District Approaches To Raising Math Achievement Through Data-Informed Learning
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District Approaches to Raising Math Achievement Through Data-Informed Learning
• Using data to build capacity, drive alignment, and lead change

• Building a culture of continuous improvement and growth mindset

• Making the most of real-time data insights to inform instruction

• Personalizing instruction and professional development to support deeper learning
Southwest Allen County Schools (SACS), Indiana

Vision: SACS will be nationally recognized as a provider of an excellent 21st century education

Goals: In order to build upon a history of successful academic achievement in every school and in every classroom, SACS will:

- implement its own district learner accountability measures for its graduate outcomes,
- motivate by providing a learner-centered environment accessible to all,
- recruit and retain valuable employees,
- broaden our partnership with parents,
- and develop district branding that invites partnerships:
  - to increase awareness and involvement;
  - to create educational opportunities;
  - and to identify new funding sources.
SACS Key Stats

- 7,000+ students
- 9 schools
- 475+ teachers

“I Can...”
- Gather information and interpret it effectively.
- Evaluate the credibility of various sources of information.
- Make sound judgments and decisions based on research and reason.
- Reflect on processes and outcomes to inform future decisions.
- Analyze, reflect on, and evaluate my own learning.

“Education is a progressive discovery of our own ignorance.”
- Will Durant 1886-1981
Describe what you’ve been working on in Southwest Allen for the past few years that has brought the district to where it is today.
How have you driven alignment with different stakeholders to facilitate and lead these changes?
Today is Tuesday, November 14, 2017, and Southwest Allen County Schools are CLOSED. It is an e-Learning day.
What factors contributed to your commitment to e-Learning and making e-Learning days a norm in the community?
Figure 11.1

Sequence for Organizing the Work of Reform

1. Frame/refer to measurable goals, based on a vision, principles of learning, and all appropriate standards.

2. Establish credible evidence/indicators of success for judging all progress.

3. Draft a plan, based on goals and evidence needs.

Reframe/clarify goals, strategies as needed.

Get feedback.

Act on your plan.

Adjust your plan.

Get baseline feedback against goals.

Adjust your plan.

The 3 Stages of UbD
Continuous improvement requires data in order to measure impact. Describe the data initiatives in SACS that help build culture and ensure continuous growth.
DreamBox Learning® Helps Improve NWEA® MAP® Growth by 71%

RIT score growth from Fall 2016 to Spring 2017 of K-5 students in Southwest Allen County Schools, IN who completed at least 5 DreamBox lessons per week were 71 percent higher than RIT growth of students who didn’t use DreamBox.

+71%

19.7 points
n = 826

17.8 points
n = 880

14.5 points
n = 880

11.5 points
n = 993

Average of K-5 Expected NWEA MAP® Growth Norms

Average RIT Score Growth

No Usage (< 1)

1-3

3-5

5+
K-5 Overall RIT Growth 2016-2017 (All Schools by Fall MAP)

Fall RITScore
- Above Mean
- Below Mean

N=105  N=435  N=558  N=455  N=425  N=520  N=306

- 0-1 Lessons/Week
- 1-3 Lessons/Week
- 3-5 Lessons/Week
- 5+ Lessons/Week
K-5 Overall RIT Growth 2016-2017 (All Schools by Fall MAP)
Ausubel, 1968

“If I had to reduce all of educational psychology to just one principle, I would say this:

The most important single factor influencing learning is what the learner already knows.

Ascertain this and teach him accordingly.”
How are teachers using real-time data? What shifts in practice and mindset have data access required?
What are you ready to learn? What do you think about it? When were you born? What did someone else tell me to think?

Personalized (Relational) vs. Impersonal (Industrial)

Schooling Structures from Adults

Learning Pedagogy with Students
What are you ready to learn?

Personalized (Relational)

Impersonal (Industrial)

Schooling Structures from Adults

Learning Pedagogy with Students
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Schooling Structures from Adults

Learning Pedagogy with Students
Personalized (Relational)

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What do you think about it?

When were you born?

What were you told to think?

