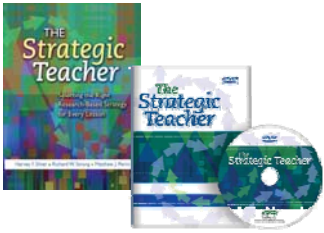


**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***



Presented by Tr. Harvey F. Silver, EdD

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**Harvey Silver by the numbers...**

**87 4 43 34 45**

All of these numbers have played an important part in my life.  
What do you think they might represent?

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**Harvey Silver by the numbers...**

**87 4 43 34 45**

Year I was born.	<b>45</b>
Number of years I have been married.	<b>43</b>
The number of years ago I partnered with Richard Strong to form Silver Strong & Associates	<b>34</b>
The number I proudly wore playing football in high school and college.	<b>87</b>
The number of members of my family.	<b>4</b>




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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Meet your neighbor by the numbers...**

- Select five numbers that are meaningful to you that will help someone understand who you are.
- Then write a sentence or question for each number, leaving a blank line where the number should go.
- Share you numbers and sentences with your neighbor. See if he or she can match the correct number to the line. You get a point for every correct match. See who gets more points.



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**Meet your neighbor by the numbers...**

- Write each of your numbers on a sticky note (One number per note).
- Place all of your numbers from your table in the middle and eliminate any duplicates.
- Group your numbers and label them according to some common characteristics. Then turn your labels over.
- Visit another table and try to figure out their groupings.
- Discuss how you can use this activity in your own classroom.



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One of the most pressing challenges schools face today is the challenge of:

**Teacher Effectiveness**



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

At Silver Strong & Associates, we've been helping schools raise teacher effectiveness for over 35 years. More recently, we've partnered with ASCD to help schools increase the quality of classroom instruction and the effectiveness of their teachers. We call this approach...

## The Strategic Teacher




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You're about to watch the introduction to the new Strategic Teacher video we developed with ASCD as part of this initiative. As you watch, you'll be using a tool called 3-2-1 to record...

<b>3 Facts</b>	
<b>2 Questions</b>	
<b>1 Big Idea</b>	



Note: A full description of this tool can be found on page 140 of *Tools for Promoting Active, In-Depth Learning*.

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Full page provided on next page

## Examples of How Expert Teachers Use the 3-2-1 Tool

An art teacher used 3-2-1 at the start of class to see how well her students understood and remembered the key points from the previous day's lesson about early cave art.

Name: Paul Moran  
 Three facts that I learned during today's lesson:  
 Thousands of years ago artists painted on caves not paper.  
 Cave paintings can show us what life was like in the past.  
 Cave paintings are both realistic and symbolic.  
 Two questions that I have:  
 Why did people make these paintings?  
 What did the artists use for paint?  
 The single most important point of today's lesson seemed to be:  
 People have been expressing themselves through art for many thousands of years.

*Great question, Paul!  
 We don't actually know  
 the answer, but we can  
 discuss some possibilities  
 in class tomorrow.*

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You're about to watch the introduction to the new Strategic Teacher video we developed with ASCD as part of this initiative. As you watch, you'll be using a tool called 3-2-1 to record...



<b>3 Facts</b>	
<b>2 Questions</b>	
<b>1 Big Idea</b>	



**Note:** A full description of this tool can be found on page 140 of *Tools for Promoting Active, In-Depth Learning*.

# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## Examples of How Expert Teachers Use the 3-2-1 Tool

A U.S. History teacher uses 3-2-1 to keep students engaged during the last few minutes of class when they'd otherwise be packing up and tuning out.

The **3** most important events in Abraham Lincoln's life were:  
**2** aspects of Lincoln's life or presidency that I'd like to learn more about are:  
If I were Lincoln, the **1** thing that I'd want people to remember me for would be:

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## Examples of How Expert Teachers Use the 3-2-1 Tool

A second grade teacher assesses what students have learned from her lessons on clocks by having them complete a 3-2-1 as a class (students speak their ideas aloud and she records them).

**MORE than 3 facts:** • Clocks measure time • There are two kinds of clocks: analog & digital • Digital clocks are easier to read • Analog clocks have three hands (minute, second, hour) • 60 minutes = 1 hour  
**2 questions:** • Why bother using analog clocks? • How did people tell time before clocks existed?  
**1 main idea:** • Clocks are tools that help people measure and manage time.

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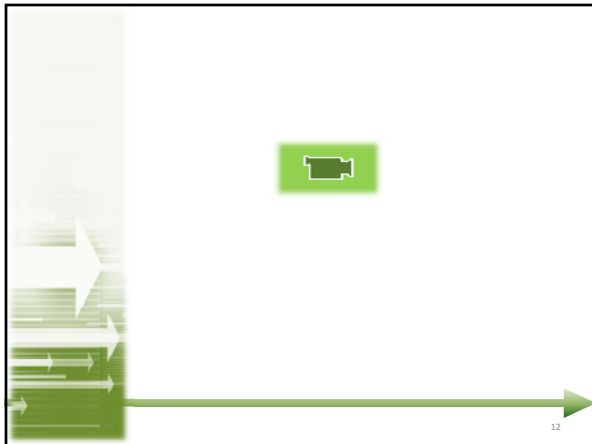
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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## The Strategic Teacher: A Toolbox for Improving Instruction



### Minding your Ps & Qs

**PREVIEW:** *What's inside?*

**PRIOR KNOWLEDGE:** *What do I already know about this topic?*

**PREDICTION:** *What do I think the author is trying to communicate?*

**PURPOSE:** *What do I want to get out of reading this text?*

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In this session, we'll show you how *The Strategic Teacher* can help you increase teacher effectiveness by addressing these critical questions:

1. What is a strategy?
2. Why strategic teaching now more than ever?
3. What's the difference between a research-based practice and a strategy for delivering the practice?
4. How can we help teachers become experts in using research-based strategies?

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Before we begin, take a minute to reflect and establish some personal goals...

- What interests you most about this workshop?
- Is there a question that you hope we will address?
- Which of the workshop goals is most important to you?
- How could we run this workshop in order to make it effective for you?
- What could you do to help make this workshop a success?

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

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<p>A <b>strategy</b> is a system for analyzing and advancing positions. -- Gary Gagliardi</p>	<p>Sound <b>strategy</b> starts with having the right goal. -- Michael Porter</p>
<p>However beautiful the <b>strategy</b>, you should occasionally look at the results. -- Winston Churchill</p>	<p><b>Strategy</b> requires thought, tactics require observation. -- Max Euwe</p>
<p>You have to be fast on your feet and adaptive to use a <b>strategy</b> well. -- Charles de Gaulle</p>	<p><b>Strategy</b> is about making choices, trade-offs; it's about deliberately choosing to be different. -- Michael Porter</p>
<p>When you're prepared, you're more confident. When you have a <b>strategy</b>, you're more comfortable. -- Anonymous</p>	<p>A <b>strategy</b> is a style of thinking, a conscious and deliberate process, an intensive implementation system, the science of ensuring future success. -- Peter Johnson</p>
<p>There is always a better <b>strategy</b> than the one you have; you just haven't thought of it yet. -- Sir Bryn Pittman</p>	

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Here's one of our favorite uses of the word "strategy" from a current ad for Bigham Law Firm.



Without a winning strategy, litigation is a lot like playing chicken.

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**Create Your Own Simile**

Without a winning strategy, teaching is a lot like...

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

Have you ever used a strategy to get something that you wanted?

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Could having a repertoire of teaching tools and strategies help you get what you want and need in your classroom?

**ABSOLUTELY!**

*We will show you how.*

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What does an effective teaching strategy look like?

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Let's use the Give One, Get One tool to explore this question in more detail...

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An effective strategy is one that \_\_\_\_\_.

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**Give One, Get One**

1. Jot down two responses.
2. Stand up and find a partner.  
GIVE ONE of your ideas to your partner and GET ONE in return.  
If you have the same ideas, work together to create a new one and add it to your lists.
3. Quickly find a new partner. Give One, Get One.
4. Repeat Step 3 until you have a total of six ideas.

