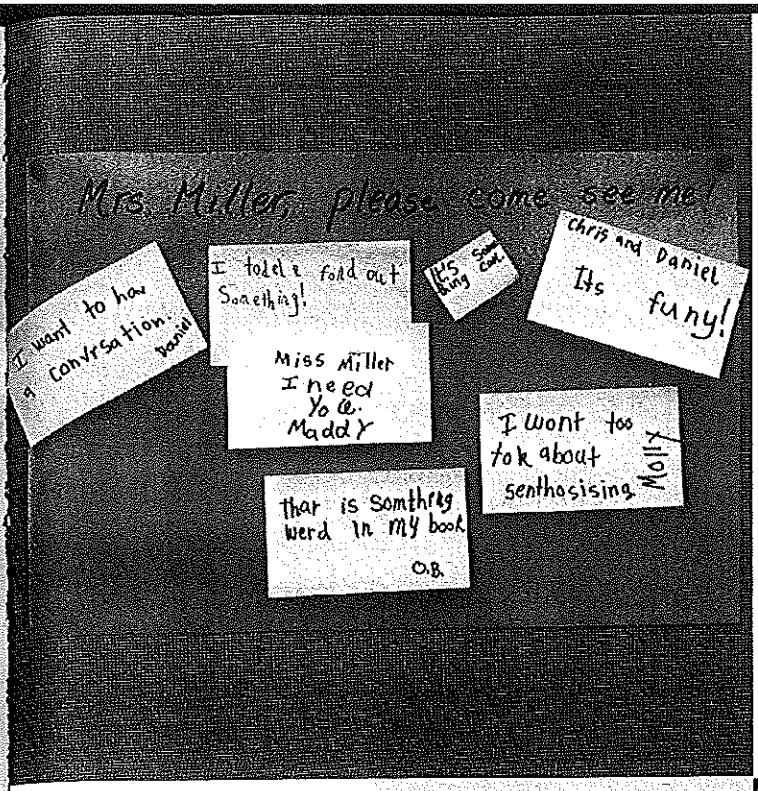
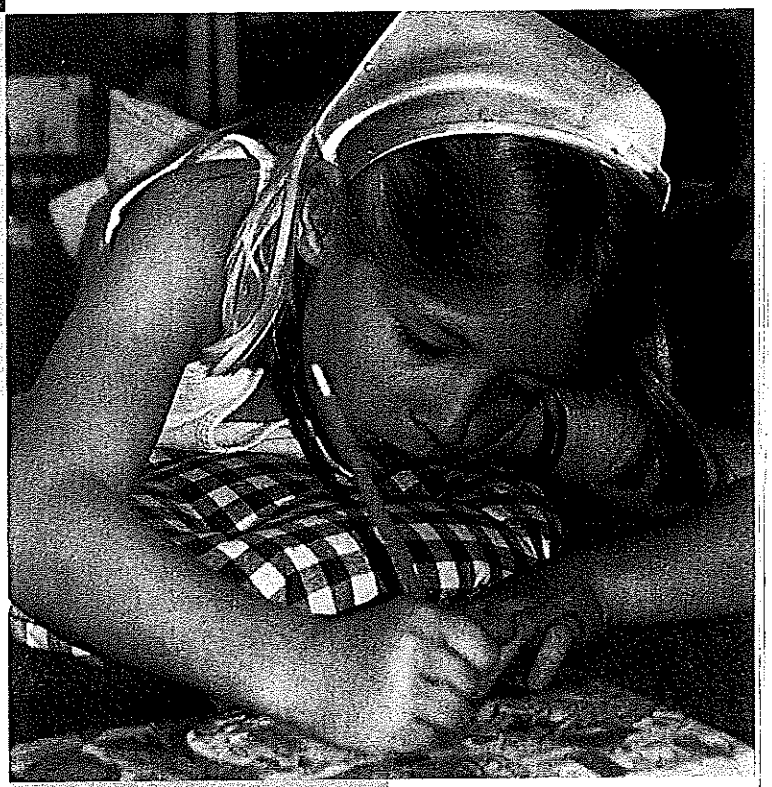


11

Synthesizing Information

Writing a note to the teacher keeps interruptions to a minimum during conferences.



Emphasizing writing in response to reading enhances comprehension.

Frank pushes "play" and "Oh, What a Beautiful Morning" blasts out of the CD player. Whit quickly adjusts the volume, and the class and I sing our way over to the meeting area. Frank invites us to read the morning message they've written; he points to the words as we read, "Hi, everybody! Whit and Frank are going to teach a lesson on SYNTHESIS [all caps, bold print, red marker] today. Are you up for a challenge?"

A chart entitled "Whit and Frank synthesizing *Oliver Button Is a Sissy*" is push-pinned to the board. Below the heading they've drawn seven 3-by-5-inch rectangles, just the size of their sticky notes, with plus signs separating each one. After the seventh one, they've drawn a big equals sign with the words "Finl Sinthasis" written after it. I'm not sure exactly what they're up to, but I can't wait to find out. I'm pretty sure it's going to be good.

It's more than good. "You know how we've been learning about synthesis?" Whit begins. "Well, Frank and I had so much thinking about it that we want to share it with you. Frank is going to read *Oliver Button Is a Sissy* aloud, and I'm going to show you how we synthesized it. Are you ready?"

