National *Writing* Project

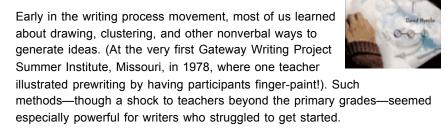## NWP Publications

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Book Review: *A Field Guide to Using Visual Tools*, by David Hyerle

By Julie McDonnell, Jane Zeni

Summary: Julie McDonnell and Jane Zeni review *A Field Guide to Using Visual Tools* by David Hyerle.

A Field Guide to Using Visual Tools
Written by David Hyerle. ASCD, 2000. $23.95, 146 pages. ISBN 0-87120-367-7.

Early in the writing process movement, most of us learned about drawing, clustering, and other nonverbal ways to generate ideas. (At the very first Gateway Writing Project Summer Institute, Missouri, in 1978, where one teacher illustrated prewriting by having participants finger-paint!). Such methods—though a shock to teachers beyond the primary grades—seemed especially powerful for writers who struggled to get started.

Gradually, we learned that visual tools were not limited to the verbally reluctant. Vera Johns-Steiner showed that poets, inventors, and musicians use graphic representations when planning, organizing, and revising their thoughts (1985). Creative teachers found that computers could be wonderful "design tools," supporting the learner's play with alternative structures (Ehrmann and Balestri). In the field of writing, visual tools have surfaced in publications ranging from Gabrielle Rico's *Writing the Natural Way* to Karen Ernst's *A Teacher's Sketch Journal* and in Jay David Bolter's *Writing Space*, which explores the new medium of nonlinear hypertexts. Although David Hyerle is not working in a writing process tradition, these examples suggest that he would find himself in congenial company at a writing project gathering.

Yet Jane initially felt dubious about undertaking a review of *Visual Tools*. She contacted Julie, her coleader for the Gateway Writing Project Summer Institute: "I am really interested to hear what you think of the stuff Hyerle's doing. I've used a few Venn diagrams and KWL charts, but I panic at the thought of drawing!" Jane began reading with a mixture of curiosity, puzzlement, and, frankly, suspicion. "The voice was a bit too certain," she

noted. "At times I was reminded of the gurus who promise to transform education with teaching practices that spring forth without much historical or intellectual context." When Hyerle noted that his earlier book, *Visual Tools for Constructing Knowledge*, explained more of the theory behind the tools, Jane decided to read that first.

Julie, on the other hand, was comfortable both with the language and with the practice. In her district, "graphic organizers," "brain-based learning," and multiple intelligences have been the focus of many workshops. Describing herself as a "strong visual learner," Julie said, "I connected right away with Hyerle's statement that students must be creative users of visual tools. These should not just be graphics to fill in—there needs to be a purpose as well as a particular context so that the tools lead to a final product." Delving into the book, she also recognized intriguing possibilities beyond her current practice.

As we read *A Field Guide to Using Visual Tools,* the two of us exchanged some email messages, took our own notes, and then exchanged our comments. This review is an interweaving of our responses as thinkers, writers, and teachers of writing.

David Hyerle introduces this book by stating that:

> (V)isual tools provide one of the most direct routes for most learners . . . to show and communicate patterns of thinking. These tools leverage learning well beyond the common linear presentations of information that are but a shallow façade of the holism of human thinking and understanding." (5)

So what exactly is a "visual tool"? The clearest definition comes from Hyerle's earlier book, in which he notes, "Visual tools are symbols graphically linked by mental associations to create a pattern of information and a form of knowledge about an idea. These linear or nonlinear forms are constructed by individual or collaborative thinkers on paper, board, or computer screen" (1996, 24).

This definition recalls the role Seymour Papert envisioned for computers in the classroom: "tools for thinking." Hyerle's visual tools range from prestructured blackline masters (the typical "graphic organizers") to flexible software that allows students to manipulate the structures for themselves.

As our quest for a definition may suggest, Hyerle's prose sometimes falters under the abstract terminology and less-than-transparent organization. But this book is aptly called a "field guide." The text consists primarily of verbal snapshots showing schools and classrooms where visual tools have been used over a significant period of time. Vignettes—contributed by teachers, curriculum consultants, and technology designers—are richly illustrated with thinking maps across the curriculum, reviews of software, and visual representations of projects by students at all levels.

In chapter 2, Hyerle draws on the recent literature of thinking to argue that visual tools can support the process by which the brain constructs patterns from the world. He presents three different tools—the Circle Map, Bubble Map, and Double Bubble—showing how second-graders used all three during

a systematic study of rocks. In a similar way, Julie used a bubble map to support character analysis: "The name of the character goes in the middle and students list adjectives to describe that character. I took it one step further. My students extended the bubbles to provide support from the text for each trait. From there, they constructed a paragraph about the character."

One feature that especially appealed to Jane was the box drawn around each map to symbolize "one's frame of reference for the information . . . personal histories, culture, belief systems, and influences such as peer groups and the media" (Hyerle 1996, 101, 105). For example, during the rock project, the second grade teacher framed the Circle Map and then asked about the diverse ways students had learned what they already knew about rocks. (Jane wants to try drawing a box in the margin of her preservice teachers' journals as a shorthand question, "What's your frame of reference for this statement?")

Chapter 3 focuses on brainstorming webs, "open systems" for "thinking outside the box." Webbing is seen as a "running video of evolving mental models" rather than a "static visual picture" (38). There are numerous examples from classrooms, including clustering, mandalas, Mindmapping, and Mindscaping, all of which share in common a private quality that draws on the personality of the thinker. Hyerle urges that students use these tools during an entire project—not just the brainstorming stage. As a writing teacher, Julie concurs: "Throughout the writing process, the kids refer back to their 'prewriting' webs to add, revise, or delete ideas."