*General rules:* Work in pairs, not groups—don't huddle!  
Don't copy each other's entire lists!

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Give One, Get One is from Tools for Promoting Active, In-Depth Learning, 2nd Edition (Silver, Strong, & Perini, 2001).

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## How have previous workshop participants responded?

- IMPROVES TEACHING, LEARNING, AND ACHIEVEMENT
- GETS STUDENTS ENGAGED IN THE LEARNING PROCESS
- CAN BE ADAPTED FOR USE ACROSS GRADE LEVELS AND CONTENT AREAS
- HELPS STUDENTS MASTER THE CONTENT AND DEVELOP USEFUL SKILLS
- HELPS STUDENTS DEVELOP THE BEHAVIORS AND "HABITS OF MIND" OF GOOD THINKERS
- IS ROOTED IN RESEARCH ABOUT WHAT WORKS AND IS BASED ON SOUND LEARNING THEORY
- ACTUALLY WORKS IN REAL CLASSROOMS (PRACTICAL, NOT THEORETICAL)
- ADDRESSES THE NEEDS, GOALS, AND CHALLENGES OF REAL TEACHERS AND STUDENTS

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## Expert teachers use effective tools and strategies

In a minute, we'll watch a video of a kindergarten teacher using one of **our** tools in her classroom. The tool is called "Fist List."

But first, we're interested in hearing about the tools and strategies that **you** are using in your classrooms...

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## An effective tool in action: Fist List

### **Fist List**

- The teacher provides a term, category, or question for students to put in the "palm" of a hand organizer.
- Students generate five words, phrases, or responses to fit with whatever is in their palm (one for each finger).



- As you watch the video, ask yourself why **Fist List** is effective.
- Which of the "effective strategy criteria" does **Fist List** satisfy?

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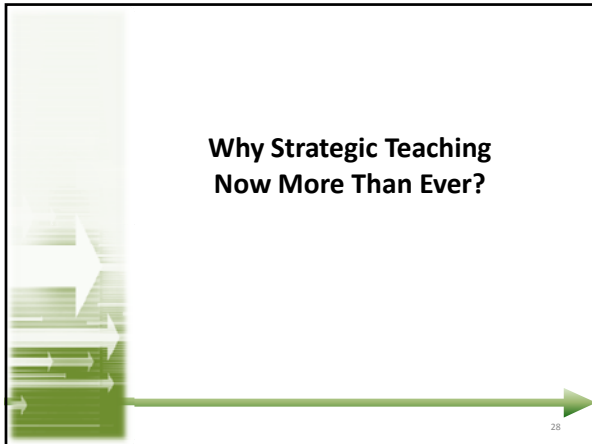
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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Why Strategic Teaching Now More Than Ever?**



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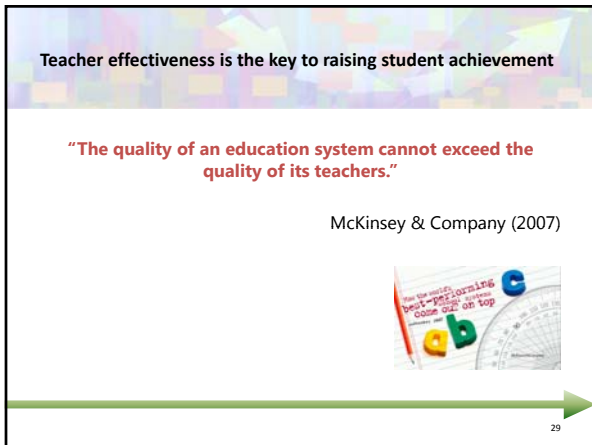
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**Teacher effectiveness is the key to raising student achievement**

**“The quality of an education system cannot exceed the quality of its teachers.”**

McKinsey & Company (2007)



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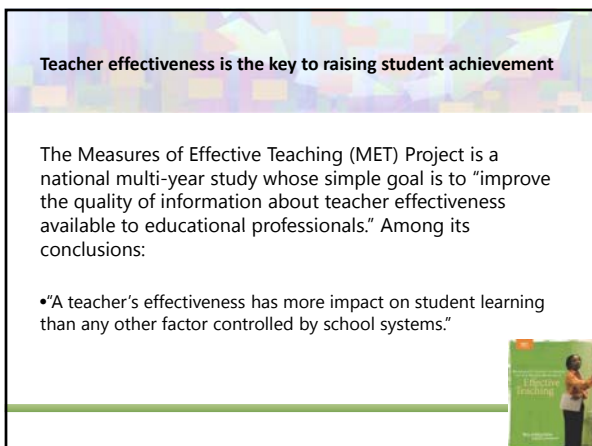
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**Teacher effectiveness is the key to raising student achievement**

The Measures of Effective Teaching (MET) Project is a national multi-year study whose simple goal is to “improve the quality of information about teacher effectiveness available to educational professionals.” Among its conclusions:

•“A teacher’s effectiveness has more impact on student learning than any other factor controlled by school systems.”



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

Teacher effectiveness can't be improved without improving classroom instruction.

What teachers do in the classroom has 6 to 10 times as much impact on student achievement as the next six factors combined.



Mortimore & Sammons (1987)

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Teacher effectiveness can't be improved without improving classroom instruction.

As the McKinsey & Co. study of the world's top 25 school systems concluded:  
"The only way to improve outcomes is to improve instruction."

McKinsey & Company (2007)



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What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

One of the most extensive and influential studies highlighting the impact of classroom instruction on student learning was initiated by the renowned educational researchers Marzano, Pickering, and Pollock (2001). The authors describe nine categories of instructional practices that brought about the greatest gains in student achievement.



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Which **three** categories of instructional practices/strategies do you think would have the greatest impact on student achievement?

**Category:**

- Generating & Testing Hypotheses
- Summarizing & Note-taking
- Identifying Similarities & Differences
- Questions, Cues, and Advance Organizers
- Reinforcing Effort & Providing Recognition
- Cooperative Learning
- Non-Linguistic Representation
- Setting Objectives & Providing Feedback
- Homework & Practice

\*We acknowledge the use of nine strategies from Marzano, Pickering, and Pollock's Classroom Instruction That Works. Copyright © 2001 Mid-continent Research for Education and Learning (MCREL). Adapted by permission of MCREL, 4501 DTC Boulevard, Suite 500, Denver, Colorado 80237. Phone: 303.337.0900. Web: [www.mcrel.org/htcp/products/178](http://www.mcrel.org/htcp/products/178)

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Research clearly indicates the impact of **each** of these on student learning:

<b>Category:</b>	<b>Percentile Gain:</b>
Identifying Similarities & Differences	45
Summarizing & Note-taking	34
Reinforcing Effort & Providing Recognition	29
Homework & Practice	28
Non-Linguistic Representation	27
Cooperative Learning	27
Setting Objectives & Providing Feedback	23
Generating & Testing Hypotheses	23
Questions, Cues, and Advance Organizers	22

\*We acknowledge the use of nine strategies from Marzano, Pickering, and Pollock's Classroom Instruction That Works. Copyright © 2001 Mid-continent Research for Education and Learning (MCREL). Adapted by permission of MCREL, 4501 DTC Boulevard, Suite 500, Denver, Colorado 80237. Phone: 303.337.0900. Web: [www.mcrel.org/htcp/products/178](http://www.mcrel.org/htcp/products/178)

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**We know what works to raise achievement.**  
Decades of research have provided the educational community with a very clear picture of what effective instruction should look like.

**We don't always do what works.**  
Classroom observation studies show that we're not doing many of the things that we know work (e.g., setting goals or using rubrics).

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**We have what organizational experts Pfeffer and Sutton call a "knowing-doing gap."**

Classroom observation results:

- Classrooms in which high-yield strategies were being used: 0.2%
- Classrooms in which students were either writing or using rubrics: 0%
- Classrooms in which there was evidence of higher-order thinking: 3%
- Classrooms in which there was evidence of a clear learning objective: 4%

Learning 24/7 Classroom Observation Study data (2005) as reported in Schmoker, M. (2006). *Results Now*. Alexandria, VA: ASCD. 38

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Historic improvement isn't about "reform" but something much simpler: a tough, honest, self-examination of the prevailing culture and practices of public schools, and a dramatic turn toward a singular and straightforward focus on instruction.