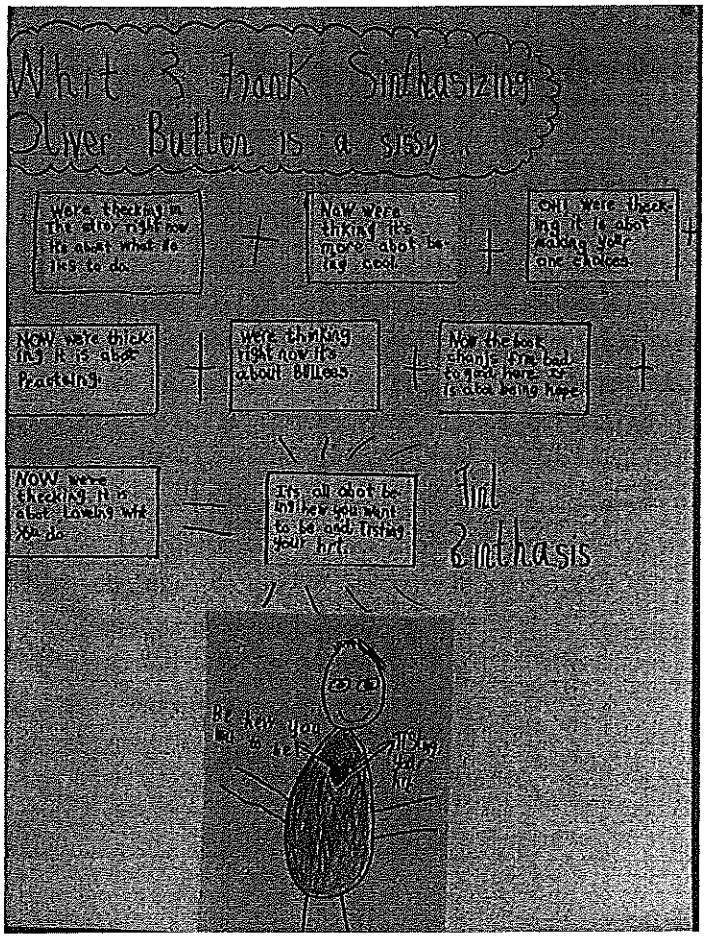
Frank reads the Tomie dePaola story aloud, and on the pages containing a sticky note, on which is written their synthesis of the story so far, Whit stops the story, reads the note, and places it in one of the squares (see Figure 11.1). When they get to the equals sign, Whit says, "So you see how we got to the final synthesis? We just kept adding on and adding on and adding on to our thinking. It got bigger and bigger and bigger, and now we totally know what the book is all about! You might want to try it in your reading today. Happy reading!"

* * *

My colleagues and I had been studying synthesis for years. We even wrote an article about it for *Language Arts* in December 1996. But I never seemed to get very far with it in the classroom. "Oops!" I'd say. "It's the middle of May. No time for synthesis again this year." (You may guess the real reason why I never got around to it.) So what changed? What made a difference? What helped me understand that synthesis is more than just a fancy name for summary? It was Ellin Keene who asked me questions just like these one night after school.

She found me with my shoes off, sprawled on the floor, surrounded by charts and children's work. I'd spread everything out, thinking about how I might write this, the last chapter of the book you're reading, on synthesis. She kicked her shoes off, too, and joined me on the floor. We were

FIGURE 11.1 Whit and Frank's synthesis



struck by the kids' work, and she asked me again: "Come on. What made the difference?"

"It's the ripple, Ellin," I answer. "Remember when we were fooling around with synthesis several years ago, and you launched it with *Tea with Milk* by Allen Say? You told me it was simple elements of thought transformed into a complex whole. But you told the kids that synthesis is like throwing a rock into a pond: first there's the splash, and then the water ripples out, making little waves that get bigger and bigger. You likened that to synthesis, remember? You said that as you read, your thinking evolves as you encounter new information, and the meaning gets bigger and bigger, just like the ripples in the pond. I kept playing with that analogy and two years later, voila!"

Ellin leaves, but I remain sprawled on the floor, still surrounded by papers, still wondering how best to share what I've learned about synthesis.

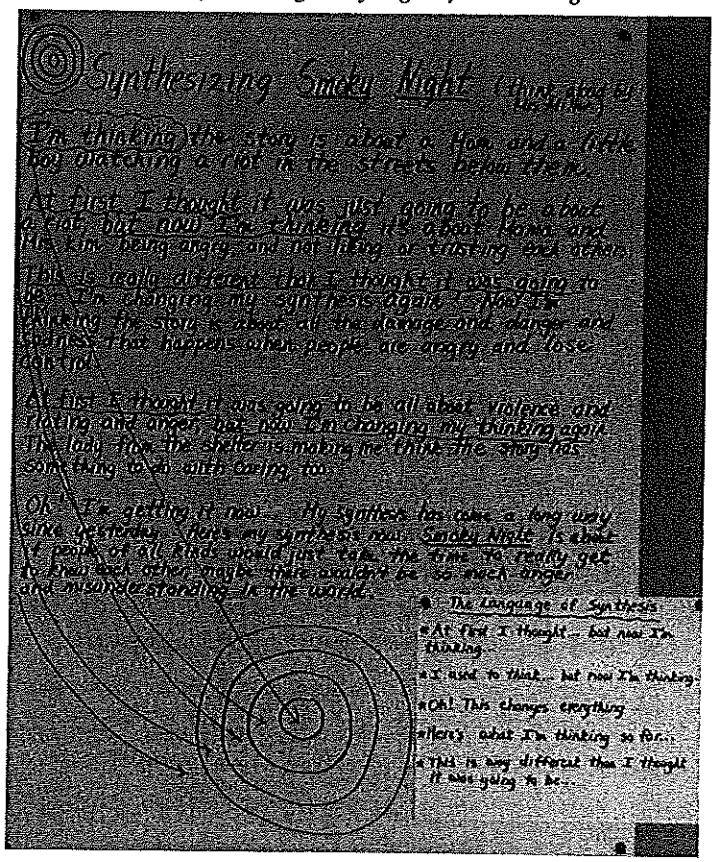
I take a look (again) at Whit's drawing of Oliver Button with the big red heart, Ben's synthesis wheel and his amazing definition, and the synthesis of *The Story of Jumping Mouse* that Max has recorded in his notebook. I decide that the children are the ones who can help me.

