

Strategy Instruction During Word Study and Interactive Writing Activities

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Word study and interactive writing instruction can support young children's spelling growth and their early writing development.

Strategy instruction has received considerable attention recently in the professional literature. A host of textbooks written especially for classroom teachers (e.g., Almasi, 2003; Fountas & Pinnell, 2006; Harvey & Goudvis, 2000; McEwan, 2004; Miller, 2002) as well as a number of research articles (e.g., De la Paz & Graham, 2002; James, Abbott, & Greenwood, 2001; Schorzman & Cheek, 2004; Smith, 2006) call for explicit strategy instruction throughout the literacy program. Teachers are encouraged to arm students with a variety of strategic tools that support fluent reading and writing. This is especially important for children who experience difficulty in learning to read and write. Providing effective instruction early on will go a long way in ameliorating their literacy problems (see Graham & Harris, 2002).

As experienced teachers of young children, we know the importance of teaching every student to read and write strategically. We also know that explicitly teaching a series of strategies may not be enough to enable students to use those tools independently and productively. We found this to be the case when we examined primary-grade students' independent use of specific spelling strategies we had taught. The children easily used the strategies to spell unfamiliar words during teacher-directed games and activities, but they rarely did so when writing independently (Williams & Phillips-Birdsong, 2006). We realized that

in addition to explicit instruction, the students also needed guided practice in applying those strategies to extended writing. So, we designed a follow-up study that investigated explicit strategy instruction paired with guided practice in using those strategies during authentic writing activities. In this article, we report the results of that second project and discuss the implications of our findings for primary-grade literacy instruction.

Background of the Study

Ruth is an experienced first-grade teacher with a master's degree in literacy education and Reading Recovery training. She teaches Reading Recovery and Title I (a federally funded program for at-risk students) reading in a U.S. school district near the large urban university where Cheri teaches. This study began as a teacher researcher assignment but eventually grew into a collaborative research project.

We conducted our investigation with one of Ruth's Title I reading groups—six first graders who were struggling with learning to read and write. Ruth met with the children every day for 30 minutes. On Monday, she devoted the entire time to explicit word study instruction. On Tuesday through Friday, she spent the first 10 minutes focused on word study and the remaining 20 minutes on guided reading instruction. Twice a month, Ruth used the 30-minute time slot for an interactive writing lesson. This arrangement provided an authentic context for our investigation; it allowed us to examine explicit strategy instruction during word study as well as the ways in which Ruth scaffolded the children's use of those strategies during the interactive writing lessons. We also examined whether the students subsequently used the strategies to spell unfa-

miliar words while writing in their journals. We asked three specific questions:

1. Which spelling strategies were taught during the daily word study lessons?
2. How did the teacher researcher scaffold the children's use of those strategies during interactive writing events?
3. Which spelling strategies did the children use to spell unfamiliar words while writing in their journals in the regular first-grade classroom?

Theoretical Framework

We grounded our work in Wertsch's (1998) concept of mediated action and Rogoff's (1990) theory of cognitive development as an apprenticeship. Mediated action focuses on the ways in which learners interact with specific cultural tools. Cultural tools can be physical objects (e.g., pens, rulers, computers) as well as cognitive processes. Wertsch suggested that as students interact with cultural tools they learn to use them with facility and may eventually appropriate these tools for their own purposes. This framework was helpful to us because we view word study as a set of cultural tools that students can use to mediate spelling, both during spelling activities and extended writing events.

Rogoff (1990) suggested that learners appropriate the use of specific cultural tools through apprenticeship—by participating in activities with adults and more experienced peers who scaffold the learner's understanding of and skill in using particular cultural tools. We believed that interactive writing could provide an authentic and meaningful apprenticeship in the use of word study as a cultural tool, and we designed our project to examine this assumption.

Relevant Research Literature

We also grounded our investigation in the available research on word study instruction and interactive writing. Word study is a relatively new approach to spelling instruction that focuses on active exploration of the principles of English orthography (Bear, Invernizzi, Templeton, & Johnston, 2004). Teachers engage students in a variety of hands-on activities that help them to discover the regularities, patterns, and derivations in English words. The approach was important to this project because it also involves explic-

it strategy instruction; teachers purposefully teach a variety of strategies that students can use to spell (or read) unfamiliar words.