**It's about teaching (Stupid)!**



Schmoker, M. (2006). *Results Now*. Alexandria, VA: ASCD. 39

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**School and Teacher Effectiveness**  
Scenario: *Students enter at the 50 %ile*

Rank order as to student achievement at the end of about two years:

	Teacher	School
<b>a</b>	Average	Average
<b>b</b>	Highly Ineffective	Highly Effective
<b>c</b>	Highly Ineffective	Highly Ineffective
<b>d</b>	Highly Effective	Highly Ineffective
<b>e</b>	Highly Effective	Highly Effective

Marzano, R. J. (2003). *What Works in Schools: Translating Research into Action*. Alexandria, VA: ASCD.

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**School and Teacher Effectiveness:  
What the Research Shows**

Teacher	School	Exit Percentile
Highly effective	Highly effective	<b>96 %ile</b>
Highly effective	Highly ineffective	<b>63 %ile</b>
Average	Average	<b>50 %ile</b>
Highly ineffective	Highly effective	<b>37 %ile</b>
Highly ineffective	Highly ineffective	<b>3 %ile</b>

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**However, not everyone can be a *Highly Effective Teacher*, at least not all the time, everyday!**

The most important data in Marzano's research is not on our previous chart:

Teacher	School	Exit %ile
<b>Average</b>	<b>Highly Effective</b>	<b>73%ile</b>

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

A brutal fact is that the culture of schools and school leadership militates against their ever learning from each other, despite the certain and enduring impact of such collaboration.



Schmoker, M. (2006). *Results Now*. Alexandria, VA: ASCD.

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***The Strategic Teacher* helps teachers do the things that we know can raise achievement**



- Each strategy incorporates different principles of research on effective instruction.
- Using the strategies ensures that teachers bring the research into their classrooms.

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**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

But a recent analysis of teacher effectiveness shows that simply using research-based practices in the classroom does not ensure that students' learning will increase.



Source: Schoaling, Toth, & Marzano (2010). "Creating an Aligned System to Develop Great Teachers Within the Federal Race to the Top Initiative."

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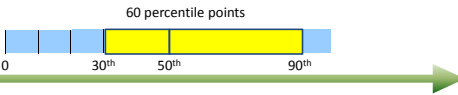


# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

For example:  
In some studies, teaching comparative analysis varied from a negative effect of 20 percentile points to a positive effect of 40 percentile points.

That's a difference of 60 percentile points... or the difference between a student performing at the 30<sup>th</sup> percentile and the 90<sup>th</sup> percentile!



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**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

How can we ensure that we get the positive gains in student learning that the research suggests we should?



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**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

Just saying "I used the research-based practice called 'identifying similarities and differences'" isn't enough. In fact, we've probably all used comparison at some point in the classroom and been disappointed by the results.



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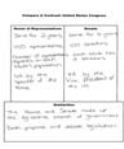
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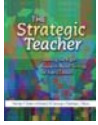
# Why Comparisons Fail and What We Can Do About It

## Activity Worksheet

Examples Mixed Up	Reasons/ Notes
<p>Example A:            “Use the two readings to help you develop a clear description of renewable and nonrenewable energy.”</p>	
<p>Examples B:            “After reading about the feud between Jefferson and Adams and comparing each man’s accomplishments, who had the greater impact on the early development of the United States?”</p> <p>“Are reptiles and amphibians more alike or different? Defend your position.”</p>	
<p>Example C:            “Now that we’ve compared problems that ask you to solve for rate with problems that ask you to solve for time, I want you to create and solve two new problems. One should require you to solve for rate, and one should require you to solve for time. Then, create a third problem that requires you to solve for distance.”</p>	
<p>Example D:            “As you describe Tutankhamen and Hatshepsut, focus in on what made each leader unique, the challenges each faced, what each accomplished, and what they were like as leaders.”</p>	
<p>Example E:            As you record key similarities and differences between the house and the senate use your top Hat Organizer to record to help you line up related differences side by side.</p> 	
<p>Example F:            “People sometimes confuse bacteria with viruses: Let’s compare them to make sure we’re clear about how they’re the same and how they’re different.”</p>	

# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## *The Strategic Teacher* gives you the “know-how”



- The steps for using each strategy effectively are carefully modeled and explained. (Tips and examples are also provided.)
- Steps are designed to maximize the strategy’s benefits and help teachers avoid common pitfalls.

Let’s use the *Compare & Contrast* strategy as an example...

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## Why Comparisons Fail and What We Can Do About It

### Reason 1:

- Most comparisons come as either end-of-chapter questions or test items. This emphasis on evaluation reinforces students’ concerns with finding the right answer, rather than discovering and analyzing.

### What We Can Do About It:

- Use Compare & Contrast as a learning strategy, and always provide students with a clear purpose for the lesson.

### Example:

- “People sometimes confuse bacteria with viruses: Let’s compare them to make sure we’re clear about how they’re the same and how they’re different.”

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## Why Comparisons Fail and What We Can Do About It

### Reason 2:

- Students rush into the comparison before getting to know what they’re comparing.

### What We Can Do About It:

- Before asking students to identify a single similarity or difference, we first ask them to describe each item separately. Students use rich sources of information to make their descriptions.

### Example:

- “Use the two readings to help you develop a clear description of renewable and nonrenewable energy.”

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Why Comparisons Fail and What We Can Do About It**

**Reason 3:**

- Students don't know what they're looking for. Any two objects can be compared from an infinite number of perspectives. What aspects are critical? How will students know when they're done?

**What We Can Do About It:**

- Provide or work with students to establish criteria for comparison, and keep students focused on the relevant information.

**Example:**

- "As you describe Tutankhamen and Hatshepsut, focus in on what made each leader unique, the challenges each faced, what each accomplished, and what they were like as leaders."

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**Why Comparisons Fail and What We Can Do About It**

**Reason 4:**

- Students don't have a way to visualize and line up parallel differences.

**What We Can Do About It:**

- Use a Top Hat (or similar organizer) rather than a Venn Diagram.

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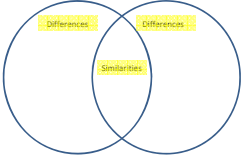
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**Why Comparisons Fail and What We Can Do About It**

**Examples:**



**Compare & Contrast: United States Congress**

House of Representatives	Senate
Serve for 2 years	serve for 6 years
435 representatives	100 senators
Number of representatives depends on each state's population	each state has 2 senators
led by the Speaker of the House	led by the Vice President of the US

**Similarities**

The House and Senate make up the legislative branch of government. Both propose and debate legislation.

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Why Comparisons Fail and What We Can Do About It**

**Reason 5:**

- We often treat comparisons as if identifying similarities and differences is the end of the process. This is why many students feel the process doesn't go anywhere.

**What We Can Do About It:**

- Use higher-order thinking questions to help students draw conclusions about what they've compared.

**Examples:**

- "After reading about the feud between Jefferson and Adams and comparing each man's accomplishments, who had the greater impact on the early development of the United States?"
- "Are reptiles and amphibians more alike or different? Defend your position."

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**Why Comparisons Fail and What We Can Do About It**

**Reason 6:**

- Students don't apply their learning.

**What We Can Do About It:**

- Provide a meaningful synthesis task that challenges students to transfer their learning to a new context or product.

**Example:**

- "Now that we've compared problems that ask you to solve for rate with problems that ask you to solve for time, I want you to create and solve two new problems. One should require you to solve for rate, and one should require you to solve for time. Then, create a third problem that requires you to solve for distance."

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 **Compare & Contrast**

**The Four Phases of a Successful Comparison**

- Description**  
Describe each item separately, using criteria to keep yourself focused.
- Comparison**  
Use a visual organizer to record the similarities and differences you discover.
- Conclusion**  
Discuss what you have learned from your comparisons.
- Application**  
Show how you can use what you have learned.