Anchor Lessons

Readers monitor overall meaning, important concepts, and themes as they read, understanding that their thinking evolves in the process

I explain the ripple in the pond metaphor to the kids, and read and synthesize the book *Smoky Night* for them. That afternoon I transfer my synthesis word for word (or nearly) onto a chart entitled "Synthesizing *Smoky Night* (think aloud by Mrs. Miller)" (see Figure 11.2). I want the children to be

FIGURE 11.2 Synthesizing *Smoky Night* by Eve Bunting



able to take a closer look at how my thinking evolved as well as help them begin to track the language of synthesis.

Children catch on quickly—it seems as though we've been building up to this moment all year—and they're eager to have at it on their own. Ben asks me to make a record sheet "that has the ripple on it," and that night I'm happy to comply. We use the sheet to record the evolution of our thinking as we read *The Alphabet Tree* by Leo Lionni, and many later opt to use it to keep track of how their thinking evolves as they read independently. (See Bret and Maggie's written synthesis of *A Color of His Own* by Leo Lionni, Figure 11.3.)

Not Ben. He pulls me to the side, thrusts the record sheet my way, and scrunches up his face. "This isn't really what I meant," he tells me, shaking his head. When I ask him "what he really meant" he says, "Here, let me show you." He draws a small circle on the back of the sheet, then another, larger one around the first; I can tell now he's going for the *full* ripple effect. "I see what you mean, Ben, but won't it be hard to write in a circle?" I ask him. "No," he answers, "it'll be *easy*!"

It was. I drew the form to his specifications and Ben tried it out the next day, requested a few minor adjustments, and was then ready to teach his classmates how it worked. It was a hit, of course, and not even one child

FIGURE 11.3 Bret and Maggie's synthesis

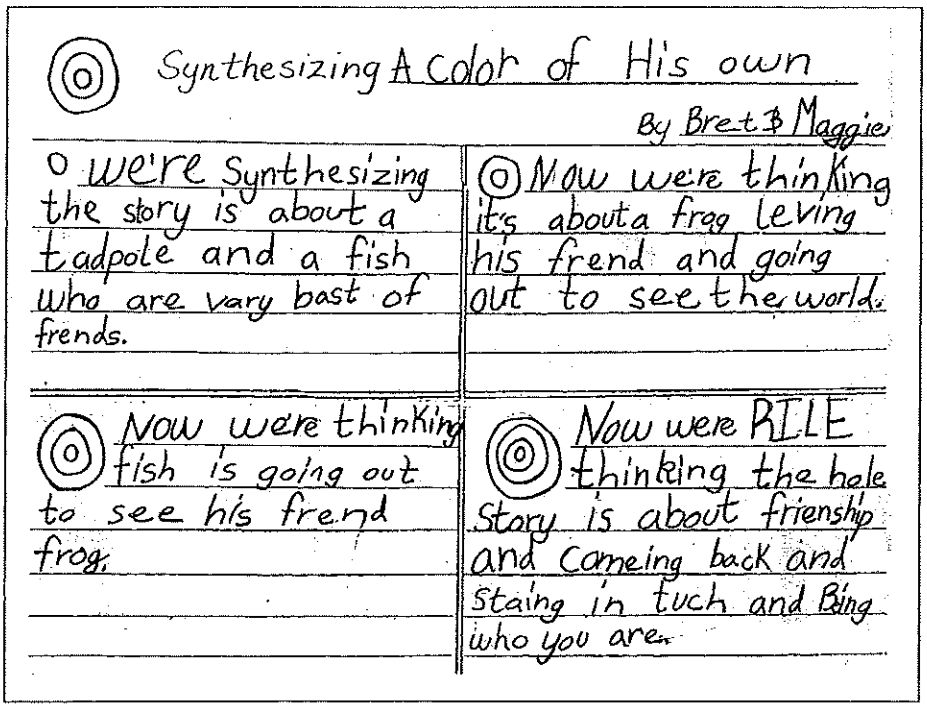
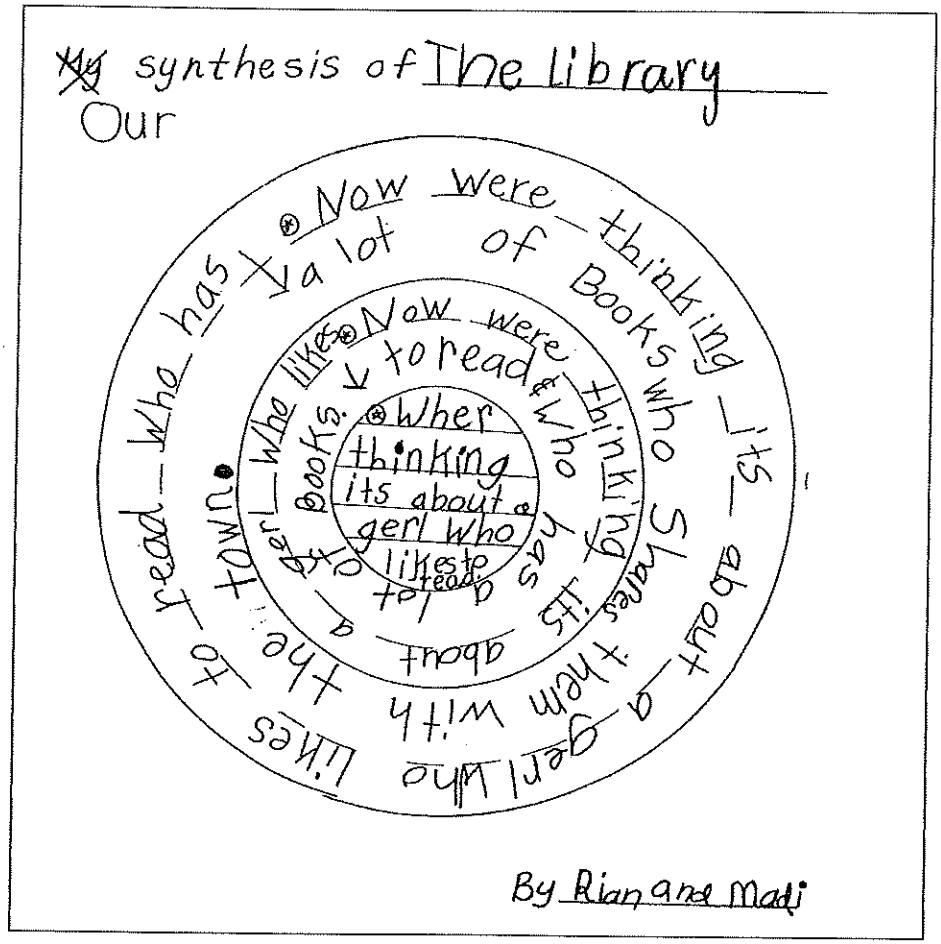