Word study is described in detail in a number of professional textbooks (e.g., Bear et al., 2004; Cunningham & Hall, 1994; Pinnell & Fountas, 1998) and myriad articles describe word study games and activities (e.g., Aiken & Bayer, 2002; Barnes, 1989; Fresch, 2000; Invernizzi, Abouzeid, & Bloodgood, 1997; Johnston, 1999; Zutell, 1998). But surprisingly little research is available that examines the impact of word study on students' writing. When we searched the research literature, we located several projects that investigated word study and children's spelling achievement (Abbott, 2001; Brandt & Gielbelhaus, 2000; Joseph, 2000; Sabey, 1999) as well as their word-level reading development (Carlisle, 2000; Joseph & McCachran, 2003; Lovett, 1999; Rasinski & Oswald, 2005; White, 2005). But, to date, we have identified only one investigation that specifically addressed word study and young children's writing (Dahl et al., 2004). The study was particularly relevant because the researchers examined children's use of the spelling strategies that had been taught during word study instruction.

Dahl and colleagues (2004) asked students to circle in their writing the words "they really had to think about" (p. 311) and then to describe, retrospectively, the strategies they had used to spell those words. Students' strategy use was also examined in process, with researchers interviewing children as they were writing. Results of the project indicated that children self-reported using multiple strategies to spell single words and that students' strategy use differed across developmental stages. The researchers argued for explicit strategy instruction during word study lessons as well as teacher demonstrations of strategy use during daily writing activities. They also recommended that teachers hold conferences with students who do not appear to connect word study concepts to their own writing.

Interactive writing is an approach to beginning writing instruction in which a teacher and group of children coconstruct an oral message and then "share the pen" to get that message into print (Pinnell & McCarrier, 1994, p. 159). The teacher scaffolds the children's participation in the writing event, helping students to use the conventions of print—space, direction, capitalization, punctuation—to make the text readable. Throughout the activity, students have opportunities to write words

they do not know how to spell, and the teacher scaffolds their use of specific spelling strategies and orthographic patterns they have learned (Lyons & Pinnell, 2003). The goal of the activity is to teach students the letter–sound relationships, concepts about print, writing conventions, and spelling strategies they need to become competent, independent writers (McCarrier, Pinnell, & Fountas, 2000).

Button, Johnson, and Furgerson (1996) conducted one of two published studies that examined the efficacy of interactive writing as an instructional approach. At the beginning of their kindergarten year, Furgerson assessed her students' literacy knowledge and behaviors using Clay's (1993) Observation Survey. Students' scores served as a pretest measure and provided important information for literacy instruction. Initially, Furgerson directed most aspects of the interactive writing lesson, but as the year progressed she gradually released responsibility while scaffolding the children's participation in the writing event. The researchers observed growth in the children's phonemic awareness, use of letter–sound correspondences, and print conventions. Students' posttest results on the Observation Survey also indicated considerable progress, particularly on the Hearing Sounds in Words test.

In a more recent study, Craig (2003) compared the effects of “interactive writing-plus” to “metalinguistic games-plus” on kindergarten children's phonological awareness, alphabet knowledge, and early reading development. The “plus” component of each approach was supplemental letter–sound instruction. The 87 children who participated in the study were randomly assigned to small intervention groups and received instruction from literacy teachers outside their regular classroom for 20 minutes 4 times each week for 16 weeks. While no differences were found between groups for phonological awareness or spelling, results of the project indicated that children in the interactive writing-plus group outperformed children in the metalinguistic games-plus group on word identification, passage comprehension, and word reading development.

Both of these studies demonstrated the efficacy of interactive writing as an instructional approach, but neither study addressed students' extended writing. That is not altogether surprising, as both projects were conducted in kindergarten classrooms. Our investigation goes one step further by examining the efficacy of

interactive writing for supporting young children's writing development.