Source: Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning (A Strategic Teacher PLC Guide) by H. F. Silver, 2010, Alexandria, VA: ASCD. © 2010 Silver Strong & Associates.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**The Four Principles and Phases of Compare & Contrast**  
 (pages 12-14 in the *Compare & Contrast PLC Guide*)

- Principle One: Know the Purpose and the Content
- Principle Two: Thoughts Need Time . . . and a Shape
- Principle Three: And the Verdict Is . . .
- Principle Four: Put Learning to Work

- Phase One: Description
- Phase Two: Comparison
- Phase Three: Conclusion
- Phase Four: Application

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**The Four Phases of Compare & Contrast in Action**  
**Hands of Knowledge**

- What can we learn about a person by looking at his/her hands?

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**Our Hands...**  
 When we think about our humanity, we often think about our hearts and minds. But what about our hands? Human hands are unique and allow us to do some amazing things:

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**Description Phase**

Look at your hands. How would you describe their... →

- texture?
- complexion?
- size and length?
- bends and bruises?
- adornment?



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**Comparison Phase**

Find a partner. Use the criteria from the description phase to identify key similarities and differences. →

My Hands	My Partner's Hands
Similarities	

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Full page provided on next page

**Conclusion Phase**

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Are your hands more alike or different?  
Why do you think so?



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# Comparison Phase

Find a partner. Use the criteria from the description phase to identify key similarities and differences.




My Hands	My Partner's Hands
Similarities	



**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

### Application Phase



What can we learn about a person from his or her hands?

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### A Potpourri of Classroom Comparisons

As you examine the samples of student work, ask yourself, What skills are students demonstrating in this work?



(pages 8-10 in the *Compare & Contrast* PLC Guide)

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### Compare & Contrast in the Classroom

**Description Phase**  
A 2<sup>nd</sup> grader analyzes the structure of two fables.



Source: *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

"The Tortoise and the Hare"	Criteria	"The Tortoise and the Antelope"
A tortoise A hare	Characters	A tortoise Antelope
Because the hare makes fun of the tortoise	Why they decide to race	Because they argue who can go faster
The hare goes to sleep by accident	How the tortoise wins	The tortoise and some friends trick the antelope
"slow and steady wins the race"	Lesson	"Team work works"

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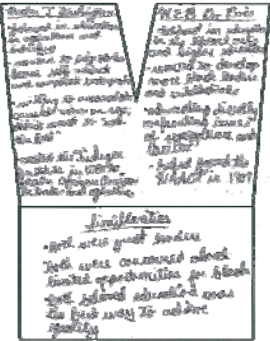
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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Compare & Contrast in the Classroom**

**Comparison Phase**  
A middle school student compares the educational philosophies of Booker T. Washington and W.E.B. Du Bois on a Y Organizer.



**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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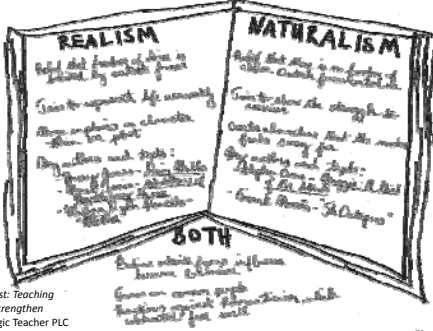
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**Compare & Contrast in the Classroom**

**Comparison Phase** A high school student compares two literary movements: Naturalism and Realism.



**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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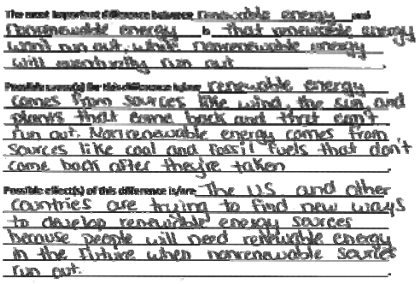
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**Compare & Contrast in the Classroom**

**Conclusion Phase**  
A 5<sup>th</sup> grader draws conclusions about renewable and nonrenewable energy.



**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Compare & Contrast in the Classroom**

**Application Phase**  
A 2<sup>nd</sup> grader creates a Flip Strip to show how frogs and toads differ.

**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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**Compare & Contrast in the Classroom**

**Application Phase**  
A 2<sup>nd</sup> grader writes a simple comparison essay on spheres and prisms.

**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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**Compare & Contrast in the Classroom**

**Application Phase**  
A high school student compares linear and quadratic equations in a creative way.

**Source:** *Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning* (A Strategic Teacher PLC Guide) pages 8-10

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Compare & Contrast in the Classroom**

**Application Phase** A high school student compares linear and quadratic equations in a creative way.

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**The Strategy in Action**

**The Content:**  
**Two Readings,  
Two Households**

(page 16 in the *Compare & Contrast PLC Guide*)

**A 17th Century Father Talks to His Daughter**

Recognizing that I, like all men, will one day perish, I invited my daughter, little Katy, into my study. I told my child that I am to die shortly, and she must, when I am dead, remember everything I said unto her. I set before her the sinful and woeful condition of her nature, and I charged her to pray in secret places every day without ceasing that God for the sake of Jesus Christ would give her a new heart. I wished her to live happily under God and abide by the laws governing her existence here. I gave her to understand that when I am taken from her she must look to meet with more humbling afflictions than she does now [when] she has a careful and tender father to provide for her.

**"Father is Coming" (19th Century Song)**

The clock is on the stroke of six;  
The father's work is done;  
Sleep up the hearth and mend the fire,  
And put the kettle on.  
The wild night wind is blowing cold,  
'Tis dreary crossing o'er the world.

He is crossing o'er the world again,  
He is stronger than the storm,  
His day not that of the cold, not he,  
His heart it is so warm;  
For father's heart is stout and true  
As our human hearts true ...

May, do not close the shutters, child,  
For along the lane  
The little window looks, and he  
Can see it shining plain;  
I've heard him say he loves to mark  
The cheerful firelight through the dark.

Hark! hark! I hear his footsteps now,  
He's through the garden gate,  
Run, little lass, and open the door,  
And do not let him wait;  
Shout, baby, shout! and clap thy hands,  
For father on the threshold stands.

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**Phase One: Description**

17 <sup>th</sup> -Century Family	Criteria	19 <sup>th</sup> -Century Family
moral guidance, teacher, spiritual leader, provider	<b>Father's Role</b>	worker, provider, care for family, be strong
to be obedient, affectionate, and pray every day	<b>Daughter's Role</b>	greet her father, take care of chores
strict, formal, religious, lawful	<b>Nature of the Home</b>	warm, friendly, safe, loving
filled with evil	<b>Nature of the World</b>	stormy, dreary, cold, dark

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Phase Two: Comparison**

17 <sup>th</sup> -Century Family	19 <sup>th</sup> -Century Family
<ul style="list-style-type: none"> <li>•Focused on God and religion</li> <li>•Home is very strict and religious</li> <li>•Father is watchful, always present</li> <li>•Daughter is naturally sinful, needs to pray and obey her father</li> </ul>	<ul style="list-style-type: none"> <li>•Focused on providing for and protecting family</li> <li>•Home is very warm and inviting</li> <li>•Father must travel to work and provide for family</li> <li>•Daughter has responsibilities around the home</li> </ul>
<p><b>Similarities</b></p> <ul style="list-style-type: none"> <li>•Father is head of the household</li> <li>•Home is a safe place</li> <li>•The outside world is a threatening place</li> <li>•The daughter is obedient to her father</li> </ul>	

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**Phase Three: Conclusion**

- Are the two homes more alike or different? Explain your response.  

*More different. The 19<sup>th</sup> century family seems to have a loving relationship. There is singing and excitement. The 17<sup>th</sup> century family is focused mostly on God and sin.*
- What do you suspect to be some of the causes for the differences between the homes?  

*In the 17<sup>th</sup> century, America was more Puritanical. Life was focused on following the rules of religion. This made the home a strict place where fun was considered sinful. In the 19<sup>th</sup> century, the father works away from the home. After a hard day of work, the family looks forward to spending time together.*
- Based on these documents, what can you conclude about the traits of 17<sup>th</sup>-century and 19<sup>th</sup>-century fathers?  

