Super3 Action Research Report

Blending Super3 With Math and Writing: One Teacher's Quest for Learning (Grade 3), eNewsletter 10.4, 1

Guiding Question:
How does a teacher incorporate the Super3 into the instructional process throughout a third grade curriculum?

Background

In my 20+ years of teaching, I have observed that teaching children skills and concepts is ineffective if they do not know how to process and apply the information. I have noticed that the students who approach their learning with a systematic process are more successful.

As a teacher in the 21st century, I am aware of an increased need to integrate problem solving strategies into my students' learning. In this Age of Technology, young people are inundated with information, but do not always have the skills to make it useful.

At the same time, I am required to teach a full curriculum of concepts and skills to my students in the areas of reading, writing, math, social studies and science. I often wonder how I could better integrate problem solving strategies into my instruction in a way that was effective and yet did not add more to the existing volume of instruction. That is, I want my students to continue to learn the guaranteed and viable curriculum while also gaining the process skills embedded in information literacy.

Last year, when my current students were in second grade, the LMS and I taught them the *Super3* while doing a research project. The students were to explain and to show in their work each stage of "Plan, Do, Review." Now these same students are third graders who can tell me that intelligent people "Plan, Do, Review."

This leads me to ask: How could I deliberately introduce the process of "Plan, Do, Review" into my instruction every day?

Previous Studies

Information literacy standards are well documented at national, state and local levels. Although the standards vary, they all lean toward the need for students to have a systematic process for problem solving.

In one study at Wayne Central High School in 1997-1998, a social studies teacher embarked on an action research project in hopes of raising his students' scores on the New York State Regents Exam in American History. This teacher decided to use the Big6 as a framework for teaching the course content. The approach

was "information-centered" based on the Big6 model of information problem solving. The Big6 served as the basis for analyzing the course curriculum and for the students' activities and strategies. With this approach, his students showed dramatic improvement on the American History Regents Exam. (*The Big6 Collection: The Best of the Big6 Newsletter*
(2000). p.126-128.) .

Another study examined the effect of Big6 on a class of eighth-grade students who were assigned to research and write about events surrounding the African-American Civil Rights movement. This study showed the value of concise models that illustrate the full problem-solving process in order for young "researchers" to more fully grasp the extent of the task facing them. (Wolf, S., 2003)

Linda Jarvin, Ph.D., Associate Director, PACE Center, Yale University, says,

"Data collected from thousands of students showed that students who were taught informative nonfiction using the Big6 approach with a combination of analytical, creative, and practical activities, outperformed students who were taught two alternative approaches. (www.yale.edu/pace)

Finally, *Mike Eisenberg and Bob Berkowitz (1999, p.22) use a table to outline how each Big6 stage can be used in school, work and life:*

Big6 Information Problem-Solving Process	School Context: Completing an assignment for class	Life Context: Deciding which movie to attend on Saturday night	Work Context: Reporting on five years product sales
Task Definition	Finding out that the task involves writing a two-part essay and realizing that a key to success is using documented supporting evidence.	Figuring out that it will be necessary to attend a 7:00-7:30 p.m. showing in order to get the babysitter home on time.	Producing a readable chart representing sales figures by product and salesperson. Determining that reliable sales data by department will be needed.
Information Seeking Strategies	Considering all potential information sources and deciding that current journals and newspapers would be best.	Deciding to look at the entertainment section of the newspaper to determine the showing times of movies.	Determining that there are two places where sales figures are kept: on paper an on computer disks. Deciding to use the computer version.
Location & Access	Using an online index to search for appropriate periodical articles. Finding the articles online and in print.	Locating the newspaper upstairs next to the bed. Using the "Quick Guide" on the first page to locate the entertainment section.	Finding disks with the sales data and identifying the relevant files.
Use of Information	Reading the articles and typing notes directly into a word processing program, noting the sources.	Reading the movie ads and focusing on times and locations.	Examining the various files, cutting and pasting the data by relevant categories and years.
Synthesis	Using a word processor, creating an outline, then a draft of the essay.	Determining that there is only one movie playing at the time that you both want to see.	Using an electronic spreadsheet program to combine the various sales data and generating a chart from the spreadsheet.
Evaluation	Realizing that your details are weak on one of the two parts and that you need to	Realizing that the newspaper was a good source for the necessary information and	Being congratulated by your manager for a nice job; recognizing that the

	go back and find additional information.	that you successfully met your task.	spreadsheet software was more than adequate