Unfortunately, Hyerle is prone to sweeping statements: "speaking and writing *often* get in the way of our most creative and analytical thinking" (40). The evidence? A quote from a student whose experience of writing did not seem to involve any "process." [Hyerle finds that speaking and writing assignments often have "a narrow focus on the finished product," whereas mapping captures the "messy and generative thinking," (40).] Rather than embracing visual tools as an alternative to writing and speaking, we think most NWP teachers would see them as complementary.

This chapter goes on to describe software-supported webbing of the sort with which Julie is quite familiar. Julie used Inspiration software first to modify some commercially produced graphics, later to develop an original project. "I made a web for a research report on a famous Missourian. The person's name would go in the middle, and then I branched outward for the subheadings in which my third-graders would gather information. Then I printed a copy out for the students to use. (I would have loved for the kids to actually manipulate their research on the computer, but time did not allow it). I like the way Inspiration can show a completed web in outline form; I printed that also so the kids could see how to transfer their information and make their own outlines. I showed the program to my class with a computer hooked up to the T.V."

By this point, Julie had found many points of connection between her practice and Hyerle's book. Jane was still reading along, still somewhat skeptical. Then she encountered the Mind Map book review (52), which uses as an example Joseph Campbell's *Hero with a Thousand Faces*. She

remembered, "The first time I taught World Mythology I discovered that most college freshmen couldn't read the book—I love *Hero*, but it's dense and it's not a textbook. Next time, I walked my class through Campbell's overview and then asked each student to create a poster representing the stages of the hero's journey. They were puzzled ('You want us to make a *poster*—in college?'), but my 'thinking tool' was remarkably successful. In later assignments, where students had to apply Campbell's model to unfamiliar myths, they referred back to their visual maps to guide their writing. I taught the course several times and found the posters helped both reading comprehension and analytic writing. What I was doing with the Campbell text wasn't quite was Hyerle shows us here, but we were both finding ways to make the material visual."

Throughout the book, however, visual tools are contrasted with the so-called thinking programs that are now flooding the schools—prefab graphic organizers printed in workbooks, "critical thinking" software that offers mainly drill and practice. In this chapter, Hyerle offers a flowchart for evaluating graphic organizers (64) and "Seven Warning Signs that Graphics Aren't Working" (66). For instance, "Fill-in-the-blank repetition" can be identified when "you find yourself handing out the same graphic organizer without the students ever going outside the lines or if most of the organizers are of one type." Visual tools, if poorly designed or misused, can "create boredom, are time-consuming, and prevent students from engaging their minds" (65). He sees greater value in electronic organizers that allow the user to manipulate information as well as shapes and format. Our own experience resonates with the author's views on the strengths, weaknesses, and potential of these organizational tools.

In chapter 5, Hyerle describes a synthesis of webs and graphic organizers into "thinking process maps." These allow students to see the big picture as well as the details—he calls it "thinking *about* the box" (81). An intriguing example is the "Inductive Tower." Most cognitive maps are

> based on hierarchical reasoning, which supports students seeing the main idea, supporting ideas, and details in, respectively, the top, middle, and bottom of the map. Yet the top-down design also replicates the kind of deductive reasoning that we often ask of students and does not engage students in more generative, inductive reasoning. The Inductive Tower supports students in starting at the bottom of the page and developing conceptual categories as they proceed up the tower. (86)

Chapter 6 presents "eight fundamental human cognitive processes" —description, compare and contrast, classification, whole/part, chronological sequencing, cause and affect, analogies, and context (104-106). Hyerle has developed Thinking Maps software with eight tools based on these processes. (The stated goal is for students to become fluent in choosing which map best fits the learning context and the specific task.) Jane's first reaction was that these rhetorical modes were hardly new; but, on second thought, she conceded that "since many high school students are taught just one mode (thesis/support), it would be a real improvement if they could choose among eight!"

Chapter 7 applies the concepts to a larger organization with stories of schoolwide change and maps that supported such processes. We liked the emphasis on collaboration and reflection. Yet throughout the book, we noticed a tendency for the writing/reading activities to stick quite close to the literal level—surprising given the goal of constructing knowledge. For example, in the "Interactive Notebook," one column summarizes the teacher's lecture, and the other displays the student's map of the same information (126-127). This seems vastly inferior to the dialectical journals writing project teachers often use with their students. There one column might contain notes on a lecture or a reading, but the other would be used for the learner's own questions, personal connections, and interpretations.

So now that we've finished *A Field Guide to Using Visual Tools*, what do we think? Despite her misgivings, Jane recognizes many intriguing visuals and many contexts in her teaching where they could be an asset. "I do a great deal of in-class planning and freewriting. I also work with guided imagery. But I realize that when I want to elicit a visual image, most of the time I ask my students to close their eyes! It does work, but I think I'm going to have them try some of these tools—with their eyes open. (Perhaps I need to reflect on my own 'frame' of verbal literacy.)"

Julie decided, "I want to get Hyerle's training manual, *Thinking Maps: Tools for Learning*. We have to remember that ultimately we are teaching process, not just content. I have also been inspired to rethink some of the ways I teach content to third-graders. Using a specific visual tool will provide a better 'picture' of the information for students to create meaning." She advises teachers to model one type of graphic organizer, having students become proficient before introducing another type. Then ask them to choose the tool they want to use for a specific task. "See how their choices match those of others in the room (including yours). Have students explain their choices. Remind them there is more than one right way to organize information."

"Although I use graphic organizers,'" Julie concludes, "I don't think I've used 'visual tools' to their full potential." This will likely be the response of many other readers as they immerse themselves in the Hyerle text.

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A Field Guide to Using Visual Tools by David Hyerle

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