*17<sup>th</sup> century: disciplined, religious, keeps family focused on prayer, shows love by being honest, provider.  
 19<sup>th</sup> century: hard worker and provider, enjoys being with family, strong, caring, loving, determined.*

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**Phase Four: Application**

“You have seen how specific time periods affect the notion of family and the roles of fathers and daughters. Now you will be asked to synthesize what you have learned in this lesson in a writing task. Think about today’s society. How does our time and culture affect the role that fathers play in our families?”

**Write a want ad for the “21st-Century Father.” Make sure you include information that relates to the criteria we examined in our descriptions and comparisons.**

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Phase Four: Application**

**Worksheet**

**A 21st Century Father Who Can Wear Many Hats, including:**

<p><b>The "Money Hat"</b></p> <p><b>Responsibilities include:</b> Finding wisdom, not getting taking them out to someone else, listening, "talking them."</p> 	<p><b>Goal:</b> You'll be heard right back.</p> 
<p><b>The "Time Hat"</b></p> <p><b>Responsibilities include:</b> Taking family to football games in summer, going about doing for winter, being gentle, dancing.</p> 	<p><b>Goal:</b> What good is Mr. E you don't have any that family and you because someone else has that hat a minute.</p> 
<p><b>The "Mindpower Hat"</b></p> <p><b>Responsibilities include:</b> Taking care of the house and yard. Need to be more expensive, handmade, plucking, and electrical work.</p> 	<p><b>Goal:</b> You'll get to know really and out of them, including power tools.</p>

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**Personal Reflections on the Lesson...**

1. How did the strategy help Joanne to achieve her goals?
2. How did the phases of the strategy support the principles of the strategy?
3. How is the Compare & Contrast strategy similar to what you already do with your students when you want them to engage in comparison? How is it different?

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**Compare & Contrast Topics**

In this PLC Guide you'll find over 100 ideas for Compare & Contrast lessons across content areas and grade levels.

Think of your own classroom. How many topics can you think of that will lend themselves to the Compare & Contrast strategy? Record your ideas on page 27 of the *Compare & Contrast* PLC Guide.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Compare & Contrast Topics**

**English/Language Arts**

Noun–Verb	Blank Verse–Free Verse
Prefix–Suffix	R. Frost’s “Design”–L. Hughes’s “Harlem”
Myth–Fairy Tale	Hamlet–Holden Caulfield
Sentence–Paragraph	Naturalism–Realism
Comedy–Drama	Winnie the Pooh–Piglet
Novel–Short Story	Macbeth–Othello
Present Tense–Past Tense	Irregular Verb–Regular Verb
Semicolon–Colon	Dependent Clause–Independent Clause
Emerson–Thoreau	

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**Compare & Contrast Topics**

**Science**

Frog–Toad	Renewable Energy–Nonrenewable Energy
Life Cycle–Seasons	Amphibian–Reptile
Summer–Winter	Vertebrate–Invertebrate
Heart–Lungs	Deciduous–Conifer
Metal–Wood	Bacteria–Virus
Compass–Clock	Comet–Asteroid
Star–Planet	Jurassic–Mesozoic
Phenotype–Genotype	Mitosis–Meiosis
Earth–Mars	Fission–Fusion
Galileo–Edison	Chemical Change–Physical Change
Volcano–Earthquake	Newton–Einstein
Plant Cell–Animal Cell	Gamma Radiation–Radio Waves
Acid–Base	Kinetic Energy–Potential Energy

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**Compare & Contrast Topics**

**Social Studies/Geography**

Atlantic–Pacific	Constitution–Magna Carta
Mississippi–Nile	World War I–World War II
Sparta–Athens	Malcolm X–Martin Luther King, Jr.
Latitude–Longitude	American Revolution–French Revolution
Desert–Jungle	Western Feudalism–Japanese Feudalism
Maya–Aztec	Teddy Roosevelt–Franklin D. Roosevelt
Whigs–Tories	Spice Road–Northwest Passage
Algonquin–Iroquois	Colosseum–Parthenon
House–Senate	Great Wall of China–Pyramids at Giza
Knight–Samurai	Napoleon–Alexander the Great
Rockies–Andes	Revolutionary War–Civil War
Byzantine–Roman	Constitution–Articles of Confederation
Marco Polo–Columbus	Imperialism–Isolationism
Jefferson–Adams	Capitalism–Communism

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Compare & Contrast Topics**

**Mathematics**

Addition–Subtraction	Decimal–Whole Number
Multiplication–Division	Area–Perimeter
Even Numbers–Odd Numbers	Simple Integer–Complex Integer
Analog Clock–Digital Watch	Volume–Area
Circle–Square	Rational Number–Irrational Number
Cone–Cube	Solving for $t$ –Solving for $d$
Fractions–Decimals	Linear Equation–Quadratic Equation
Trapezoid–Parallelogram	Logs–Exponents
Numerator–Denominator	Leibniz–Newton
Sine–Cosine	Bell Curve–Dumbbell
	Arabic Numerals–Roman Numerals




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**Compare & Contrast Topics**

**Fine Arts**

Clarinet–Trumpet	Van Gogh–Picasso
Sculpture–Painting	Baroque–Neoclassical
Major–Minor Scale	Beethoven–Mozart
Orchestra–Ensemble	Beatles–Elvis Presley
Impressionism–Cubism	Sonata–Symphony
	Digital Photography–Film Photography
	Video Editing–Copyediting




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**Compare & Contrast Topics**

**Career & Technical Education**

Marketing–Advertising	Low-Voltage Wiring–High-Voltage Wiring
Disc Brakes–Drum Brakes	Registered Nurse–Nurse Practitioner
Poaching–Boiling	“Hard” Skills–“Soft” Skills
Julienne–Chiffonade	MRI–X-Ray
Closed Circuit–Open Circuit	Gasoline Engine–Diesel Engine




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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Compare & Contrast Topics**

**Miscellaneous**

Survey–Poll	Architect–Engineer
Jung–Freud	Editorial–Article
Norms–Mores	Mac–PC
Isometrics–Weight Training	Linux–Windows
Recession–Depression	HTML–Java Script
Money Market–CD	Tennis–Badminton
Keynes–Smith	<i>Ser–Estar</i>
Bridge–Tunnel	Day of the Dead–Halloween




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**Why Similarities and Differences Matter**

**Because:**

*Similarities cement connections, while differences make distinctions obvious.*


*Comparisons make the invisible visible, the confusable clear, and the neglectable unavoidable.*

*Two ideas linked by similarities and differences last longer than two ideas standing alone.*

*Comparisons deepen understanding and put knowledge to use.*

*Because similarities and differences, when used well, is the practice that produces the greatest gains in student learning*

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**We Can Also Use Compare & Contrast to Improve Student Writing**

**Drafting** Name \_\_\_\_\_ Date \_\_\_\_\_

**Comparing and Contrasting**

I am comparing and contrasting \_\_\_\_\_.

Introductory sentence: \_\_\_\_\_.

Although \_\_\_\_\_ and \_\_\_\_\_ are different, they are alike in some ways. For example, \_\_\_\_\_ and \_\_\_\_\_ are both \_\_\_\_\_, but there are also some interesting differences between them. For example, \_\_\_\_\_.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Using Compare & Contrast to Improve Student Writing**

But	On the other hand	Neither . . . nor
Different from	However	Although
More than	Nonetheless	In contrast to
Less than	Not only . . . but also	Compared to
Have in common	Yet	While
Alike	Either ... or	Similar to

 (page 47 in the *Compare & Contrast* PLC Guide)

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
**Using Compare & Contrast to Improve Student Writing**

I am comparing and contrasting \_\_\_\_\_ and \_\_\_\_\_.

Although \_\_\_\_\_ and \_\_\_\_\_ are different, they are alike in some ways. For example, \_\_\_\_\_ and \_\_\_\_\_ are both \_\_\_\_\_. There are also some interesting differences between \_\_\_\_\_ and \_\_\_\_\_.