The Plan

My students learned the Super3: "Plan, Do, Review" in second grade during a research project in conjunction with a nonfiction writing unit. This led me to decide to use these same words on a daily basis within the existing curriculum. The outline of my plan is as follows:

1. I will mark at least one place each day in my plans where I will deliberately use the words "Plan, Do, Review" as part of the instruction.
2. I will reflect on the students' responses and work following this instruction.
3. I will ask the students to write a reflective response about how they incorporated "Plan, Do, Review" into their work once a week.
4. I will reflect once a week on what I noticed as a result of the implementation of this instruction.

I began this practice in November, 2009, and continued for 7 weeks, ending the research data collection in January, 2010.

The Data

Every one to two weeks, I gathered information in four parts:

Part 1: Where I included "Plan, Do, Review" in a lesson

Part 2: What occurred as a result during the lesson and in the student work

Part 3: Students' reflections

Part 4: Teacher's reflection

<p align="center">Week One: Week November 16</p>

Part 1: Where I included "Plan, Do, Review" in a lesson

I included "Plan, Do, Review" instruction during math. As we practiced word problems about travel, the students had to read the problem, represent the situation, write an equation, and solve. I asked them how we can use the intelligent process of "Plan, Do, Review." I modeled "plan" by reading the problem and saying back to myself what I think it meant; "do" was representing the problem as a number line, writing an equation, and solving it; "review" was checking the problem by adding the solution and the smaller number given to get the larger distance.

Part 2: What occurred as a result during the lesson and in the student work

As Sam became confused in the middle of his work, I asked him what he could have done to plan better. He was confused because there was not enough room for his work and so it was too difficult to follow. I led him to the conclusion that he needed to use the space on the paper better, or plan to do the problems on a separate sheet.

When Jake told me he was done, I asked him what he did to review. He said, "I looked over it." I asked him what that meant, and he was unable to say anything more than "I looked over it." I reminded him of the model I showed where we "added up" to review/check our answers. He was resistant to do that. "Ok," I said, "I'll make you a deal. I'm going to check your work, and if one is wrong, you have to do another sheet. If they are all right, then you are done." He said, "Just a minute," and began checking his work. Number 1 was incorrect, as proven by the check. He then proceeded to do the "review" part of each problem.

Part 3: Students' reflections

The students were asked to reflect on how they used "Plan, Do, Review" on their Social Studies PowerPoint project. Nora said, "I planned out how I was going to spend the $50 on paper first, before I started the presentation." Amanda said, "I sketched the slides on ½ sheets of paper to plan it out." Charlie said, "I watched the presentation as a slide show to review what it would look like to the class. Then I went back and made a few changes."

Part 4: Teacher's reflection

This first week reminded me that small focused changes in instruction can cause positive achievement. Simply reminding the students to "Plan, Do, Review" focused their attention on the process behind a successful task.

<p align="center">Week Two: Week November 30</p>

Part 1: Where I included "Plan, Do, Review" in a lesson

1. I included Plan, Do, Review instruction during a math lesson where children were asked to create a model of a multiplication problem in several ways. They were given one piece of white paper and told to work in pencil, have it checked, and then to add color. (Focus was on PLAN.)
2. Plan, Do, Review instruction during a reading journal entry where the children were asked to plan what they were going to write *before* they began their reading. The intent is to have the plan in mind as a comprehension strategy to "read for a purpose." After 30 minutes of sustained silent reading, they wrote their entry (DO), and then were asked to score their entry (Review) using a scoring guide.