FIGURE 11.4 Ben's synthesis wheel, as rendered by Rian and Madi



got dizzy. (As for their teacher? Well . . . have you ever tried reading in a circle?) Rian and Madi's synthesis of *The Library* in Figure 11.4 uses the form that will forever be known as "Ben's synthesis wheel."

"So, Ben," I ask him several days later, "now that you are such an expert at synthesizing, how would you define it? How would you explain synthesis to somebody who didn't know what it means?" He fumbles for the words he wants, and finally says, "Let me think about that."

Fifteen minutes later he seeks me out and hands me a construction paper circle. "Here, I figured it out," he tells me. "This is what synthesis is."

"It's beautiful, Ben," I say, admiring the brightly colored blue, orange, red, and green circles, "but how does this explain synthesis?"

"Let's sit down," he says, realizing this may take some time, "and I'll explain it to you. See the blue circle in the middle? That's what you're think-

ing first. Then see the next circle? The one that's mostly orange with just a little bit of blue? It shows how you still keep some of your beginning thinking, but when you learn more, you have even more thinking to add to it. Your thinking gets bigger. See the third circle? It's got some blue, and some orange, but it's *mostly* red, because now there's even more new thinking, you're going deeper and deeper into the text. And see the next one? It's mostly green. You see, the ripple isn't just a *solid* line; some of the best thinking leaks right on through." (See the last page of the color insert.)

I'm speechless. Ben, age six, has captured (synthesized?) the nature of synthesis. Where was he ten years ago when I needed him? (Oh, right—he wasn't even *born*.) I think his work is so brilliant I stop the entire workshop so Ben can share what he's done with his classmates. They're not nearly as impressed. "We can draw synthesis, too!" they inform me, and they can—and do. (See pages 169 and 170 for Rian and Madison's representations of synthesis.)

Readers retell what they have read as a way of synthesizing

I think of retelling as a fairly literal recounting of what children have read, learned, and remembered. To give the kids a framework for thinking about retelling as they synthesize what they've read, I teach them to

- tell what's important,
- in a way that makes sense,
- without telling too much.

When teaching children how to retell as they synthesize fiction, I model the activity using familiar picture books and fairy tales. The children already know how stories are organized; their identifying the setting, characters, problem(s), an event or two, and the problem's resolution help focus and support their understanding of the book.

When teaching kids to retell information in nonfiction text, the framework for thinking remains the same, but the focus is on what they have learned, rather than the elements of story. I show them how to take notes by writing down only a few important words—just enough to help them remember what they've learned—and ask them to share their learning, sometimes orally, sometimes in writing, in their own words.

I gradually release responsibility by

- stopping now and then as I read a story aloud, asking children to get eye-to-eye and knee-to-knee in order to synthesize the text so far, then collaborating and charting their thoughts in the whole group;

- asking children to read independently for five or ten minutes, then stopping them to find a partner and retell the story or what they have learned in their own words;
- asking children who are reading the same text to synthesize it when they finish, then get together and compare their thinking.

I've learned that some of the best ways to give children practice and highlight some of the purposes of retelling occur in the moment. For example, when Maggie comes back after being absent, I might say, "Welcome back, Maggie! We read another chapter in *My Father's Dragon* while you were gone. Would you like someone to retell it for you?" Or "We read a book about the Underground Railroad while you were gone. Who will synthesize what we learned for Maggie?"

During share time, when a child is talking about a book most of the class is unfamiliar with, I might say, "Molly, could you synthesize your book for us? That will help us better understand your point."

When a child is going on and on about a story, a movie, a sleep-over, or a play date, I might say, "That sounds so cool [or fun, or interesting]! Take a minute and see if you can synthesize all that information. Remember, think about what's important, tell it in a way that makes sense, and try hard *not to tell too much*!"

And I often say at the end of the day, "When you go home today and your mom or dad says, 'What happened in school today? What did you learn?' what might you say? Let's synthesize our learning now so you'll be ready!"