For example, \_\_\_\_\_.

[Concluding sentence] \_\_\_\_\_.

 (page 47 in the *Compare & Contrast* PLC Guide)

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**Compare & Contrast  
"Bats and Birds" Sample (4<sup>th</sup> Grade)**

**How Are Birds and Bats Similar and Different? By Ella**

I used to think bats and birds were the **same**. Now I know they are **different**. Birds are birds and bats are mammals. **Although** bats and birds are **different** kinds of animals, they are **alike** in some ways. For example, **both** are vertebrates, which means they **both** have backbones. **Both** birds and bats have wings for flying, and they are both warm blooded. Bats and birds also have some interesting **differences** between them. For example, birds lay eggs **while** bats give birth to live babies. Bats are covered with fur, **while** birds have feathers. Bats are nocturnal, which means they come out at night. **On the other hand**, birds sleep at night and come out during the day. **Although** both bats and birds eat some of the same things, bats eat blood and birds don't. Another interesting **difference** between bats and birds is that birds sleep with their heads up, **while** bats hang upside down. How would you like to eat blood and sleep during the day upside down?

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

What would be the impact on student learning if all of the teachers in your school or district used the Compare & Contrast strategy with their students over time?

It is the regular use of a strategy over time and in a variety of content areas that produces the greatest gains in student achievement.



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**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

But the greatest benefit and power we can get from a strategy comes when students internalize the strategy and use it on their own.

That's how you get the percentile gains that the research suggests.



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**Reflection and Synthesizing**

- How is the Compare & Contrast strategy similar to what you already do in the classroom?
- How does it differ from your classroom practice?
- What effect would paying more attention to the critical differences have on student learning?



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

Let's look at another instructional practice, the lecture, and how it differs from a strategic lecture, which we call ***The Interactive Lecture***.



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In his new book *FOCUS*, Mike Schmoker (2011) makes the case for *The Interactive Lecture*:



- Deliberate, interactive teaching can account for “400% speed of learning differences,” which can be the equivalent of six months of learning growth every year. William (2007)
- This form of teaching “dramatically increases students’ understanding of new information across content areas and at every grade level.” Marzano (2009)
- In sum, interactive lecture can be a “marvel of efficiency” (Silver et al., 2007, p. 26). It can promote learning for all like few other lessons in our repertoire. Variations on it could constitute a sizeable proportion of the curriculum—with enormous leverage for improvement. Moreover, it can be effective regardless of the personality of the teacher (Mazur, 1997). Therefore, its mastery and the continuous refinement of its execution should be among the team’s and school’s highest priorities.

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Think of some lectures you have either delivered or attended.  
Think about both the good and the bad.

**What are the assets of using the lecture as a teaching strategy? What are the liabilities? Discuss your ideas with your neighbor.**

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**What's the Difference Between a Research-Based Practice and a Strategy for Delivering the Practice?**

**"If keeping someone's interest in a lecture were a business, it would have an 80 percent failure rate."**

—J. Medina (2008)  
*Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*

Why are so many lectures ineffective? What can we do to improve the quality of our lectures so that they are engaging, memorable, and lead to deeper understanding of the content? Generate four ideas for making traditional lectures more effective.

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**How can we increase the effectiveness of the lecture?**

The Interactive Lecture is built on four principles, known as Memory's CODE.

**The Four Keys to Memory's CODE**

- Connect**  
Use your teacher's opening questions (the hook) to make connections between what you know and the topic of the lecture.
- Organize**  
Use a visual organizer to take notes on main ideas and details.
- Dual-Code**  
Make your memories come alive by using your imagination to see, hear, touch, and feel the content of the lecture.
- Exercise & Elaborate**  
Put your new knowledge to work by using your notes to answer your teacher's review questions and by pulling your ideas together in a synthesis or application task.

Source: *The Interactive Lecture: How to Engage Students, Build Memory, and Deepen Comprehension*. (A Strategic Teacher PLC Guide) by H.F. Silver and M. J. Perini, 2010, Alexandria, VA: ASCD. © 2010 Silver Strong & Associates.

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**Principle 1:**  
**The stronger the connection, the stronger the memory.**

We need an engaging hook to capture and hold students' attention and to "anchor" or connect new knowledge to prior knowledge.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***



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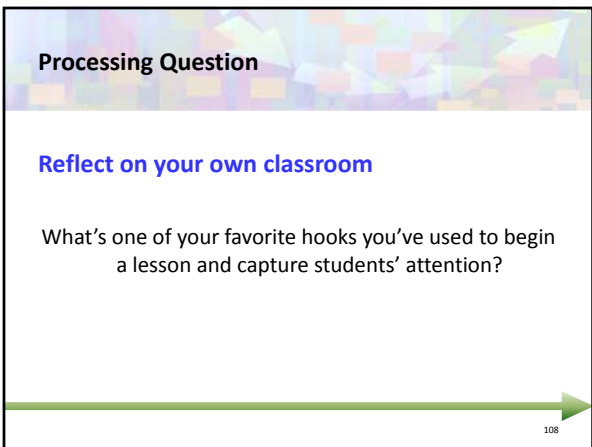
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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Principle 2:**  
The clearer the organization, the stronger the memory.



**How is the mind like a messy closet?**

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A little planning goes a long way.

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**What are the parts of the U.S. Constitution?**

PREAMBLE	ARTICLES	AMENDMENTS
<p>We the people of the United States in order to form a more perfect Union...</p> <p>Function of government defined:</p> <ul style="list-style-type: none"> <li>• establish justice</li> <li>• insure domestic tranquility</li> <li>• provide for the common defense</li> <li>• promote the general welfare</li> <li>• secure the blessings of liberty to ourselves and our posterity</li> </ul>	<p>Article I: Legislative Powers</p> <p>Article II: Executive Powers</p> <p>Article III: Judicial Powers</p> <p>Article IV: States' Powers &amp; Limits</p> <p>Article V: Amendment Process</p> <p>Article VI: Constitutional Supremacy</p> <p>Article VII: Ratification</p>	<p>I-X Bill of Rights</p> <p>XIII Abolition of slavery</p> <p>XV Right to vote cannot be denied because of race</p> <p>XIX Women's right to vote</p> <p>27 Amendments</p>

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**Let's See ORGANIZE in Action**



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**Processing Question**

**Compare & Contrast**  
Can you identify at least two similarities and differences for Phase One and Phase Two of The Interactive Lecture?

<b>Phase One: Connect</b>	<b>Phase Two: Organize</b>
<b>Similarities</b>	



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Full page provided on next page

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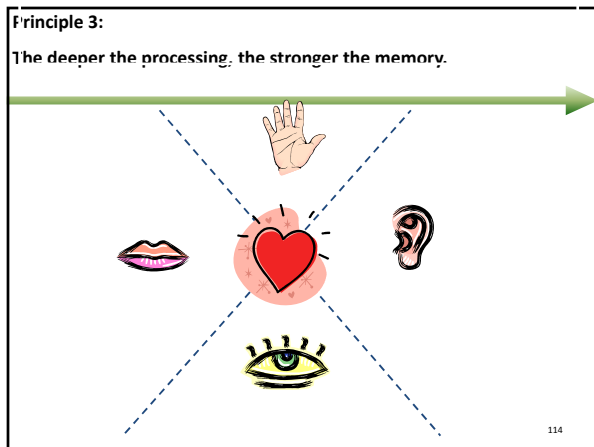
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**Principle 3:**  
The deeper the processing, the stronger the memory.



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# Processing Question

## Compare & Contrast


Can you identify at least two similarities and differences for Phase One and Phase Two of The Interactive Lecture?


Phase One: Connect	Phase Two: Organize
Similarities	


**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

Think of a memory you have from high school...

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 • How many of you created a picture of your memory?

 • How many of you experienced some physical sensation when retrieving your memory?

 • How many of you were able to get in touch with some feelings associated with your memory?