Impersonal (Industrial)

Schooling Structures from Adults

Learning Pedagogy with Students
Personalized (Relational)

What are you ready to learn?

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What were you told to think?

Impersonal (Industrial)

Blended Schooling Structures from Adults

Blended Learning Pedagogy with Students
“Technology–enabled innovations… use basic pedagogy – most often in the form of introducing concepts by video instruction and following up with a series of progression exercises and tests. Other digital innovations are simply tools that allow teachers to do the same age-old practices but in a digital format.” (p. 25)
What are you ready to learn?

What do you think about it?

When were you born?

What were you told to think?

**Personalized** (Relational)

**Impersonal** (Industrial)

Blended Schooling

Structures from Adults

Is there an app for this?

Blended Learning Pedagogy with Students

Is there an app for this?
Describe professional learning in SACS and how you’re working to personalize and deepen PD.
Teacher Agency in PD

• Teacher-identified objectives
• Based on data
• Focused on teachers’ and students’ growth
• Addresses classroom challenges
• Teachers decide what to learn
How have you built capacity with existing resources while also leveraging new resources to expand capacity and impact?
Questions?

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DreamBox Learning
DreamBox Learning® K–8 Math
Available in English & Spanish

Motivating, Rigorous, Adaptive
K–8 Math Curriculum

Relevant, Customized, Accessible Professional Development
through FlexPD™ and MyFlexPD™ On Demand

Actionable, Real-Time Formative Data
through the Educator Insight Dashboard
Efficacy: Independent Validation from Harvard and SRI, and 40+ Industry Awards

DreamBox Learning® Math Improves NWEA MAP® Scores
With just 60 minutes per week, students improve 58% more than growth norms

For more information, visit www.dreambox.com/research

Learn more and see how it works:
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DreamBox Lessons & Virtual Manipulatives

Intelligently adapt & individualize to:
• Students’ own intuitive strategies
• Kinds of mistakes
• Efficiency of strategy
• Scaffolding needed
• Response time

2,000+ Lessons available in English and Spanish!
Empower Educators with DreamBox Learning FlexPD™

• Designed to enhance instructional practice
• Aligned with instructional goals
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Revolutionary, just-in-time professional development that’s relevant and immediately actionable
BEST PRACTICES FOR EVALUATING DIGITAL CURRICAULA

Tim Hudson, PhD
Senior Director of Curriculum Design
DreamBox Learning, Inc.

Deepening Elementary Teachers’ Content Knowledge in Mathematics

A Prototype for Job-Embedded Professional Learning Driven by Real-Time Student Data

Finding What Works in Learning:
A Rubric for Analyzing Research Studies of Curricular Programs

Tim Hudson, PhD | Vice President of Learning at DreamBox Learning

Research hype and headlines

You want what’s best for your students, and you’re always looking out for curricular resources that are proven to work. Let’s say you come across a research report about either a print-based curriculum or a digital program that touts its positive impact on student achievement. For the sake of argument, imagine the headline is something like, Acme’s Algebra 2 Program Quadruples Growth for 11th Graders. That headline sounds pretty amazing. And if you’re an elementary educator or administrator who is interested in ELA resources, you may have seen similar headlines for various ELA programs. As EdWeek’s EdTech Researcher opinion writer Justin Feldt notes on multiple occasions, it’s essential to look beyond the headlines of any research study.

Naturally, you want to better understand the claims being made as well as how it was determined that the program impacted learning for all students (and not all students, which students specifically). You not only want more information, but you also want to know how to thoroughly investigate the research, ask probing questions, and access the fine print about how a program “improves scores” or “doubles growth.” But you’re not sure where or how to start.
New Research in Content-Specific, Data-Driven PD:

• DreamBox created a prototype designed to deepen mathematics understanding for elementary teachers.

• The research goal: to improve student achievement, by increasing teacher agency in mathematics.

• Teachers using real-time student data to inform their next step, either into learning, small groups, or supporting individual students.
Initial Analysis

Analysis suggests **students demonstrated improved growth in mathematics** when their teacher more frequently accessed DreamBox Learning PD.

- Grades 3-5
- 650 Teachers
- 11,000 Students
Thank you!