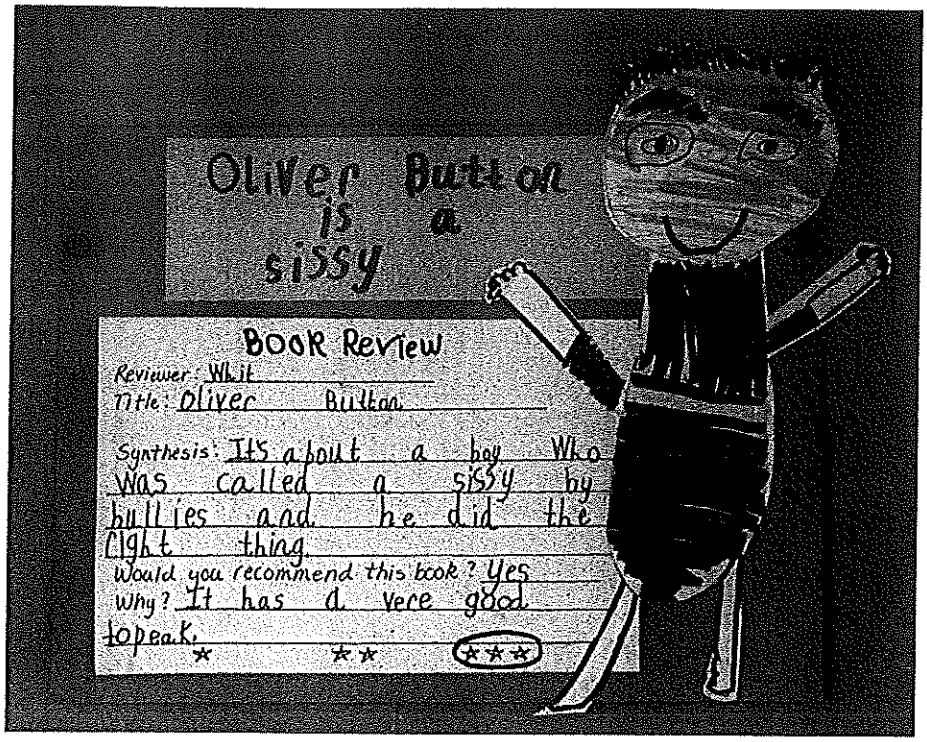
Readers capitalize on opportunities to share, recommend, and criticize books they have read

Children recommend books to each other all year long (see the photo at the start of Chapter 4), and I give them opportunities to synthesize the books they recommend. I bring in several book reviews from the newspaper, and together the children and I decide on what information to include and what form their review will take. Whit's recommendation of *Oliver Button Is a Sissy* is shown in Figure 11.5. His review does a fine job of telling what's important in a way that makes sense without telling too much.

Readers extend their synthesis of the literal meaning of a text to the inferential level

"Lilli, would you like to share your synthesis of the story?" I ask. I'd just read John Steptoe's *The Story of Jumping Mouse* aloud, having paused at cer-

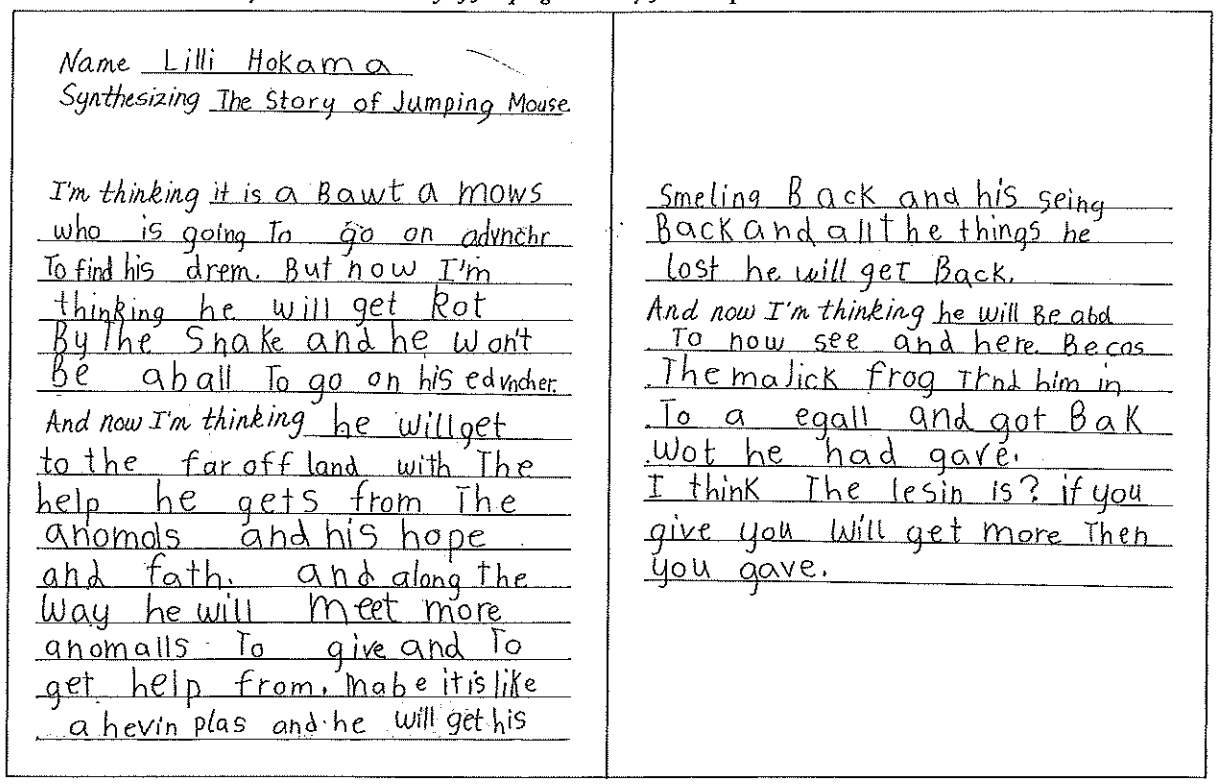
FIGURE 11.5 Whit's review of *Oliver Button Is a Sissy* by Tomie dePaolo



tain points for the children to write down their thoughts on the story. "Yes, thank you," answers Lilli. (Figure 11.6 shows her writing):