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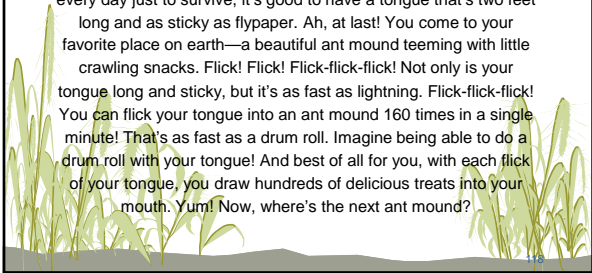
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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**The Giant Anteater weighs over 100 pounds. It feeds mainly on insects and termites, which it catches by flicking its long, sticky tongue into ant mounds.**

OR

So how does the Giant Anteater actually eat ants? If you weigh over 100 pounds you need to eat over 20,000 ants and termites every day just to survive, it's good to have a tongue that's two feet long and as sticky as flypaper. Ah, at last! You come to your favorite place on earth—a beautiful ant mound teeming with little crawling snacks. Flick! Flick! Flick-flick-flick! Not only is your tongue long and sticky, but it's as fast as lightning. Flick-flick-flick! You can flick your tongue into an ant mound 160 times in a single minute! That's as fast as a drum roll. Imagine being able to do a drum roll with your tongue! And best of all for you, with each flick of your tongue, you draw hundreds of delicious treats into your mouth. Yum! Now, where's the next ant mound?



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**Let's See DUAL-CODE in Action**

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**Processing Question**

List five ways teachers can help students dual-code key information from a lecture.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Principle 4:**  
Memories are like muscles: they develop with exercise.



The illustration shows a person in athletic wear carrying a large brain on their back like a heavy weight while running. To the left is a red octagonal 'STOP' sign. To the right is a black square with a white question mark. Below the runner is a circular diagram with arrows and numbers 3 and 5. At the bottom right is a profile of a head with gears inside. A green arrow points from the text to the right.

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**Let's See EXERCISE in Action**



A green arrow points from the text to the right. Below it is a small green rectangle containing a video camera icon, representing a video player. The number 122 is in the bottom right corner.

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**Processing Question**

How is a good lecture like an exercise routine?



A green arrow points from the text to the right.

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## In this mini-lecture we've posed four processing questions:

- What's one of your favorite hooks you've used to begin a lesson and capture students' attention?
- Can you identify at least two similarities and differences for Phase One and Phase Two of The Interactive Lecture?
- List five ways teachers can help students dual-code key information from a lecture.
- How is a good lecture like an exercise routine?
- An *Interpersonal* question that focused on personal experiences.
- An *Understanding* question that required (comparative) analysis.
- A *Mastery* question that highlighted remembering and providing specific examples.
- A *Self-Expressive* question that asked you to think creatively.

What do you notice about these questions?  
What kind of thinking did each question demand?

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**Mastery questions** focus on remembering key content and skills.  
Mastery questions might ask you to

- Recall.
- Describe.
- Sequence.
- Provide examples.
- Summarize.

When responding to a Mastery question, ask yourself

- Is my answer accurate?
- Can my answer be verified?
- Have I captured the key points and important details?

**Interpersonal questions** help you make personal connections to the content.  
Interpersonal questions might ask you to

- Describe feelings and reactions.
- Emphasize.
- Value and prioritize.
- Reflect.
- Make or evaluate decisions.

When responding to an Interpersonal question, ask yourself

- How can I use my own experiences to better understand the question?
- Does my response reflect my personal feelings?
- How can I "connect the dots" between my own values and the content?

**Understanding questions** focus on concepts, big ideas, and generalizations.  
Understanding questions might ask you to

- Compare and contrast.
- Prove.
- Explain.
- Classify.
- Infer or interpret.

When responding to an Understanding question, ask yourself

- Is my reasoning clear?
- Is my response supported by evidence?
- Is my analysis insightful?

**Self-Expressive questions** stimulate the imagination.  
Self-Expressive questions might ask you to

- Associate.
- Think divergently.
- Develop similes or metaphors.
- Predict or hypothesize.
- Create or imagine.

When responding to a Self-Expressive question, ask yourself

- Is there another perspective or "angle" I can take on the question?
- Is my response creative or original?
- How can I make my response more intriguing to others?

(page 54 of *The Interactive Lecture PLC Guide*)

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## Four Principles to Phases of The Interactive Lecture

1. The stronger the connection, the stronger the memory.	<b>Connect</b> Create a hook. Kindle the hook by having students write a response and talk about it. Create a bridge to link prior learning to new learning.
2. The clearer the organization, the stronger the memory.	<b>Organize</b> Design a visual organizer that provides students with the structure of the lecture and present the information in chunks.
3. The deeper the processing, the stronger the memory.	<b>Dual-Code</b> Use multi-sensory tools and strategies to make the memories come alive through multiple senses.
4. Memories are like muscles: they develop with exercise.	<b>Exercise &amp; Elaborate</b> Pose questions or short tasks after each chunk that ask students to process information. Apply learning through synthesis tasks that encourage students to transfer their new learning.

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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Processing Question**

Create a mind map that represents your understanding of Memory's CODE and the four phases of The Interactive Lecture.



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**Reflecting and Synthesizing**

- Which principle from Memory's CODE do you apply most regularly in the classroom?
- Which principle do you need to pay more attention to?



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**How Can We Help Teachers Become Experts in Using Research-Based Strategies?**



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## How Can We Help Teachers Become Experts in Using Research-Based Strategies?

**Uh-oh! Remember this?**

But a recent analysis of teacher effectiveness shows that simply using research-based practices in the classroom does not ensure that students' learning will increase.



Source: Schoaling, Tott, & Marzano (2010). "Creating an Aligned System to Develop Great Teachers Within the Federal Race to the Top Initiative."

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## How Can We Help Teachers Become Experts in Using Research-Based Strategies?

**So, what's going on?**

Strategies on their own do not guarantee improved student achievement.

Here are four reasons why:

1. Teachers may not know how to select strategies that match their instructional purposes.
2. Teachers may not have the expertise needed to use the strategy effectively.
3. The school may not have a high-quality framework and common language for evaluating and improving classroom instruction.
4. School leaders may not have the tools and protocols they need to enhance teacher effectiveness.

In response, we've developed three resources to address these challenges.

*How can we respond?*

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**Reason 1: Teachers may not know how to select strategies that match their instructional purposes.**

**Response: The Strategic Dashboard**



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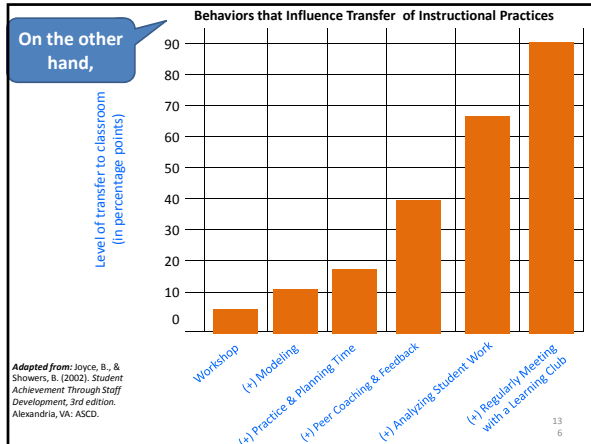
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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*




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Take a few minutes to walk through the *Compare & Contrast PLC Guide*.

How does it address the research findings of Joyce and Showers?

- Provide a workshop learning experience?
- Model a strategy?
- Provide opportunities for practice and planning?
- Increase teachers' capacity to coach one another?
- Facilitate the analysis of student work?
- Enhance meaningful collaboration through regular meetings?

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**Reason 2:** *Teachers may not have the expertise needed to use the strategy effectively.*  
**Response:** Strategic Teacher PLC Guides

We designed the PLC Guides to encourage the behaviors that help teachers transfer their learning to the classroom.

**PLC Guides are made up of four sections:**

- Section 1 is a tutorial on the strategy. It encourages teachers to **reflect on their current practices** and **analyze and discuss model lessons**.
- Section 2 focuses on planning and encourages **collaborative analysis of lesson designs** and the **development of a "critical friend"** for planning and refining lessons.
- In Section 3, teachers **reflect on how their lesson worked in the classroom** and **provide each other with feedback** on how future lessons can be improved.
- In Section 4, teachers **analyze student work collaboratively** and **use that work to make further instructional decisions**.

