



# THE MAIN IDEA

current education book summaries



File: Data-Driven Instruction

## Driven by Data: A Practical Guide to Improve Instruction

By Paul Bambrick-Santoyo (Jossey-Bass, 2010)

### S.O.S. (A Summary Of the Summary)

*The main ideas of the book are:*

- Implemented well, data-driven instruction has the power to dramatically improve student performance.
- This book presents the four building blocks of data-driven instruction used by effective data-driven schools and provides the professional development activities to develop them.

*Why I chose this book:*

In my annual Survey Monkey survey the number one topic subscribers wanted to learn more about was data-driven instruction. I was waiting for the right book to come along, and this is it. Paul Bambrick-Santoyo describes the four basic components that you need to put in place to be truly data-driven:

- Assessment
- Action
- Analysis
- Data-Driven Culture

Also, the book provides the type of concrete tools to put data-driven instruction into practice rarely found in books. At the end of the first four chapters are implementation suggestions for teachers, principals, and district leaders. Furthermore, the ENTIRE second part of the book (over 50 pages!) outlines specific workshop activities to conduct with staff and the CD-ROM contains the materials for these workshops. Note that these could not be summarized and are only found in the book.

### The Scoop (In this summary you will learn...)

- √ *The eight common mistakes schools make when implementing data-driven instruction*
- √ *The key factors in designing or selecting interim assessments that lie at the heart of data-driven instruction*
- √ *How to analyze assessment results without getting overwhelmed by the data*
- √ *How to make sure that teachers use assessment results to actually make changes in their classroom practice*
- √ *The necessary components to create a data-driven culture*

### PROFESSIONAL DEVELOPMENT – BUILT RIGHT INTO THE BOOK

**NOTE: The Main Idea does not provide professional development suggestions because there are so many right in the book!**

**Take a look at the following which are not included in the summary:**

1. See the *Reflection Questions* at the end of the introduction and first four chapters – these help the school leader or leadership team to prepare for implementation of data-driven instruction.
2. See the *Application* section at the end of the first four chapters – these outline concrete steps teachers, principals, and district leaders can take to implement data-driven instruction in their schools/districts.
3. See *Part Two* of the book which outlines workshop activities you can conduct to train staff in the four components of data-driven instruction. The *CD-ROM* provides the materials needed to conduct these workshops.

## **Introduction – What Is Data-Driven Instruction All About?**

Education articles have captured numerous stories about schools that have improved their instruction based on “data-driven” practices and achieved outstanding results within a few years. In fact, “data-driven instruction” has become one of the most discussed new topics in education. However, at the same time, it is one of the most misunderstood topics. Some people believe data-driven schools simply conform to NCLB dictates. Others believe that these schools forgo authentic learning and instead merely “teach to the test.” Given this confusion, some leaders hope that they can bypass this data craze with the idea that “this too shall pass.”

However, it would be a mistake for leaders to give up on data. When conducted properly, using data to inform teaching practice is one of the most effective ways to help students achieve success. Data-driven instruction involves changing a school’s focus from “what was taught” to “what was learned.” This book outlines exactly how you create such a data-driven culture in order to achieve academic excellence. The ideas presented in *Driven by Data* are not based on a theoretical model, but rather come from the practices of schools that, using data-driven instruction, have achieved dramatic gains in student performance.

There are many vignettes throughout the book describing how actual schools achieved impressive results using a data-driven approach. For example, at Fort Worthington Elementary School, a school in which 85 percent of the students receive free or reduced lunch and 98 percent are African American, the principal put the components of data-driven instruction in place and saw the following tremendous gains. Note that these are more than numbers; these represent hundreds of additional students reaching proficiency.

Subject	English and Language Arts			Mathematics		
	Grade 3	Grade 4	Grade 5	Grade 3	Grade 4	Grade 5
2005-06	49%	50%	42%	44%	43%	44%
2006-07	55%	62%	55%	74%	71%	74%
2007-08	88%	92%	86%	86%	88%	86%
Overall Gains	+39	+42	+44	+42	+45	+42

So how exactly did these schools, and many others that used this approach, get such remarkable results? They were able to implement the four fundamental building blocks of *effective* data-driven instruction. These four principles are:

1. *Assessment* – Create rigorous interim assessments that provide meaningful data.
2. *Analysis* -- Examine the results of assessments to identify the causes of both strengths and shortcomings.
3. *Action* – Teach effectively what students most need to learn based on assessment results.
4. *Culture* – Create an environment in which data-driven instruction can survive and thrive.

If there are so few fundamental principles, why haven’t more schools succeeded? Most schools have assessments and do some kind of analysis, so shouldn’t they see dramatic results as well? The truth is, while all schools make mistakes, there are certain mistakes when it comes to data-driven instruction that make it difficult to succeed. Below is a description of those mistakes.

