding needed
• Response time
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Differentiated assignments for every student through your Insight Dashboard
Efficacy: Independent Validation from CEPR at Harvard University

Source: Results for Grades 3–5 were reported by the Center for Education Policy Research (CEPR) at Harvard University, 2016. Results for Grades K–1 were reported from SRI, 2010. Improvement was measured using NWEA MAP assessments. Both reports are available at www.dreambox.com/research. Harvard analyses suggest the observed average improvement of students using DreamBox is a linear relationship, and that performance gains continue to rise at the same rate as DreamBox usage increases. (But the dataset did not include a significant sample size at this level of use specification.)

Learn more and see how it works:
www.DreamBox.com/request-a-demo