> I'm thinking it is about a mouse who is going to go on an adventure to find his dream. But now I'm thinking he will get caught by the snake and he won't be able to go on his adventure.
>
> And now I'm thinking he will get to the far-off land with the help he gets from the animals, and his hope and faith. And along the way he will meet more animals to give and to get help from. Maybe it is like a heaven place and he will get his smelling back and his seeing back and all he things he lost, he will get back.
>
> And now I'm thinking he will be able to now see and hear because the magic frog turned him into an eagle and he got back what he had given away.
>
> I think the lesson is, if you give you will get more than you gave.

FIGURE 11.6 Lilli's synthesis of *The Story of Jumping Mouse* by John Steptoe



Name Lilli Hokama
Synthesizing The Story of Jumping Mouse.

I'm thinking it is a Bawt a mows who is going To go on advnchr To find his drem. But now I'm thinking he will get Rot By the Snake and he won't Be aball To go on his edvncher. And now I'm thinking he willget to the far off land with The help he gets from The anomals and his hope and fath. and along the Way he will meet more anomalls To give and To get help from. Mabe it is like a hevin plas and he will get his Smeling Back and his seing Back and all the things he lost he will get Back. And now I'm thinking he will Be abd To now see and here. Becas The malick frog Trnd him in To a egall and got BaK Wot he had gave. I think The lesin is? if you give you will get more Then you gave.

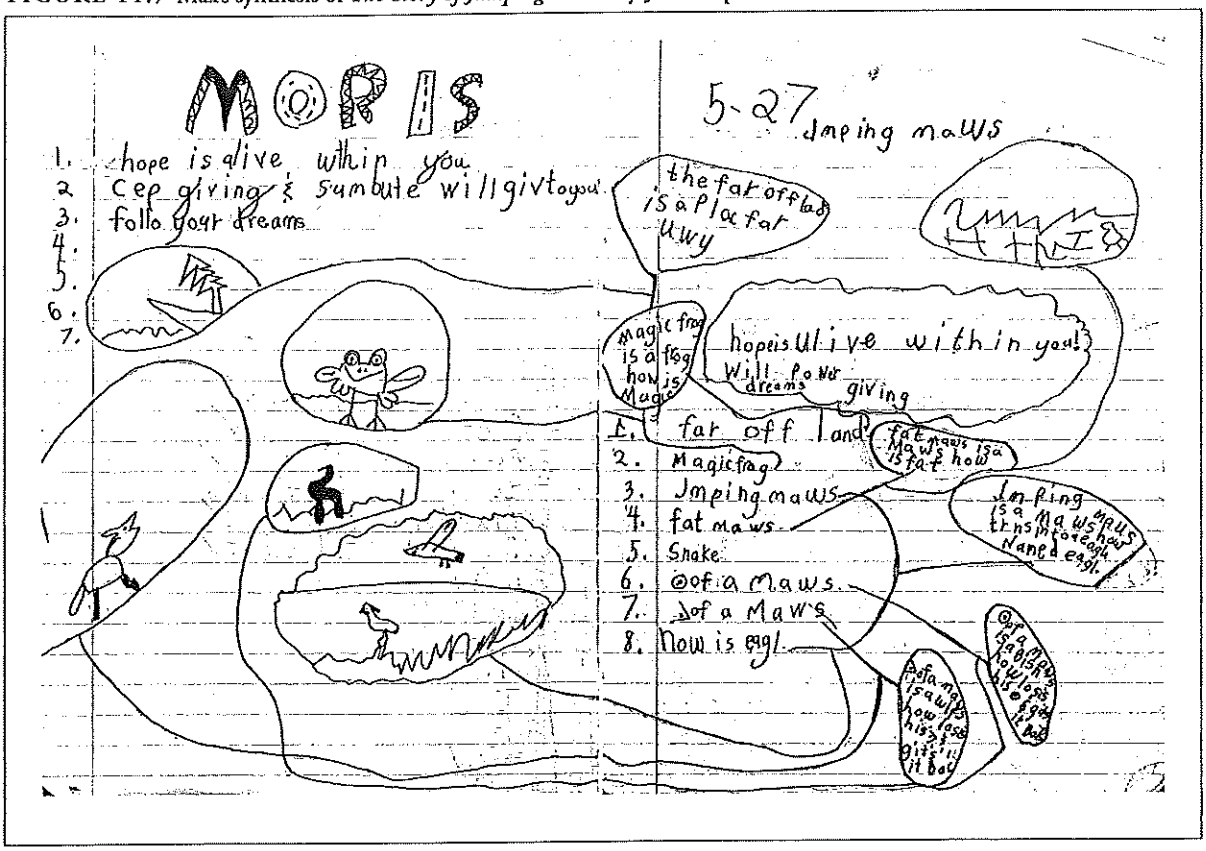
Figure 11.7 shows Max's perspective on the same story.