### **Eight Mistakes That Impede Successful Implementation of Data-Driven Instruction**

Schools that implement data-driven instruction *effectively* avoid the following common pitfalls:

1. *Inferior interim assessments* -- Many schools fail to get results when they use interim assessments that set the bar too low, do not align to other required tests, or neglect to include open-ended questions.
2. *Secretive interim assessments* -- Interim assessments are only useful if teachers and schools see them *before* they teach. For these assessments to drive rigor, teachers must know the end goals before they plan instruction.
3. *Infrequent assessments* -- Some schools give these assessments only once every three to four months. This is not frequent enough to provide the data needed to improve instruction.
4. *Curriculum-assessment disconnect* -- A common mistake that occurs is when the curriculum does not match the content of the interim assessment. These assessment results have nothing to do with what happened in the classroom.
5. *Delayed results* -- Interim assessments are useless unless they are graded and analyzed promptly so teachers can make adjustments.
6. *Separation of teaching and analysis* -- Another problem occurs when teachers hand over the data analysis to a data team. Teachers need to analyze the results themselves in order to take ownership over the process.
7. *Ineffective follow-up* -- One serious shortcoming is when there is only a vague commitment to make adjustments after analyzing the results. If there is no specific plan for improvement that is scheduled to happen at a specific time, no real changes will be made.
8. *Not making time for data* – Some schools fail to make time for assessments, data analysis, and follow-up. Schools are busy places and if no time has been set aside in the calendar to make data-driven improvement a priority, it simply won’t happen.

# Part I – The Four Building Blocks of Effective Data-Driven Instruction

## The Four Building Blocks of *Effective Data-Driven Instruction*

1. Assessment

2. Analysis

3. Action

4. Culture

## The 1st Building Block – ASSESSMENT

Assessment is the first of the four building blocks of data-driven instruction. Assessments are crucial in defining exactly what instruction should take place. Consider this example below:

A principal intern brought a math teacher’s worksheet into Bambrick-Santoyo’s office and asked, “What do you notice?” Bambrick-Santoyo responded, “This looks like a basic review of fractions.” “Exactly,” the intern responded, “But the interim assessment we just gave asks students to solve *word problems* with fractions, and in addition, those fractions are more complex.”

There was clearly a disconnect between what the teacher was teaching and what was being assessed on the interim assessment. The above example shows one of the reasons assessments are so important – they help to clarify what students should be learning. Without an assessment, teachers are often left with vague standards like the following:

*Understand and use ratios, proportions and percents in a variety of situations.*

–New Jersey Core Curriculum Content Standards for Mathematics Grade 7, 4.1.A.3

Different teachers could choose many different ways to teach this standard and would assess it in very different ways. Look at the varying types of assessments you might see from different teachers:

1. Identify 50% of 20
2. Identify 67% of 81
3. Shawn got 7 correct answers out of 10 questions on his science test. What percent did he get correct?
4. In the NCAA, J.J. Redick and Chris Paul were competing for best free-throw shooting percentage. Redick made 94% of his first 103 shots, while Paul made 47 out of 51 shots.
  - a. Which one had a better shooting percentage?
  - b. In the next game, Redick made only 2 out of 10 shots while Paul made 7 of 10. What are their new overall percentages?
  - c. Who is the better shooter?

While these all align to the state standard, they are quite different in scope, difficulty, and design. This shows that standards are meaningless until you define how you will assess them. The types of questions students are expected to answer determines the level at which students would learn. This may seem counterintuitive, but *instead of standards determining the type of assessments used, the type of assessments used actually define the standard that will be reached*. So what does this mean for schools that wish to implement data-driven instruction? That they should create rigorous tests and *then* provide the type of instruction to meet those standards. This chapter outlines the five crucial elements, or “drivers” of *effective* assessments:

### **ASSESSMENT: Five Core Drivers**

1. *Common and interim*
2. *Transparent starting point*
3. *Aligned to state tests and college readiness*
4. *Aligned to instructional sequence*
5. *Re-assessed previously taught standards*

#### Core Driver 1: Assessments Must Be Common and Interim

In effective data-driven instruction the most important assessments are *interim assessments*: formal written tests taken every six to eight weeks. More than a traditional scope and sequence, interim assessments provide a roadmap to rigorous teaching and learning. Then carefully analyzing interim assessment results on a regular basis provides the feedback teachers need to improve their teaching rather than waiting for the results of a year-end test. Interim assessments hold teachers and principals accountable for student learning by accurately measuring student performance without the teacher support normally given in a classroom. Furthermore, rather than have individual teachers decide their own level of rigor, data-driven schools create rigorous interim assessments that are *common* to all grade-level classes in each content area.

#### Core Driver 2: Assessments Must Be The Starting Point and Must Be Transparent

Traditionally, assessments are designed at the *end* of the quarter or semester and what is assessed is based on what is taught. In *effective* data-driven instruction this process must be reversed such that interim assessments are created before the teaching begins. It is the rigor of the assessment that drives the rigor of what is taught. In addition, everyone – teachers, school leaders, parents, community members – should know what skill level students are expected to reach and the necessary steps to get there.