Part 2: What occurred as a result during the lesson and in the student work

1. Paige and Patrick ("I am going to plan in my notebook before I use the white paper.") Willingness to take extra time to plan because they knew it would create a better product. Jacob, on the other hand, was unwilling to plan, even in his mind, and so he had erasures and messy areas that had to be redone. Because the teacher encourages and praises planning, children are motivated to try it. Student work was neat and organized enough to use as models on bulletin board.
2. Students appeared to begin their journal writing more quickly, perhaps as a result of the intentional "plan to write a journal" at beginning of lesson. The "Review" part of the lesson, using the 0 – 4 scoring guide caused children to change and add to their journal.

Here is scoring guide checklist: REVIEW your last reading journal entry. Check which score matches your writing:

0	1	2	3	4
I only wrote 1 sentence.	I wrote **2 or fewer** sentences.	I wrote **2 or more** sentences.	I wrote **3 or more** sentences.	I wrote **3 or more** sentences.

	They were about my**thinking** while I read. My entry is dated, includes the title.	They were about my**thinking** while I read. I included**evidence** from the text. My entry is dated, includes the title.	They were about my**thinking** while I read. I included**evidence** from the text. I wrote about how this helped my comprehension. My entry is dated, includes the title, and is neatly written.	They were about my**thinking** while I read. I included**evidence** from the text. I wrote about how this helped my comprehension. My entry is dated, includes the title, and is neatly written. I could show others how to write this kind of entry.

Part 3: Students' reflections

1. Students were asked to reflect on how "Plan, Do, Review" helped them with their math task. Comments included, "When I planned in the notebook first, I didn't have to worry about messing up my white paper." "I had you check my work in my notebook before I started using the white paper." "I don't like to erase, so I needed to plan on a messy sheet first."
2. Students have begun to review their work much more closely with the institution of the 0-4 self-reflection.

Part 4: Teacher's reflection

1. I continue to marvel at how little bits of focused instruction can change the quality of student work. In addition, however, I am noticing a change of *attitude* in the classroom – a motivation to take time to plan. This cycles back and creates improved work.
2. Getting effective reading journal entries is one of the most difficult instructional tasks. I was fascinated by the raised alertness when I had the students "Review" their entry using a scoring guide. The journal entries were longer and more focused. Marzano**** research shows that students are the best reflectors on what they know; that is, a student is more accurate than the teacher in assessing his own knowledge, if given a guideline. Clearly I want to ask my students to review where they are on important concepts, skills, and vocabulary.

<p align="center">**Week 3: Week December 7**</p>

Part 1: Where I included "Plan, Do, Review" in a lesson

I continued to teach "Plan do review" with every reading journal. At the end of my reading mini-lesson, I say, "Today, while you are reading, *plan* what thinking you will write about in your journal." Then after *doing* their journal, I say, "*Review* what you have written to see if it is a 0,1,2,3 or 4 journal."

Part 2: What occurred as a result during the lesson and in the student work

I chose to tally #of sentences written in students' journals as a way to quantify desired behavior. A desired behavior of the reading journal is to be at least 3 sentences. Because writing is still laborious for many third

graders, and because we write in our reading journals almost every day, many students only write 1 – 2 sentences. This week, with the focus on how "Plan, Do, Review" with each entry, the length of journal entries increased. Looking at 5 random journals, the average sentence length last week was 2.3 sentences; this week the average increased to 3.4.

Part 3: Students' reflections

I interviewed Jake about his increased length of journals. He is a resistant writer who loves to read. He reads more than any child in the class, but hates writing about his thinking.

T: "Jake, I noticed that you are writing more in your reading journal."

J nods and smiles.

T: "Can you tell me why you are writing more?"

J: "I want to get all the parts."

T: "Why is this important to you?"

J: "So I can get a good grade."

T: "But what made you decide to do that now? You've known the important parts all along, but you are only now starting to include them."

J: "I don't know."

Unfortunately, he was unable to tell me that it was "the Plan, Do, Review" that was helping him. As far as I know, it may just be developmental.

I went on to interview a more verbal student, a female named Paige:

T: "Paige, I noticed that you are writing more in your reading journal."

P: "Yeah, I like this book."

T: "So do you think you are writing more because you like this book more than others you have read?"

P: "Yeah, like I like to write down facts I learn."

T: "So, what about when you were reading the Vet book? You liked that book, and it had facts, but you didn't write as much."