Methods

To achieve our research purposes, we used a qualitative approach to data collection and analysis (Bogdan & Biklen, 1982; Miles & Huberman, 1984). In her role as teacher researcher, Ruth collected all of the data for our study from October 15 through May 10. She gathered five kinds of evidence: (1) daily lesson plans, (2) reflective notes following the daily lessons, (3) in-process and postlesson field notes on bimonthly interactive writing activities, (4) field notes on weekly observations of the children during journal writing in their regular first-grade classroom, and (5) photocopies of the children's journal entries for each observation. Ruth photocopied the entire data corpus and sent a copy to Cheri, who, in her role as university collaborator, assisted with data analysis.

Patton (2002) suggested that important insights can surface when two researchers examine the same set of data, so we analyzed the data separately. We followed specific steps we had outlined in advance, using techniques borrowed from content analysis (Krippendorff, 1980; Weber, 1990). First, we systematically reviewed Ruth's lesson plans and postlesson reflective notes and teased out the specific spelling strategies she had taught. We listed each strategy on a Spelling Strategies Chart and noted the date of instruction as well as any review lessons. Our second step was to analyze the data collected during interactive writing. We reviewed Ruth's field notes and identified her prompting and scaffolding of each student. We created six coding sheets—one for each student—and listed each prompt or scaffold on the left side of the student coding sheet by date. We then teased out the students' overt responses and recorded those on the right side of the student coding sheet. For example, on April 19, when Brad (all children's names are pseudonyms) was struggling to write the word *bad*, Ruth prompted him to “Say the word slowly and listen for the sounds” he could hear. We recorded her prompt on the left side of Brad's coding sheet next to the date. Then, on the right side, we coded Brad's response, noting that he said, “/b/.../æ/.../d/” and wrote *BAD* on the interactive writing chart. The third step in our analysis was to systematically examine Ruth's field notes on journal writing to document students' overt

use of the spelling strategies that were taught. Again, we created six coding sheets. Each time Ruth's field notes indicated that a student had used a spelling strategy we coded this behavior on his or her sheet. On February 27, for example, when Andrew was trying to write the word *last*, Ruth heard him say, "/l.../æ/.../s/.../t/, like *fast*." We coded this overt behavior as his use of two strategies, "Say the word slowly and listen for the sounds you hear," and "Think of a word you know that rhymes with the word you're trying to spell."

When our individual analyses of the data were complete, we compared them and found that our coding was strikingly similar. From our coding scheme we moved to major categories (see Strauss & Corbin, 1990). We determined that the spelling strategies Ruth taught and subsequently scaffolded fell into two broad categories. We named these Tools of the Trade and Tools of the Mind to reflect the nature of the strategic behavior involved. Establishing these two categories provided a framework within which we determined the final outcomes of our project. In the sections that follow, we describe those outcomes. We begin with a brief description of Ruth's word study lessons, and then we turn to the strategic behaviors that were taught, prompted, and learned.

Lesson Format

Ruth's daily word study instruction reflected the general format, procedures, and activities recommended in Pinnell and Fountas's (1998) *Word Matters*, but the scope and sequence of her instruction was constrained by the need to follow her district's required spelling list. While the district's goal was memorization of specific words, Ruth's objective was for students to learn *about* words; that is, to understand how English words work. Each week, as she taught the required spelling words, she made explicit the ways in which specific orthographic features of those words could be used to read and spell other words. On November 5, for example, when Ruth introduced the required spelling word *away*, she highlighted the *ay* spelling pattern and connected it to the word *play*, which she had introduced and displayed on the word wall on October 15. She reminded the children of a relevant spelling strategy she had previously taught: "Remember that when you're trying to spell a new word, you can look for a word on the word wall that

will help you." Then, she gave the children dry erase boards and they used the *ay* pattern to generate a number of rhyming words (e.g., *day, may, say, way, stay, clay, tray*). Ruth then explicitly taught another relevant strategy, "When you're trying to spell a new word, think of a word you know that rhymes with the word you're trying to spell," and she related this new strategy to the day's activities.