### Core Drivers 3 and 4: Assessments Must Be Aligned

All public and many private schools must take high-stakes tests. At the primary level these might be state or district exams. At the secondary level it could include SAT/ACT or AP/IB assessments. To help students succeed on these tests, interim assessments should be aligned to those tests in format, content, and length. The interim assessments should also help prepare students for college and therefore be aligned to college readiness standards as measured by SAT/AP/IB exams, research papers, and other measures. Of course the assessments should also be aligned to the school's clearly defined grade level and content expectations so teachers are teaching what will be assessed.

### Core Driver 5: Assessments Must Re-Assess Previously Taught Standards

If interim assessments only assess what was taught during one period of time, they would serve more as unit-end tests than interim assessments. Including material that was previously taught helps ensure that students *retain* that material and also provides an opportunity for teachers to see if their re-teaching efforts were successful. This is a common mistake that schools make – they fail to review past material.

### WRITING OR SELECTING THE RIGHT INTERIM ASSESSMENT

Some schools that effectively implement data-driven instruction create their own interim assessments while others select from those already available. Either process can lead to success as long as one applies the following core principles:

#### *Core Principles in Writing/Selecting Effective Interim Assessments*

- \* **Start from the end-goal exam** – When designing or selecting interim assessments, make sure it is based on the exams students must take at the end of the year (state, district, SAT, etc.) and *not* the vague standards discussed earlier.
- \* **Align the interim assessments to the end-goal test** – Make sure interim assessments are aligned to the end-goal test not only in content, but in format and length as well.
- \* **If acquiring assessments from a third party, be sure to see the test** – Don't take the word of sales reps; ask to see the actual tests to verify whether they align to the end goals. *This step is often overlooked.*
- \* **Assess to college-ready standards** – Be aware the skills to pass state tests are often insufficient to ensure postsecondary success. High schools have an easier time with this because they can align with the SAT or the demands of a college research paper. For elementary and middle schools, consider increasing the rigor of your interim assessments by demanding higher levels. For example, rather than expecting kindergarteners to meet the equivalent of the Fountas-Pinnell Level B, push for Level C or D. In math, one school, North Star Elementary, using TerraNova as a guide, established interim assessments for kindergarteners that measure all of the kindergarten standards and half of the first grade standards. First grade then measures all of the first and second grade math standards, and so on. In middle school math, include more in-depth algebra, and in middle school reading, demand a closer reading of texts.
- \* **Design the test to reassess earlier material** – Reviewing past material is essential in creating effective interim assessments. One way to do this is to create longer and longer tests as the year progresses. Another way is to assess *all* of the material from the start, and then track progress as students actually learn the concepts.
- \* **Give teachers a stake in the assessment** – Teachers included in the writing or selecting of interim assessments will be much more invested in making sure they are effective.

### FIRST STEPS FOR TEACHERS AND LEADERS

Each of the first four chapters contains first steps that teachers, school leaders, and district leaders can take to help implement the building block introduced in that chapter. Take a look at these sections for implementation suggestions.

#### **The Four Building Blocks of Effective Data-Driven Instruction**

1. Assessment

2. Analysis

3. Action

4. Culture

### **The 2nd Building Block – ANALYSIS**

*Assessment*, the first building block of effective data-driven instruction, points to the ultimate goals of instruction. *Analysis*, the second building block, is what helps teachers reach those goals. Analysis involves systematically examining interim assessment data thoroughly to determine students' strengths and weaknesses and then taking the necessary steps to address their needs. This chapter outlines the five core drivers of successful analysis and emphasizes the importance of looking closely at the data along the way.

Imagine a swimmer who needs feedback from her coach to improve, but the coach does not go to her meets. The swimmer goes to her first competition, but does not win. Because the coach did not see her swim, he will probably read the results in the newspaper and only be able to give her the vague advice to "swim faster." If he had had a "view from the pool," he would have seen that she was the fastest *swimmer*, but she was the last one off the starting block. Unless educators look directly and carefully at their students' assessment results, like the coach, they may diagnose their students' problems incorrectly and therefore provide an inaccurate remedy. Below are the five core drivers of effective data-driven analysis that would help prevent this situation:

**ANALYSIS: Five Core Drivers**

1. *User-friendly data reports*
2. *Test-in-hand analysis*
3. *Deep analysis*
4. *Immediate turnaround of assessment results*
5. *Planned analysis meetings between teachers and leader*

**Core Driver 1: Analysis Must Include User-Friendly Reports**

Great analysis is only possible if data is recorded in a useful form. Interim assessments yield a tremendous amount of raw data, but unless it is put into a form that is teacher-friendly, the data may be rendered useless. Schools don't need lots of fancy data reports in order to effect change. In fact, *the more pages in an assessment report, the less likely teachers will be to actually use it!* Instead, schools need realistic templates (the best ones are one page per class) that allow for analysis at four important levels:

- ⇨ Question level
- ⇨ Individual student level
- ⇨ Standard level
- ⇨ Whole class level

What might a template that helps teachers analyze results at these four levels look like? One sample from North Star Academy is excerpted below. Note that it contains the results for one class and fits on one page. In the multiple-choice section, each letter represents the wrong answer a student chose and blank spaces represent correct answers. The school color codes the chart: above 75% is green, 60 to 75% is yellow, and less than 60% correct is coded red. Below is a modified excerpt. The full template is on p. 43.