P: "Yeah, I don't know why."

Part 4: Teacher's reflections

I need to continue to use the language "Plan, Do, Review" and then ask for some more specific feedback, like: "How did the Plan, Do, Review process help you to improve your work?"

Week 4-5: Weeks December 14 and 21

Part 1: Where I included "Plan, Do, Review" in a lesson

I am including Plan, Do, Review in a math lesson where children need to find the arrays for different numbers, cut them out of graph paper, and paste them onto construction paper. I am teaching Plan, Do, Review in a reading lesson where the children are drawing/writing a visualization of one part of their books.

Part 2: What occurred as a result during the lesson and in the student work

In the math lesson, students were given materials to create a page of arrays for a given number (for example, a student with the number "16" would cut out arrays that are 1×16, 2×8, 4×4) I modeled how to do this with the number 12, gave each child a copy of the model, along with necessary materials. I reminded them to *plan* how they would lay out their poster, and to *review* how they knew they had all possible arrays for their number. The students' work mirrored their planning in that they arranged their arrays before gluing them on. Two students did not realize how long one of their arrays would be and so they were unable to fit them onto the poster. I asked them how they could have avoided this problem with better planning. Three students were missing at least one array for their number. They claim to have reviewed their work, but "just forgot" one.

In the reading lesson, students were asked to draw a series of pictures which showed "the movie in their minds" as they read their book. We have been working on how good readers visualize. I modeled the strategy and then told them "Your send-off today is to *plan*to draw a visualization after you read, so be aware of the movie in your mind as you read." After the students read for 30 minutes, they were asked to draw their visualization and to share it with their reading partner. The next day I asked the students to *review* their entry from the day before, and to think about how to improve their visualization this day. I attempted to quantify the possible difference in journal entries *before* asking the students to "plan, do, review" their entries compared to *after*. To do this I counted the number of sentences each student wrote in an entry where I did not instruct to "plan, do, review" compared to an entry where I did. The students wrote 1.7 sentences more when I asked them to review. In addition, when grading their journals, the class average increased almost 5 percentage points. (The disclaimer here is that this could also be a result of further practice and/or different books.)

Part 3: Students' reflections

After collecting the array posters, I took them home to check them for accuracy. I removed any arrays that were incorrect, and wrote "missing" if they were not all there.

The next day I asked the students to look at their poster and *review* what they needed to do to correct it, and to *plan* how they would do that. During this work time, I circulated to interview students:

T: So what did you notice about your poster?

Eddie: I put 9 x 9 on it for 18, but that's 9 + 9.

T: What could you have done to catch this before you turned it in?

Eddie: Checked it for accuracy? (This is a phrase I use often in the classroom, so he is telling me what he believes I expect to hear.)

T: How would you check for accuracy in this case?

Eddie: I could have counted the squares.

T: How would that help you?

Eddie: I would know that each array should only have 18 squares, not all of these.

T: So when you *review* your work today, you will make sure you only have arrays with 18 squares?

Eddie: Right.

T: So what did you notice about your poster?

Michael: You took off the long one.

T: Why do you think I took off the long one?

Michael: Because it wasn't all in a row.

T: Right. Why does it need to be all in a row?

Michael: Because it has to be 1 x 20, but it wouldn't fit that way so I had to cut it.

T: Is there a way to make a 1×20 all in a row on this sheet?

Michael: Yeah, but I'll have to make it go diagonal

T: Good, *plan* to do that correctly before you glue it on.

Part 4: Teacher's reflections

My biggest learning continues to be that the use of simple, focused strategies over and over again, will create complex improvements in learning. The *review* portion of the process may cause the most significant improvements. Being able to look at work with the students after it is "done and handed in" – and allowing them to make changes and corrections seems to have great benefits. I am seeing the students learn as they review what they did the day before. This follow-up, follow-through process is worthy of its instructional time.

I also notice that the children use the words "plan and review" often and correctly. They are also transferring the "Plan, Do, Review" process across curricular areas, and even to non-academic tasks. (Siobhan: "Mrs. Waters, I am going to have a play. First I am going to *plan* who will be in what parts." Later she came to me to see about the date we could have the play. I responded, "Siobhan, I think there is more to plan before you can decide on a date. Review what you have done so far, and figure out what more needs to be done before this step.)