Each word study lesson followed this general format, and, across the academic year, Ruth covered the district's mandated spelling curriculum (144 Dolch words), focused the children's attention on many orthographic patterns that could be generalized widely to their reading and writing, and explicitly taught a number of strategies the children could use to "solve the spelling" of unfamiliar words.

Tools of the Trade and Tools of the Mind

Our analysis revealed that Ruth explicitly taught 10 spelling strategies during word study instruction. While each strategy involved cognitive processing, four strategies required the use of a physical cultural tool to mediate the strategic behavior. We categorized these as Tools of the Trade:

1. Look for the word on the word wall.
2. Find a word on the word wall that will help you (*could* → *should*).
3. Look for the word in your dictionary.
4. Look for the word in print around the classroom.

We categorized the remaining strategies as Tools of the Mind:

5. Say the word slowly and listen for the sounds you hear.
6. Think about different spelling patterns that can spell the sound you hear (*out* vs. *down*).
7. Say the word slowly and listen for any parts you know how to spell (*and* in *candy*).
8. Think about the word in your head. Can you "see" the word?
9. Think of a word you already know how to spell that will help you spell this word.
10. Think of a word you know that rhymes with the word you're trying to spell.

Ruth reviewed these strategies regularly across the academic year. In each word study lesson, she engaged the children in games and activities that required them to apply particular strategies to “solve the spelling” of sample words that reflected specific orthographic principles.

Prompting With a Purpose

One of the primary functions of an interactive writing lesson is to provide meaningful opportunities for students to figure out or solve the spelling of the words to be written. Word solving engages students in strategic behavior as they consider and apply specific orthographic principles and spelling strategies they have learned (Lyons & Pinnell, 2003; Pinnell & Fountas, 1998). Our analysis of the data for interactive writing revealed a myriad of opportunities for students to solve words and highlighted the ways in which Ruth scaffolded their ability to do so.

During the 15 interactive writing lessons, Ruth prompted strategic behavior 61 times. Slightly more than half of her prompts (38) encouraged students to use Tools of the Mind, particularly “Listen for the sounds you hear” (prompted most often in the beginning of the year) and “Listen for a part you know” (prompted most often later in the year). The following excerpts from our data analysis are illustrative:

November 16

Ben is trying to write the word *dog*.

Ruth draws Elkonin boxes on a practice sheet and prompts him: “Say the word slowly and listen for the sounds you hear.”

He does so and writes the letters in the boxes. Then, he spells the word correctly in the story.

March 1

Hannah is trying to write the word *didn't*.

Ruth prompts, “Say it slowly and listen for a part you know.”

Hannah says the word slowly and then writes *DID* on the paper.

It is interesting that Ruth’s third most frequent prompt encouraged students to use their knowledge of word wall words (that is, their spelling words) in conjunction with another strategy. Students either knew how to spell these words or could easily find them on the word wall, as the following examples demonstrate:

February 15

Matt is trying to spell the word *let*.

Ruth prompts, “That word rhymes with the word wall word *get*.”

Matt looks for *get* on the word wall and uses it to spell *let*.

March 22

Andrew is trying to spell the word *under*.

Ruth prompts, “Can you think of any other words that are like this word? Like the word wall word *her*?”

Andrew knows the word *her* and so he spells *under* correctly.

May 10

Brad is trying to write the word *frightened*.

Ruth prompts, “Listen for the first part. It begins like a word wall word.”

Brad finds *from* on the word wall and uses it to write *fr* on the paper.

The students’ responses to Ruth’s prompts demonstrated their understanding and their ability to act on her scaffolding. Our data indicated that for every teacher prompt, the student successfully spelled the word or word part in question. On at least one occasion, a student’s oral response made her cognitive processing transparent to Ruth and to her peers:

May 3

Caroline is trying to write the word *diver*.

Ruth prompts, “Say it slowly and listen for a part you know.”

Caroline says the word slowly and then says, “The end is like the word wall word *under*,” and she spells *diver* correctly.