	Multiple-Choice % correct	Open-Ended % correct	Combined Proficiency Score	Standard 1: Computation: + and – decimals & money	Etc.	Standard 4: Fractions: + and – mixed numbers	Etc.	Standard 7 Estimation & Rounding: division
<b>Student</b>				Question 1	Etc.	Question 5	Etc.	Question 10
Moet	82%	81%	81%					
Terrell	79%	42%	69%			C		
Aziz	74%	42%	65%			A		B
Kabrina	63%	38%	56%			A		B
Etc.								
<b>Total Class % Correct</b>				95%	Etc.	40%	Etc.	60%

Repeated 6-1 Standards:
Comp: +/- decimals/money (Question 1): 95% correct
Multiply/divide in context (Questions 6, 8, 9): 87% correct
Etc.

	Multiple-Choice % correct	Open-Ended % Correct	COMBINED % Correct
Whole Class	69%	47%	63%

**Core Driver 2: Analysis Must be Conducted With Test in Hand**

It is essential that analysis is done *test-in-hand* with teachers constantly referring to the completed data report template. The data report doesn't mean anything on its own – it is like the coach reading the newspaper with the swimmer's results.

**Core Driver 3: Analysis Must be Deep**

Good analysis means digging into the test results and moving beyond *what* students got wrong to answer *why* they got it wrong. This involves finding trends in student errors or trends among groups of students. Combined with the above strategies of using clear data reports and having the test in hand, performing deep analysis can quickly surface weaknesses the teacher needs to act upon. Below are some suggestions to approach deep analysis.

*Do Question-Level Analysis and Standard-Level Analysis Side by Side*

It's often not sufficient to look at overall results alone. In examining results at the standard-level, consider the example below. On one assessment, students scored 70% overall on Ratio-Proportion questions. If the analysis stopped here, the teacher would assume most students are doing well and that about a third need remediation. However, if the teacher had looked at a breakdown of the standard a different picture would emerge:

- Ratio-Proportion – General (Questions 12, 21): 82% correct
- Ratio-Proportion – Rates (Questions 22, 30): 58% correct

After looking more closely the teacher might now conclude that it is necessary to re-teach rates. However, drilling even deeper into the data by looking at the actual questions (35% got Question 22 correct while 80% got Question 30 correct) the teacher learns more:

22. Jennifer drove 36 miles in an hour. At this rate, how far would she travel in $2\frac{1}{4}$ hours? A. 72 miles ( <i>chosen most</i> )    B. 80 miles    C. 81 miles    D. 90 miles	30. If a machine can fill 4 bottles in 6 seconds, how many bottles can it fill in 18 seconds? A. 24    B. 12    C. 8    D. 7
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The question reveals that students *knew* how calculate a rate in Question 22, but they stopped after multiplying 36 and 2 because they got stuck on multiplying by a mixed number. Without deeper analysis, the teacher would have wasted valuable time by re-teaching the general topic of proportions or just as ineffectively, re-taught rates.

### Search by Separators

Look for questions on which the stronger students outperform their peers. These questions that “separate” students point to areas where smaller groups or pullout groups could benefit from targeted instruction. For example, if the top third of the class answered Question 11 correctly, they could be given a stretch assignment while the teacher re-teaches that concept to the rest.

### Scan by Student

Another way to dig deeply into the data is to look at individuals. Consider Kenya's results below (letters are wrong answers):

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Kenya					A				D					C	D	A	B	D	D	D	C	D	A

Kenya's overall score was the lowest in the class. Without looking at her individual results, a teacher would miss that she outperformed her peers in the first half of the assessment. Perhaps she is a slow test taker or fell asleep. What these results do *not* represent is a lack of academic skill. Without carefully examining individual results, a teacher might miss this.

Below are some questions to help with the process of digging deeply into the data results:

Larger Picture Questions
* How well did the class do as a whole? * What are the strengths and weaknesses in different standards? * How did the class do on old versus new standards taught? * How were the results in the different question types (multiple choice vs. open-ended, reading vs. writing)? * Who are the strong and weak students?
“Dig in” Questions
* Bomed questions – did students all choose the same wrong answer? Why or why not? * Break down each standard – did students do similarly on each question within the standard? Why? * Sort data by students' scores – are there questions that separate proficient and nonproficient students? * Look horizontally by student – are there any anomalies occurring with certain students?

### Core Driver 4: Results From Analysis Must Be Turned Around Immediately

If assessment results are not turned around in a timely manner they can't be effective. Schools need to put systems into place to make sure that insights learned from data analysis are put into practice quickly. Schools should try to design their calendars such that interim assessments are analyzed within 48 hours of being scored. For example, at Greater Newark Academy, they set aside several half days for analysis after giving each interim assessment.