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

Each **PLC Guide** also includes:

A **poster** that teachers can use to present and explain the strategy to their students

“The greatest sign of success for a teacher... is to be able to say, ‘The children are now working as if I did not exist.’”  
—Maria Montessori



Source: Compare & Contrast: Teaching Comparative Thinking to Strengthen Student Learning (A Strategic Teacher PLC Guide).

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**Reason 2:** Teachers may not have the expertise needed to use the strategy effectively.  
**Response:** Strategic Teacher PLC Guides

**PLC Guides are meant to be used by learning clubs.**  
**The members of successful learning clubs...**

- C**oncentrate on instructional techniques proven to make a difference.
- L**earn new strategies interdependently.
- U**se new strategies in their classrooms.
- B**ring student work back to their learning clubs.
- S**elf-assess throughout the process.

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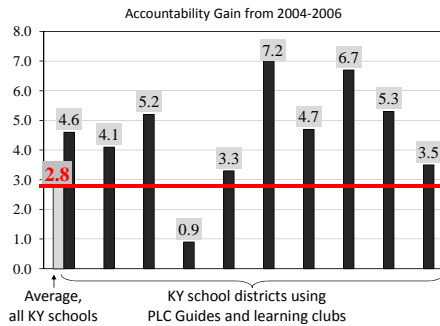
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**Reason 2:** Teachers may not have the expertise needed to use the strategy effectively.  
**Response:** Strategic Teacher PLC Guides

**PLC Guides and learning clubs' impact on the performance of ten school districts in Kentucky:**



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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***

**Reason 3:** *The school may not have a high-quality framework and common language for evaluating and improving classroom instruction.*

**Response:** Framework for Enhancing Teacher Effectiveness

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**WHY DO WE NEED A COMMON LANGUAGE?**



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**Reason 3:** *The school may not have a high-quality framework and common language for evaluating and improving classroom instruction.*

**Response:** Framework for Enhancing Teacher Effectiveness

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Our common language needs to recognize that...

**TEACHING IS BOTH UNIVERSAL AND EPISODIC**



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<b>Framework for Enhancing Teacher Effectiveness</b>		
<p><b>Organization, Rules, and Procedures</b></p> <p>How do you organize your classroom to enhance learning and establish rules and procedures that clarify expectations?</p>	<p><b>Preparing Students for New Learning</b></p> <p>How do you establish your purpose, activate students' prior knowledge, and prepare them for learning?</p>	<p><b>Positive Relationships</b></p> <p>How do you build deep and meaningful relationships with your students and among students?</p>
<p><b>Deepening Learning</b></p> <p>How do you help students solidify their understanding and practice new skills?</p>	<p><b>Presenting New Learning</b></p> <p>How do you present new information and provide opportunities for students to actively engage with content?</p>	<p><b>Helping Students Reflect on and Celebrate Learning</b></p> <p>How do you help students look back on their learning and refine their learning process?</p>
<p><b>A Culture of Thinking and Learning</b></p> <p>How do you develop a classroom culture that promotes serious learning and sophisticated forms of thinking?</p>	<p><b>Applying Learning</b></p> <p>How do students demonstrate their learning and what kinds of evidence do you collect to assess their progress?</p>	<p><b>Engagement and Enjoyment</b></p> <p>How do you motivate students to do their best work and inspire the love of learning?</p>

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**Reason 4:** *School leaders may not have the tools and protocols they need to enhance teacher effectiveness.*  
**Response:** CRAFT of Leadership

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**How can we build a culture focused on improvement and shared responsibility for learning?**



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**By mastering our CRAFT**



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**In order to meet the challenge of improving teacher effectiveness, schools need to practice and master their CRAFT by increasing their capacity to...**

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-  **C** OLLABORATE, or work as PLCs to improve teaching and learning.
-  **R** EFLECT, or look at teaching and learning with "two eyes."
-  **A** DAPT, or develop, implement, and refine professional learning plans.
-  **F** OCUS on "best bets" or practices proven to raise student achievement.
-  Develop a **T** HOUGHTFUL process for improving professional practice across the organization.



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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

**COLLABORATE**, or work as PLCs to improve teaching and learning



One tool for increasing collaboration is a learning club.

Let's see a learning club in action.



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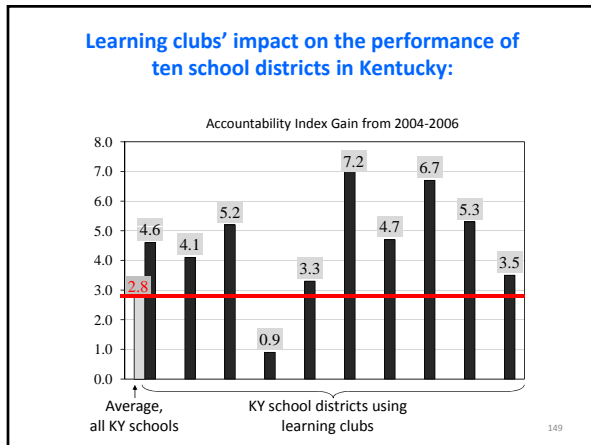
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**REFLECT**, or look at teaching and learning with "two eyes"



**Data collection tools for administrators, teachers, and peers**

5x10s	A tool for gathering a wealth of data about classroom instruction quickly and regularly. An administrator visits five classrooms for ten minutes.
Learning Walk	Teachers are invited to walk around the building to collect data about how a particular
Artifact Day	Teachers collect and display at least five "artifacts" from the classroom that demonstrate how they are using research-based strategies and what student work looks like as a result.
Talking Walls	A technique for learning what the school's walls reveal about teaching and learning priorities.
SWEEPS	A data-collection technique for identifying the types of activities and tasks teachers are assigning and for determining the quality of student learning that results.
Student Work Study	A collaborative process for analyzing high, average, and low samples of student work and using the findings to make instructional decisions.
Artifact Day	Teachers collect and display at least five "artifacts" from the classroom that demonstrate how they are using research-based strategies and what student work looks like as a result.

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# Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher*

## 5x10s



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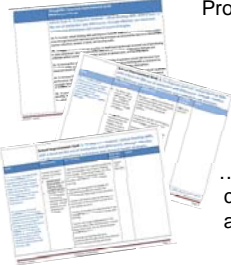
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**ADAPT**, or develop, implement, and refine professional learning plans 

Professional learning plans at all levels

- District
- Building
- Administrators
- Teachers

...all aligned and all focused on common goals for improving student achievement



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**FOCUS** on “best bets” or practices proven to raise student achievement 

### Strategic Teacher PLC Guides



These guides were designed in collaboration with over 75 schools to help teachers move from entry-level users to experts and avoid the common “pitfalls” and mistakes that novice users make.

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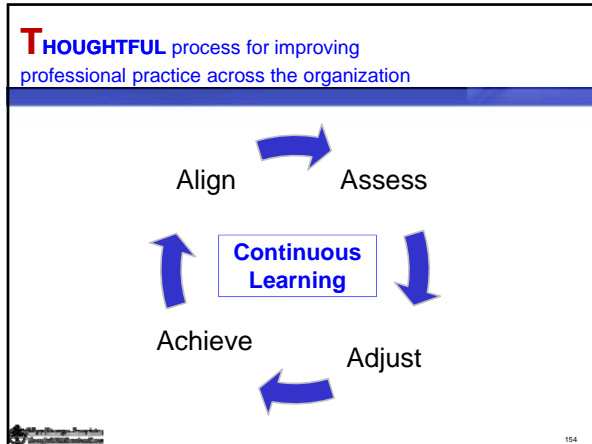
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**Increasing the Power of Student Thinking and Professional Learning with *The Strategic Teacher***



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Let's return to the question we started with...

**Why now, more than ever, is the time right to focus on teacher effectiveness?**

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"If the only tool you have is a hammer, you tend to see every problem as a nail."  
—Abraham Maslow

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