As an experienced teacher, Ruth was careful to provide sufficient wait time for students to enact strategic behavior on their own. Her instructional decision making proved fruitful because on 23 occasions students used the spelling strategies independently—without teacher prompting—as they “shared the pen.” The most common strategy observed was checking the word wall (11 times), but students also said words slowly to listen for sounds (5 times) or for parts they knew (5 times). The following excerpts illustrate the children’s independent, strategic behavior during the interactive writing lessons:

February 8

Caroline is trying to spell the word *helps*.

She looks over at the word wall and searches under the *H* column until she finds the word. She writes it correctly and adds the final *s*.

April 26

Andrew is trying to write the word *street*.

He says the word slowly and writes *stret* on the paper.

Ruth praises him for using a spelling strategy and then adds, “The /ē/ in *street* is spelled like the word wall word *see*.”

They use correction tape, and Andrew spells the word with *ee*.

April 26

Brad is spelling the word *car*.

He says, “*Car* starts like the word *can* but ends with *ar*.”

He writes the word correctly.

May 3

Hannah is writing the word *thing*.

She says, “I know two parts to that word, *th* and *ing*.”

She spells the word correctly.

These overt, independent uses of the spelling strategies Ruth had taught demonstrated the children’s appropriation of particular cultural tools—both Tools of the Mind and Tools of Trade. Moreover, as the children used the strategies independently, they were, in essence, modeling strategic behavior for their peers.

A third finding surfaced as we analyzed the data for interactive writing: The children were learning their spelling words. As they took their turns at the chart, the students independently spelled correctly 36 of the spelling words Ruth had taught during the daily word study lessons (e.g., *my, like, is, and, she, was, we, too, of, for, with, got, want*). The students may have used specific strategies covertly to spell these words, but we suspect mastery came through repeated word study and guided reading instruction. An added benefit, then, of interactive writing was the opportunity it afforded the students to use the spelling words they were learning.

Taking Tools to Task

A primary goal of early writing instruction is to arm students with the tools they need to become independent, fluent, and confident writers. Our analysis of the data for journal writing suggests that these six struggling learners appropriated a number of the tools that were taught. The most frequently observed strategy was “Look on the word wall” (34 times). This did not surprise us, as Tools of Trade are far more observable than Tools of the Mind. Nor were we surprised to learn that students used the word wall in conjunction with other strategies. On November 26, for example, when Ben was trying to spell the word *because*, he said the word slowly and isolated the parts *be* and *cause*, and then he looked on the word wall for *be*. On

April 24, when Hannah wanted to write the word *fun*, she said the word slowly and isolated all three sounds, and then she checked the word wall, presumably to confirm the spelling of the vowel.

Ruth also observed the children using Tools of the Mind to mediate their spelling. She heard students listening for sounds (2 times), listening for parts they knew (3 times), using a known word (4 times), and saying words that rhymed with the words they wanted to spell (8 times). Ruth often heard the children combining strategies as they wrote in their journals. The following examples are illustrative:

February 27

Matt is trying to spell the word *something*. He breaks it into the syllables *some* and *thing* and then says, “I know how to spell *some* and *ing*.”

March 22

Hannah wants to write the word *sister*. She says, “*Sister* ends like the words *her* and *under*.”

March 22

Caroline is trying to spell the word *boring*. She says the word slowly and isolates the parts *bor* and *ing*,” and then says, “Like the word *for* with *ing*.”

March 25

Brad is trying to spell the word *fun*. He says it slowly, articulating each sound, and then says, “That’s part of *funny*.”

Unlike the researchers in the Dahl et al. (2004) study, Ruth was not at liberty to talk with the children as they worked; as a consequence, we could not investigate their covert strategy use. Moreover, she was able to observe the children only once each week. We suspect our findings may not reflect the degree to which the students appropriated the spelling strategies that were taught.

Our analysis of the students’ journal entries, however, provided convincing evidence that many of the spelling words had become a part of the children’s writing vocabularies. Word learning was not a focus of this investigation, but when our data for interactive writing suggested that the children were learning the spelling words, we decided to examine the photocopies of their journal entries. We



recorded 53 different correctly spelled spelling words—with multiple repetitions of each. It was clear that the children had learned many of the spelling words that were taught.