### Core Driver 5: Analysis Must Include Effective Analysis Meetings

A key component of effective data analysis is the *analysis meeting*. These are meetings between teachers and instructional leaders that focus on the results of interim assessments. These are crucial meetings because unlike meeting with a teacher about an observation from a specific day, these meetings cover months of student learning. Furthermore, they are essential to changing a school's culture from one in which the focus is on what is taught to what students have actually learned.

These meetings ideally should be conducted by the principal, but in large schools this responsibility may be shared with other instructional leaders such as assistant principals, coaches, team leaders, and head teachers. Conducting both one-on-one and group meetings can be effective. Group meetings allow teachers to share best practices while individual meetings let teachers focus on their own unique needs. This chapter focuses on individual meetings.

### Preparing for the Meeting

Schools often assume that simply sitting down with the data is enough to conduct an effective meeting. Both leadership and teacher training is necessary to make the meeting a success. The second half of the book provides training suggestions for modeling effective and ineffective meetings. Preparation also contributes to the effectiveness of the meeting. Below are some suggestions to prepare:

#### Before Giving the Interim Assessment

- ⇒ For each question teachers predict student performance by choosing one of the following:
  - a. Confident they'll get it right
  - b. Not sure
  - c. No way they'll get it right
- ⇒ Teachers receive professional development on how to do data analysis, how to complete an action plan, and they see a model of effective and ineffective analysis meetings (PD workshops are outlined in the second part of the book)

#### Immediately After Giving the Interim Assessment

- ⇒ Teachers analyze results before the meeting trying to understand *why* the students did not learn
- ⇒ Teachers complete an action plan based on the results from the assessment
- ⇒ Leader analyzes the assessment results personally to prepare for the meeting
- ⇒ Leader reviews the teacher's action plan

### At the Meeting

It can be challenging to know how to begin an analysis meeting. Below are some tried-and-true ways to start:

- So... what's the data telling you?
- Congratulations on your improvement in \_\_\_\_\_; you must be very proud!
- So the [paraphrase the teacher's main frustration – for example, geometry scores did not improve]. I'm sorry to hear that. So where should we begin our action plan?

Then from this point on, to help the meeting run effectively, there are several principles to adhere to:

**Let the data do the talking** – Rather than tell teachers what to do, point to the data and ask them what it means

**Let the teacher do the talking** – Teachers must own the assessment and analysis and they will do so if they find answers on their own

**Go back to specific test questions** – Have copies of the assessment at the meeting

**Know the data yourself** – By knowing the data school leaders can ensure meetings will be productive

**Make sure the analysis is connected to a concrete action plan** – Insights are meaningless unless written down as part of a plan

Below are some phrases leaders can use to ground analysis meetings in these principles:

- Let's look at question \_\_\_\_\_. Why did the students get it wrong?
- What did the students need to be able to do to get that question right?
- What's so interesting is that they did really well on question \_\_\_\_, but struggled on question \_\_\_\_ on the same standard. Why do you think that is?
- So, what you're saying is... [paraphrase and improve good responses]
- So, let's review your action plan and make sure we have incorporated all of these ideas.

It may take a while, but these analysis meetings can become part of the leader's repertoire of tools to help improve teaching and learning. These meetings are a powerful way to propel the process from examining data to taking action.

### **The Four Building Blocks of *Effective Data-Driven Instruction***

1. Assessment

2. Analysis

3. Action

4. Culture

### **The 3rd Building Block – ACTION**

After implementing assessments and conducting deep analysis, the next step is to take action to address student strengths and weaknesses. Without using what was learned from the assessments in actual classrooms, this data-driven approach is worthless. Therefore it is crucial to develop and implement an effective action plan. As with the other components of data-driven instruction, there are five core drivers that make it effective:

#### **ACTION: Five Core Drivers**

1. *Planning*
2. *Implementation*
3. *Ongoing assessment*
4. *Accountability*
5. *Engaged students*

#### **Core Driver 1 – Action Must Involve a Plan**

Action plans describe how teachers will apply what they've learned from assessment results in the classroom. For this to be successful, it is imperative that the analysis itself is sound, that *new* strategies are used in re-teaching, and that there is a specified date and time for implementation to make sure it happens. Below is a modified excerpt from an action plan designed by Amistad Academy and Achievement First. See pp.73-74 for more details.

#### **Action Plan Results Analysis**

<b>RE-TEACH STANDARDS:</b> What standards need to be re-taught to the whole class?	<b>ANALYSIS:</b> Why didn't the students learn it?	<b>INSTRUCTIONAL PLAN:</b> What techniques will you use to address these standards?