For this lesson, I tell children I will read a story aloud, and that they'll be asked to synthesize both during and after the reading. I tell them it doesn't matter how they choose to synthesize, only that they do it in a thoughtful, organized way. Once children have selected the supplies they need, we regroup in the meeting area and I begin the story. I read for a while, then stop for them (and me) to synthesize the story up to that point. I repeat the procedure three or four more times, giving children time at the end to reflect and connect their thinking into a larger, more meaningful whole.

The Story of Jumping Mouse wasn't the first story we read this way. I began with fables. I'd read several familiar ones aloud and do a basic retelling for the children, thinking aloud about how I infer the lesson, or moral, of each one. Fables are great here—they're short and you can do two, three, or even four in a day, showing children how readers extend their literal synthesis (of the fable) to an inferential one (the moral or lesson).

Children love listening to fables, sitting with a partner to retell and infer their lessons, and of course just sharing them. Fables can take over

FIGURE 11.7 Max's synthesis of *The Story of Jumping Mouse* by John Steptoe



work activity time, too, what with children acting them out, writing their own, and creating scenes, characters, and events from their favorites with wooden blocks, Legos, and Beanie Babies.

Once children have worked with fables for a while, I increase the sophistication of the read-alouds with stories like Lauren Mills's *The Rag Coat,* Byrd Baylor's *The Table Where Rich People Sit,* Estelle Condra's *See the Ocean,* John Steptoe's *The Story of Jumping Mouse,* and Arnold Lobel's *Fables.* It was right after the *Jumping Mouse* lesson that Whit and Frank created their *Oliver Button* chart. And as you may imagine, it wasn't long before other charts were vying for space on walls, cupboards, and doors.

As I finish this last chapter on synthesis, I'm thinking, as I always do when I finish a comprehension study, "What worked well? What didn't?" and "What might I do differently next year?" I'm also thinking about what I learned this year about synthesizing and learning from Whit, Ben, Lilli, and their twenty-four classmates. I'm struck again by their intelligence and the amazing potential they bring to the classroom.

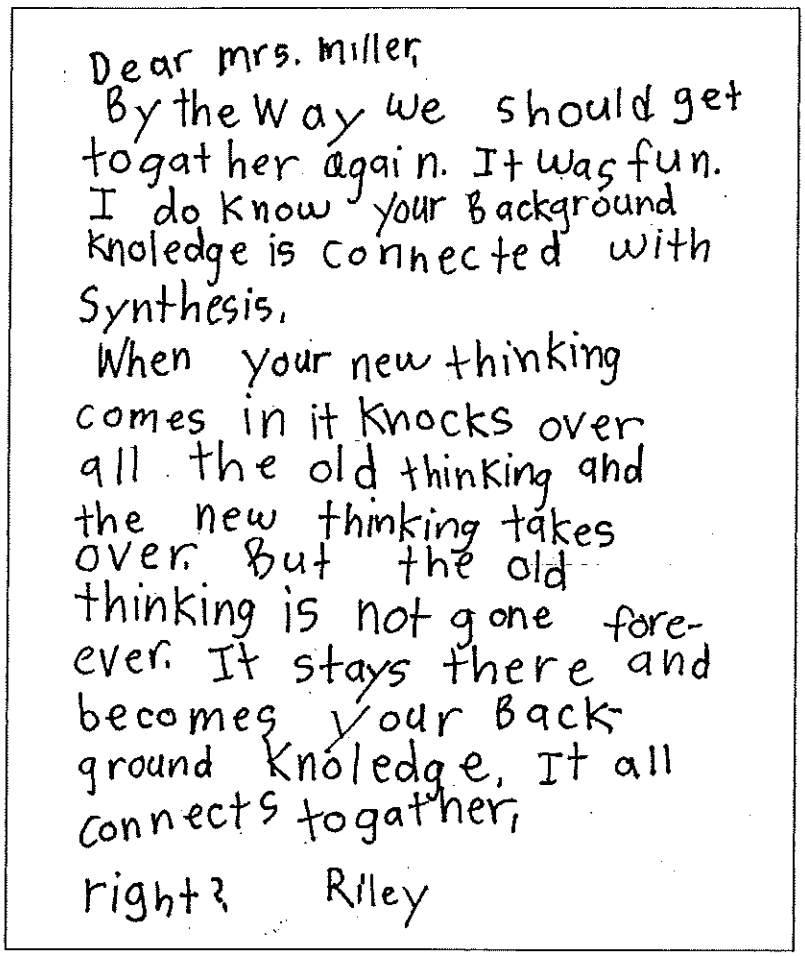
Ben's artistic definition of synthesis helped me understand that as readers encounter new information, it doesn't necessarily change everything that has come before. Readers actively revise their synthesis as they read but "some of the best thinking leaks right on through." Lilli and Max, through their synthesis of *The Story of Jumping Mouse,* taught me that the search for meaning is different for each child because meaning is constructed from individual cognitive processes. And Whit's depiction of Oliver Button and the words, "Be who you want to be. Trust your heart" showed me that keeping a cognitive synthesis during reading can help the reader identify and depict themes that connect to the overall meaning of the text.