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Week 6-7: Week January 5 and 11

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Part 1: Where I included "Plan, Do, Review" in a lesson

Throughout the weeks I will ask the students to write about their work using the following format:

Today I **plan** to …

Planning helped me because …

When I **reviewed** my work, I noticed …

Reviewing helped me because …

Part 2: What occurred as a result during the lesson and in the student work

I asked the children to plan before and review after several activities this week. Two of the times I had them actually write responses on a formatted sheet as per Part 1. It is difficult to quantify student improvement as a result of this strategy, but I do notice that if I give the children a specific time to plan, and a specific time to review, they do it.

Part 3: Students' reflections

Students' responses *in italics below*:

Task 1 was writing a multiplication and division story problem:

Today I plan to:

Write a x problem and / problem (response repeated 4x)

Do my math problems and write promptly

Exactly what Mrs. Waters says on the first time

Make a 9 x 16 = 144 and 144/9 = 16

Do my sheets of x and /

To finish my work

Do my work and finish my work

On my math paper do 3 cats. Each cat gets 9 fish. How many fish are there?

Do 24 x 17 = 408

Write a x problem and /problem that are related

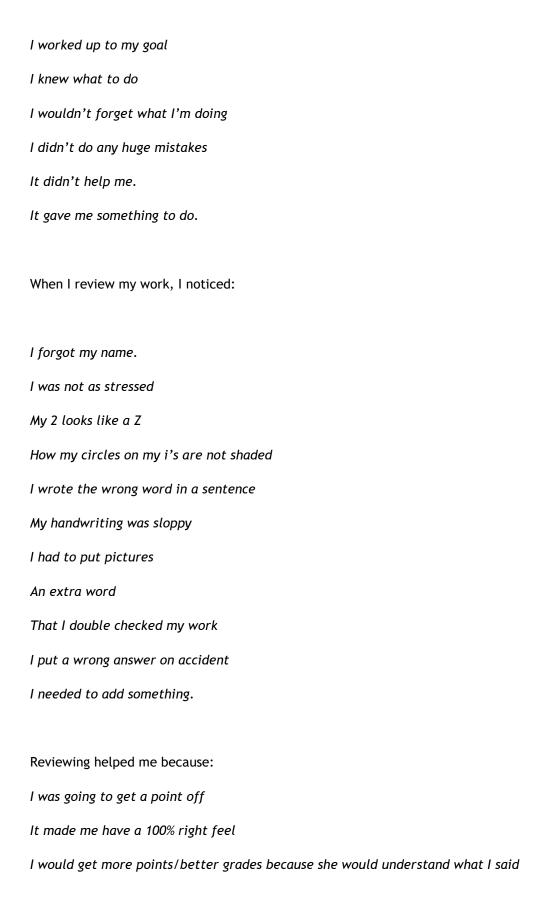Planning helped me because:

Helped me not

It helped me be organized

I'd know what to do so I don't have to ask as many questions

I knew what I was supposed to do

It helps me know what I have to get done

I knew what I should stay focused on

I worked up to my goal

I knew what to do

I wouldn't forget what I'm doing

I didn't do any huge mistakes

It didn't help me.

It gave me something to do.

When I review my work, I noticed:

I forgot my name.

I was not as stressed

My 2 looks like a Z

How my circles on my i's are not shaded

I wrote the wrong word in a sentence

My handwriting was sloppy

I had to put pictures

An extra word

That I double checked my work

I put a wrong answer on accident

I needed to add something.

Reviewing helped me because:

I was going to get a point off

It made me have a 100% right feel

I would get more points/better grades because she would understand what I said

I notice details better every time.

If I didn't know then my sentences wouldn't make sense with the problem

I knew what to change

I had to change something

So I don't get scared of if I did something bad.

I wouldn't of got the answer.

Task 2 was working on a story based on a prompt given in class. It was the second day of their writing:

Today I plan to:

Finish the test and free write (response repeated 3 times)

I thought I had a lot of people in my story so I planned to write a lot of description in my story.