## 6-Week Instructional Plan

Week 1 Dates:	Week 2 Dates:	Etc.	Week 6 Dates:
Standards for Review & Re-teach	Standards for Review & Re-teach	Standards for Review & Re-teach	Standards for Review & Re-teach
New Standards	New Standards	New Standards	New Standards

### Sample Action Plan

Which Standards for Review	Date: 10/27 – 10/31	Date: 11/3-11/7	Date: 11/10-11/14
In Do Now:	Ex. 10/27 Multiplication 10/30 Exponents	Etc.	Etc.
In Mini Lesson:	Etc.		
In Heart of Lesson:	Etc.		
In Checking for Understanding:			
In Assessment:			
In Homework:			

### Core Drivers 2 and 3 -- Successful Implementation and Ongoing Assessment are Key to the Action Plan

The idea behind an action plan is to get teachers to change their actual classroom practices. If teachers store the action plan in a binder and do their lesson planning at home, those action plans will gather dust. Instead, teachers should have their action plan in hand when designing lessons. There are a number of strategies to ensure that the action plan will be implemented in the next cycle of lessons.

Below are some examples of these strategies:

- \* *Re-write and tighten objectives:* Teachers should use assessment results to focus the objectives of future lessons on the areas students need improvement. The more specific the objective, the better.
- \* *Do Nows:* During the quick 5- to 10-minute assignment to start the class is a perfect time to review those standards outlined in the action plan that require more attention. Teachers can include questions students struggled with in the last assessment.
- \* *Differentiation:* When the action plan calls for targeting certain groups in the class with specific needs, differentiation can be a good strategy to work with those groups while others work independently.
- \* *Ongoing assessment:* Constantly checking for understanding (for example, having *all* students write an answer on a white board and hold it up to show if they understand) is an effective way for teachers to see if the action plan is achieving results.
- \* *Peer-to-peer support:* A student who has mastered a standard can help another student, identified from the assessment results, as needing help. For example, the helping student can use flash cards to help another student with sight words.
- \* *Homework:* Re-design homework to target those areas that students need to review according to the action plan.
- \* *Outside of the classroom:* Have students who struggled on the assessment come to a breakfast club for extra practice or provide afterschool tutors with assessment results so they can help students with their specific weaknesses.
- \* *Increase rigor throughout the lesson:* To ensure students will learn when re-teaching standards, there is a list of over 80 strategies from the highest achieving teachers at North Star Academy on pp. 81-84 to help teachers increase rigor.

### The Results Meeting Protocol

When students have particular trouble with a standard on the interim assessment, teachers may need suggestions from other teachers as to how they can teach this standard in a more effective way. To share ideas, it is useful to conduct a results meeting and use the *results meeting protocol* to do so. This protocol takes about 55 minutes, keeps the meeting on task, and ends with action steps teachers will take. To make sure these meetings are effective, it is helpful to focus on *one standard* at a time, model a results meeting for teachers before implementing it, and make sure all suggestions are specific.

#### **Excerpt of RESULTS MEETING PROTOCOL (Full protocol on p.92)**

- \* Identify roles: timer, facilitator, recorder (2 minutes)
- \* Identify objective to focus on (recommended to focus on one standard) (3 minutes)
- \* What teaching strategies worked so far, or what did you try so far? (5 minutes)
- \* Chief challenges (5 minutes)
- \* Brainstorm proposed solutions (10 minutes)
- \* Reflect on feasibility of each idea (5 minutes)
- \* Put in calendar: when will tasks happen? When will re-teaching happen? (10 minutes)

### Core Driver 4 – Accountability is Necessary for Successful Action

School leaders play a vital role in ensuring that action is taking place. Here are a few ways to do this:

- *Observe with assessment results in mind:* One principal, when she observes, brings the actual spreadsheet with her to the classroom to see which students are struggling with which standards and to make sure they get to practice those standards. One time she noticed the teacher primarily asked prediction questions in reading when the results showed the students had already mastered that skill.
- *Review lesson and unit plans with the action plan in mind:* The principal can look for whether class lessons, units, and assessments match the rigor of the interim assessments.



- *Change the focus of teacher-principal meetings:* Rather than pre- and post-observation meetings, conduct pre- and post-assessment meetings referring to the action plan for guidance.
- *Keep track of observations and plans:* Consider using some kind of chart to keep track of which teacher is focusing on which goals from their action plans.

**Core Driver 5 – Actions Must Engage Students**

In a truly effective data-driven school the students will be engaged in improving their own learning. This can only happen when students know the goal, how they are doing, and what they can do to improve. There are different ways to have students chart their own performance (so they know how they are doing) and reflect on it (so they can understand what they need to improve). One way is with the reflection template used at Williamsburg Collegiate School and which is excerpted here (full version is on pp. 97-98):

<b>STUDENT REFLECTION TEMPLATE</b>					
	<b>Standard/Skill</b>	<b>Did you get the question right or wrong?</b>		<b>Why did you get the question wrong? Be honest.</b>	
<b>Questions</b>	<b>What skill was tested?</b>	<b>Right</b>	<b>Wrong</b>	<b>Careless mistake</b>	<b>Didn't know how to solve</b>
1	Algebra substitution: add				
2, etc.	Algebra substitution: add 3 numbers				