Evidence of Understanding and Independence

"Synthesis is like inferring, only super-sized!"
Madi

"If you don't ever change your mind, you're not really synthesizing."
Mitchell

"Synthesizing is like putting a puzzle together. You have to sort out your thinking and put it in the right place."
Cory

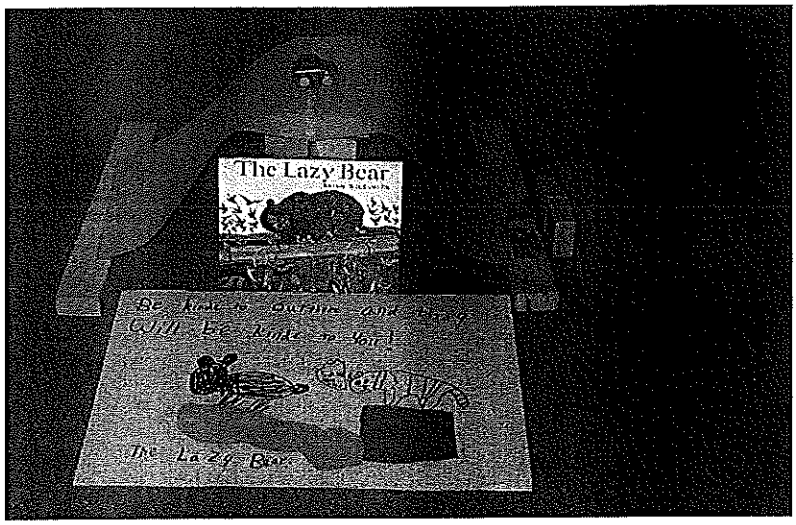


Dear mrs. miller,
By the Way we should get togather again. It was fun. I do know your Background knoledge is connected with Synthesis.
When your new thinking comes in it knocks over all the old thinking and the new thinking takes over. But the old thinking is not gone forever. It stays there and becomes your Background knoledge. It all connects togather, right? Riley

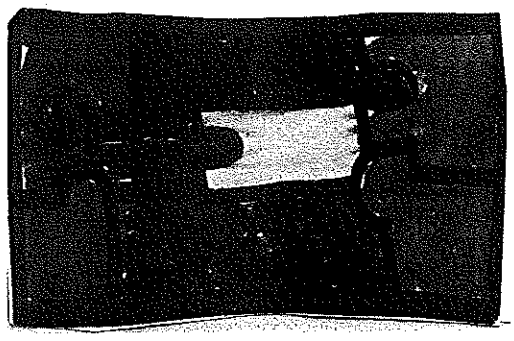
Riley's summer letter, still contemplating synthesis

to infer is to argue with the pros and cons with the characters, the ups, the downs, the feelings, the emotions, the life, and the time in the story. To infer is to place yourself in the place, the time, the character. To infer is to creatively mold your thoughts, your feelings, your background knowlege into the story.

Isabella's synthesis of inferring, as a third grader



Children's synthesis of *The Lazy Bear* by Brian Wildsmith



Rian's definition of synthesis

"Your whole life is a synthesis. First you are a baby and you learn a little bit of stuff. Then you get older and learn more and more and more."
Frank

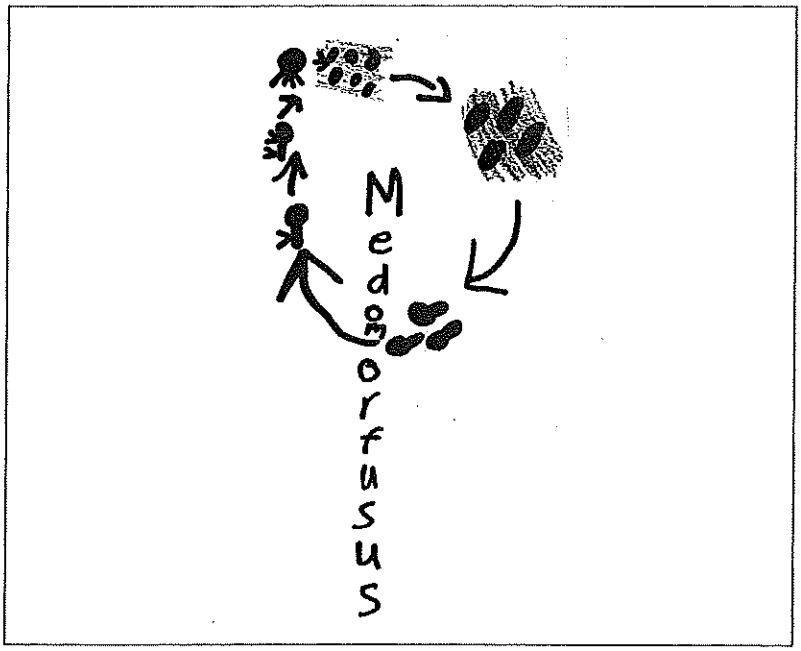
"When you synthesize, it means you are ready to challenge your mind."
Molly

"When you synthesize, you say in your head, 'I used to think this, but now *I'm thinking this.'"*
Meghan

"When I synthesize, my mind is changing, my ideas are changing, my thinking is changing."
Brendan

At fiste it is a little bit of theking. Then biger theking comes and you add and add on and you take your old theking and your new theking and put them together.

Frank's definition of synthesis



Madison's definition of synthesis

Synthesis at a Glance

What's Key for Kids?

- Readers monitor overall meaning, important concepts, and themes in text as they read, understanding that their thinking evolves in the process.
- Readers retell what they have read as a way of synthesizing.
- Readers capitalize on opportunities to share, recommend, and criticize books they have read.
- Readers extend their synthesis of the literal meaning of a text to the inferential level.
- Readers synthesize to understand more clearly what they have read.

(Adapted from Keene and PEBC)

Tried and True Texts for Synthesizing Information

The Alphabet Tree by Leo Lionni
Charlie Anderson by Barbara Abercrombie
Fables by Arnold Lobel
Frederick's Fables by Leo Lionni
Oliver Button Is a Sissy by Tomie dePaola
The Rag Coat by Lauren Mills
See the Ocean by Estelle Condra
Smoky Night by Eve Bunting
The Story of Jumping Mouse by John Steptoe
The Table Where Rich People Sit by Byrd Baylor
Tea with Milk by Allen Say