To revise and maybe rewrite

Fix my capitals and punctuation

Finish my prompt writing and check over my work

Finish my first draft and at least start to revise (response repeated 2 times)

Finish my rough draft

Finish my writing test from yesterday

Finish my prompt writing and add some stuff to my prompt writing

Playing on the swings with Jamie and Brandon

Write the best I can on my test. Plus best handwriting

Draw pictures, write

Edit and write my final draft

Planning helped me because:

It helped me to organize my thoughts.

I can picture my story better.

I knew what to do (response repeated 3 times)

So I can remember the facts that I had

I know what to do

I know what I need to get done

I knew exactly what I would do

It helped me going on until I achieved my plan

I could write it down so I won't forget

I knew what to stay focused on

It made me want to do more work than I normally do

So I don't have to worry about my prompt writing tomorrow. Adding stuff in helped me make it better.

It helped me learn what I was supposed to write

If I didn't edit I will have a lot of mistakes.

When I reviewed my work, I noticed:

I needed to change something.

I wrote in pen and had to make a new draft

I needed to put a capital, a period, and check spelling

That two lines were not spelled right. I knew I needed to put in more words.

I forgot to write something in it (I forgot to add something)

That I needed to add some words and take away certain sentences and change the sentences

That the word 'pulled' was there when I have a better word for the sentence

That I forgot to put in a word

Something didn't make sense

Sometimes I forgot letters in words

I needed to change spelling

My writing did not stay on topic

That I put all my periods and capitals in the right spots

That if I added this it was funnier

I had a lot of mistakes on it

I changed things I did not before.

Reviewing helped me because:

I changed things that would make me get a better grade.

So I can get a better grade.

It wouldn't be as funny

Then I know better next time

Next time I write a prompt writing it has to stay on topic

If I got something wrong I had a chance to change it

Get in the letters of words I forget

My story wouldn't make sense otherwise

It made my story better

The sentence sounds better with the new word

It lets me see what mistakes I made and I can see what I need to add

I had really wanted to add it

It helped my by a new word

I would get a better grade because I wouldn't of missed anything

I knew what to revise

If I only checked once, I might of missed some mistakes.

Part 4: Teacher's reflections

My students' responses to these prompts were encouraging. Clearly the students understand what it means to plan and review. Because I provide them time to plan before and review after a task, they understand that this is important. I can see that they are learning the importance of setting short term goals and focusing until they are reached – a well-documented life skill. They are also realizing that reviewing their work is beneficial. I notice now that when I say, "Okay, so what are we going to do first?" students will call out "Plan." When I say, "What do we do before we turn in our work?" they respond "Review" or "Check it over."

Their responses also give me insight into their thinking. For example, in the "Today I plan to" responses, I see students who can clearly identify the task at hand. Others responses tell me they are less sure about what to do. In the "Planning helped me" responses it is obvious that given the time to plan, students feel more organized and focused. The "When I reviewed my work" responses show the different levels of thinking of students, from noticing basic editing to noticing things that didn't make sense.

Conclusion

Incorporating the Super3 information literacy model into the curriculum was a valuable experience. This action research provided a framework from which I was able to see that simple, focused changes in the classroom can create complex, wide-spread effects that have a positive impact on all students.

Over these weeks, I was able to see how my students picked up on the language of the Super3 as I used it in daily instruction. Because I was including this process in my instruction, and connected to their learning, they realized it was important. Soon individual students began to use the words, and incorporating the processes, throughout their day, without my prompting.

As I became aware of the effect this change was having on my students' learning, I found myself branching into various other strategies. For example, when realizing the students were struggling with how to review their work, I initiated a 0-4 strategy I had learned at a Marzano workshop. When the students were at the review step of their work, I would suggest they give it a 0-4 based on criteria I would present. This helped me to see who was able to review their work realistically. Again, this caught on quickly, with the children soon responding without a teacher prompt, "I think I'm at a 2 on that skill."

I will continue to use the action research model as a systematic way to improve my instruction and my students' learning.

About the Author:

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