Using your test reflections, please fill out the following table:

Type of Error	Careless Errors	Did Not Know How to Solve
Number of Errors		

If you have...	You are a...	In class you...	During class you should...	During assessments you should...
More careless errors than "don't knows"...	<b>RUSHING ROGER</b>	* Are one of the first to finish * Want to say your answer before writing * Often don't show work * Are frustrated when you get assessments back	* <b>SLOW DOWN!</b> * Ask the teacher to check your work or check with partner * Push yourself for perfection, don't just tell yourself "I get it."	* <b>SLOW DOWN</b> – you know you tend to rush * Really double check your work since you know you make careless errors * Use inverse operations when you have time
More "don't knows" than careless errors	<b>BACK-SEAT BETTY</b>	* Are not always sure that you understand how to do independent work * Are sometimes surprised by your quiz scores	* Ask questions about HW if you're not sure it's perfect * Do all of the problems with the class at the start of class * Use every chance to check in with teachers and classmates	* Do the problems you're <b>SURE</b> about first * Take your time on the others and use everything you know * Ask questions right after the assessment while fresh in your mind

1. If you are a **Rushing Roger** and you make careless errors, what should you do in your classwork and homework?
2. If you are a **Backseat Betty**, what should do when you get a low score on a quiz?

**The Four Building Blocks of Effective Data-Driven Instruction**

1. Assessment

2. Analysis

3. Action

4. Culture

**The 4th Building Block – CULTURE**

In Bambrick-Santoyo's school there was a great deal of resistance from a veteran teacher when they wanted to implement data-driven instruction. She was well respected by peers and had a great deal of influence over them. Even though she was invited to join the leadership team to plan the initiative, she was not prepared for her students' poor results on the first interim assessment. Over the next two years her students made dramatic gains in achievement and finally she was willing to buy in to data-driven instruction.

Faculty buy-in for data-driven instruction is *not* a prerequisite to start implementing it. Building a data-driven culture takes time and this process usually goes through several phases before everyone sees the benefits of this approach. Below is an overview of what those phases might look like:

- Phase 1: Confusion and overload – "This is too much!"
- Phase 2: Feeling inadequate and distrustful – "How can two questions on a test possibly establish mastery of an objective?"
- Phase 3: Challenging the test – "That is a poor question. Answer 'b' is a trick answer."
- Phase 4: Examining the results objectively and looking for causes – "Which students need extra help and what topics need re-teaching?"
- Phase 5: Accepting the data as useful information, seeking solutions, and modifying instruction

So how does a school leader go about *building* a data-driven culture? By putting into place the three other components of data-driven instruction: assessment, analysis, and action. Actually implementing data-driven instruction improves student achievement and this is what helps to create teacher buy-in. When it is implemented effectively, data-driven instruction does not *require* teacher buy-in, it *creates* it. Below are additional structures to help ensure buy-in for a data-driven culture.

### **CULTURE: Five Core Drivers**

1. *Highly active leadership team*
2. *Implementation calendar*
3. *Build by borrowing*
4. *Introductory professional development*
5. *Ongoing professional development*

#### Core Driver 1: Data-Driven Schools Must Have the Right Leadership Team

If the right people are identified for the leadership team they can serve as bridges to help win over the rest of the faculty. Most leadership teams already have members with expertise (as a leader or an instructor). However, it is also important to include teachers who are trusted by the faculty: those teachers to whom others turn for personal support. Once these staff members are chosen, they should be involved in every aspect of implementing data-driven instruction.

#### Core Driver 2: Data-Driven Schools Need an Implementation Calendar

Whatever makes it onto the school calendar takes precedence over other activities that come later. To ensure that data-driven instruction lies at the heart of a school's culture, it must be placed on the calendar *first*. Time for assessment, analysis, and action should be prioritized on the school calendar. Without regular time set aside for these activities, they are likely to be overshadowed by other pressing commitments. Below are a few tips to help with this:

*Make time for all parts of the process* – Schools often block out time to take the assessments but no time to score and analyze them. In addition, schools need to block out time for re-teaching, such as the week following the assessment (this does not mean the whole week is spent in review – teachers should integrate old and new material).

*Take state/national tests into account* – Find out when state/national tests will occur, and then plan interim assessments every six to eight weeks leading up to that.

*Plan time for professional development* – Carve out time before and after each round of interim assessments to provide content-focused PD in areas identified by the assessment.

#### Core Driver 3: Data-Driven Schools Build by Borrowing

A key component of a data-driven culture is the habit of identifying and adapting best practices from *other* successful data-driven schools. This is referred to as “building by borrowing” and all of the high-achieving schools mentioned in the book have visited schools that were more successful than theirs and borrowed any idea that would help to improve their own results. Leaders must build the type of culture in which seeking out best practices is accepted and pursued regularly. Furthermore, seeing successful data-driven instruction in action will show teachers how it looks and help provide hope that if implemented well, it can have tremendous impact.