Embrace Word Study and Interactive Writing Instruction

Young children's early writing development is strongly related to their later literacy success (Juel, 1988). It is crucial that we identify instructional approaches and techniques that are effective with beginning writers. The design of our study cannot presume cause and effect, but our results clearly point to the efficacy of both word study and interactive writing instruction for *supporting* young children's spelling growth and, ultimately, their early writing development. We believe both of these instructional activities should be key components of a comprehensive literacy program for beginning learners, and especially for those who find literacy learning difficult.

Word study in this project went well beyond typical spelling instruction. The daily word study lessons not only provided opportunities for Ruth to teach the required spelling words, but also she was able to make explicit the ways in which specific orthographic features of those words generalized to other words. And she taught a variety of fundamental spelling strategies. We know that explicit and systematic strategy instruction can improve young children's writing performance (Beal, Garrod, & Bonitatibus, 1990; Harris, Graham, & Mason, 2006), and, while we did not examine the children's use of specific orthographic features, our findings clearly demonstrate that the students learned and used a number of the spelling words and spelling strategies that were taught. We recommend that primary-grade teachers embrace a word study approach to spelling instruction (even if they are required to teach a prescribed list of words) because it supports word solving in addition to word learning (Pinnell & Fountas, 1998).

Word solving strategies took two forms, Tools of the Mind and Tools of Trade, and our findings support the teaching of both. Ruth's students used physical cultural tools as well as mental cultural tools to mediate their spelling (Wertsch, 1998). Tools of the Trade can be made readily available to students in school settings, and these tools—especially the word wall—provide strong support for early word learning.

Tools of the Mind are not dependent on the physical artifacts of schooling and thus lead to greater independence. Teachers may want to emphasize these strategies once students have developed some competence with Tools of the Trade. Our study certainly provides support for a combined approach, teaching, for example, the ways in which a child can listen for sounds in the word he or she is trying to write and then confirm the spelling in a dictionary.

Interactive writing proved effectual in at least three ways. We mentioned earlier that students had many opportunities to use their spelling words during interactive writing activities. This additional practice helped the students to learn the required words. What was more important was that interactive writing provided guided practice in strategic word solving behavior. Each interactive writing lesson called upon the students to apply the spelling strategies they had learned. If they needed assistance, Ruth provided it. As the students worked at the chart to solve the spelling of specific words, they engaged in a cognitive task that was considerably more demanding than that of the word study games and activities. They were solving the spelling of words as they were writing continuous text, which is exactly what students must do during independent writing activities. This guided practice paid off: Students gradually appropriated a number of strategic tools and used them independently both during group writing events as well as while writing in their journals (Rogoff, 1990; Vygotsky, 1934/1978; Wertsch, 1985, 1991). Finally, and equally important, interactive writing made transparent the link between word study and writing. As the students participated in the interactive writing lessons, specific features common to word study and to writing became clear and made the children's knowledge and strategies relevant (Rogoff, Radziszewska, & Masiello, 1995). When students recognize the relationship between instructional activities, they are more likely to apply the knowledge and skills they learned in one context to the other (Vygotsky, 1934/1978).

We recommend that primary-grade teachers embrace interactive writing as a powerful context for guided practice with strategic cultural tools and also as an instructional activity that will build a bridge between word study lessons and students' independent writing endeavors. Word study provides opportunities for children to apply spelling strategies to isolated words, but interactive writing engages students in word solving be-

haviors in the midst of authentic composition, which better prepares them for independent writing. The children who participated in our project were struggling writers. Pairing word study lessons with interactive writing activities successfully supported their appropriation of specific cultural tools that they eventually used to accomplish their own purposes during journal writing in their regular classroom. We believe this kind of success at school writing tasks builds confidence as well as motivation (Gaskill & Murphy, 2004; Graham, Harris, & Mason, 2005; Morrow & Sharkey, 1993)—key factors in learning, especially for children who find literacy learning difficult.

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