#### Core Drivers 4 and 5: Effective Professional Development is Necessary to Prepare Teachers and Leaders

Providing effective training for both teachers and leaders is probably the most important element of building a data-driven culture and the entire second part of the book is devoted to mapping out specific professional development plans for this purpose.

## **Part II – Leading Professional Development on Data-Driven Instruction**

The second half of the book outlines workshops to train teachers and leaders to put into practice the four core principles of data-driven instruction: assessment, analysis, action, and developing a data-driven culture. The first chapter describes the key ingredients necessary for *effective* professional development, and the subsequent chapters outline the specific activities to conduct each professional development workshop.

### Foundations of Effective Adult Professional Development

Traditionally, professional development often involves teaching by talking, poorly structured large-group sharing, and other approaches that do not lead to real adult learning. For professional development to be effective, adults need to generate the content they are learning to be truly invested in it and to retain it longer. Below are the key components of what effective professional development should include:

1. **Activity** – Design airtight activities which provide a learning experience (such as case studies, video clips, and role-plays) so participants can come to the right conclusions.
2. **Reflection** – Facilitate reflection – individual, small group, and large group – that allows participants to draw conclusions from the activity.
3. **Framing** – Use the vocabulary of the new principles to frame the participants' conclusions so they can share one common language.
4. **Applying** – Provide opportunities for participants to apply the learning in simulated and real-world experiences.

Overall, manage time well and inspire by sharing a vision of success so participants can see that it can be done!

## Workshop Agendas, Activities, and Materials

The book provides fully fleshed-out workshops on assessment, analysis, action, and developing a data-driven culture and the accompanying CD-ROM contains the materials needed to carry out these workshops. Because of the challenge of summarizing workshops, below is just an overview. For implementation purposes, see pages 175-233 for the fully fleshed-out workshops.

### *Workshop Overview: SETTING THE RATIONALE FOR DATA-DRIVEN INSTRUCTION*

#### Activity 1 – Setting the Rationale – 15 minutes

- Objectives:
- Participants identify the core challenges facing urban education.
  - Participants identify schools (from a graph) that have succeeded despite the odds.
  - Participants agree on common goal for the workshop: to drive student achievement upward.

#### Activity 2 – Highlighting Pitfalls – 1 hour 20 minutes

- Objectives:
- Presenter pre-assesses participants' prior knowledge of data-driven instruction.
  - Participants analyze a case study on failed implementation of data-driven instruction and identify false drivers of student achievement.
  - Participants understand that even with the best intentions, data-driven instruction can still fall short.

### *Workshop Overview: ASSESSMENT*

#### Activity 3 – Principles of Assessment – 50 minutes

- Objectives:
- Participants analyze actual assessment questions to understand how standards are meaningless until defining how to assess them.
  - Participants identify the key principles of assessment.

### *Workshop Overview: ANALYSIS*

#### Activity 4 – Introduction to Analysis – 15 minutes

- Objectives:
- Presenter hooks the audience with the core principles of data-driven instruction through a film clip.
  - Participants identify the key foundations that make data-driven instruction powerful.

#### Activity 5 – Teacher-Principal Role-Play of Assessment Analysis – 1 hour 45 minutes

- Objectives:
- Participants implement the key principles of deep analysis.
  - Participants read and correctly interpret an assessment data report.
  - Participants identify effective and ineffective assessment analysis.
  - Participants compare the differences between traditional post-observation teacher conferences and interim assessment analysis meetings.
  - Participants identify the ways in which interim assessments drive change

#### Activity 6 – Leading Effective Analysis Meetings – 55 minutes

- Objectives:
- Presenter introduces the teacher-principal data meeting as a critical system behind data-driven instruction.
  - Participants understand what is needed for teacher-principal analysis meetings to be effective.
  - Participants lead effective teacher-principal analysis meetings.
  - Participants overcome obstacles likely to arise during teacher-principal data conferences.

### *Workshop Overview: ACTION*

#### Activity 7 – Introduction to Action – 45 minutes

- Objectives:
- Participants generate conclusions as to how effective analysis goes beyond “what” is happening to “why” it has happened after watching a movie clip.
  - Participants make the connection between deep analysis and effective action.

#### Activity 8 – Results Meeting Protocol

- Objectives:
- Participants learn the results meeting protocol for effective team meetings.
  - Participants implement the results meeting protocol.
  - Participants develop an explicit action plan to address a challenge facing their school during implementation of data-driven instruction.

### *Workshop Overview: CULTURE*

#### Activity 9 – Building a Data-Driven Culture – 1 hour 20 minutes

- Objectives:
- Participants analyze a second case study on data-driven instruction.
  - Participants distinguish the core drivers of data-driven success from false drivers.
  - Participants understand complete faculty buy-in is not needed for data-driven instruction to be effective.
  - Participants identify the key principles of data-driven culture.

#### Activity 10 – Start-Up Scenarios – 25 minutes

- Objectives:
- Participants overcome obstacles likely to arise in start-up stages of implementing data-driven instruction.