4. An English Class That Works: Writing as Thinking

We begin with an English class that works by using writing to teach thinking. The flavor of a typical classroom session is captured in the following brief vignette based on field notes:

Price moves quickly from the xerox room, hands flowing with articles to share with his senior English students, keys rattling as he unlocks the classroom. He moves past the rows of desks toward his corner “den” overflowing with books, computer, and his beloved collection of music. Minimalist new age sounds soon fill the room... just enough time to collate articles and inhale a tuna salad. Air begins to breathe into the room. Outside the classroom unfolds major lunchtime partying for the 1,000 students populating the expansive campus of low and relatively new buildings. Chimes signal the end of lunch. Music off, the last article collated, stapled, filed, and ready for class.

Twenty-four seniors trickle into the first-floor classroom. Most energetically gab about the prom, others are getting ready to work. Articles, papers, and novels appear on desk tops. Mr. Price takes roll silently while students settle in. Another set of chimes sounds and he begins to quiet class with “Shhhhhhh . . . ” A girl, seated mid-room, is still talking and stops abruptly. Mr. Price advises politely, “you can finish your sentence.” Within a minute or two of the start of the class, he has their full attention.

The assignment to have students submit articles to a class resource pool is beginning to take shape. Susan volunteers and hurriedly reports on an article about Latin American culture in terms of “social status, power, money, and tradition.” Pleased at this presentation, Mr. Price reinforces her point that understanding Latin American culture is yet another way to appreciate the assigned novels; he does not critique her rushed presentation. Students pen a few key words while listening. Susan can now add her name to the growing list of contributors on the wall chart of assignments.

With only two weeks to go before graduation, students begin to voice some panic at the coming deadline for completing their papers. Mr. Price elicits and suggests some alternative and useful strategies: making time for article presentations and coming to class with a specific purpose and things to do. Many students buy in to the plan with positive nods and note taking all around.

Questions about papers and novels begin in earnest. Students begin to perk up when helpful suggestions come from various corners of the room. Mr. Price paces from his normal place, front and center, perching on empty desk tops throughout the room as he contemplates, grins at the collaborative process gaining momentum, reinforces, and occasionally teaches some emerging aspect of writing or research. No dozing or socializing today!

Sensing that Mr. Price is “on a roll,” Mitch draws him into reviewing ways to begin and end a paper. The class becomes restive. Two students come in 50 minutes late and Mr.
Price simply rejoins that they should “please be on time.” He refocuses the class with “here’s a clue for all of you.” Conversations stop and the attention returns to his conclusion that in order to “open” a paper, one could “ask whether your introduction serves to add to the reader’s understanding or is it superfluous?”

The chimes sound. They’re all out the door.

**Instructional Goals**

The second semester of Mr. Price’s college-prep English class focused on critical reading and writing. Students read three novels by modern Latin American authors and wrote a documented critical essay on “magical realism” (a style of fiction represented by the authors) and a topic of their own choosing (e.g., magical realism and women, magical realism and time, etc.). The assignment was both open ended (e.g., students chose a topic) and structurally defined (e.g., paper had to include a bibliography and follow a particular format). Mr. Price used the readings and essay as vehicles for teaching a variety of generic and domain-specific skills, with a strong emphasis on generic skills: His focus was not on imparting an understanding of the history of the novel or of Latin American literature. His general model was to use cooperative learning methods to teach a composition process that employed a nonlinear approach, discussed below.

**Critical Thinking Skills**

In the first semester, students learned literary forms that would help them identify the underlying structure in a piece of writing. For example, he instructed students on the “eight ways of meaning” (plot, character, symbol, imagery, diction, figurative language, mood/timing, sound devices) and on the elements of classical rhetoric. During the second semester, when our observations took place, he focused more on the writing process, around the theme of “thinking as writing.” His model of the composition process was in some ways parallel to the general problem-solving model that requires complex reasoning skills, such as recognition of the problem, generation of solution paths, evaluation, and reflection. In the process of creative writing, however, these skills assume a different character.

**Emphasis on Nonlinear Thinking.** In contrast to a structured problem-solving approach—which seeks to narrow down the problem by identifying discrete

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1The books were *One Hundred Years of Solitude* and *Love in the Time of Cholera* by Gabriel Garcia Marquez, and *The Storyteller* by Mario Vargas Llosa.
parts—Mr. Price emphasized the opposite. He felt strongly that linear thinking interfered with the creative aspects of the writing process. He wanted to “train them [students] to abandon linear thought” and to make students comfortable with “negative capability”—i.e., the notion that temporary confusion is preferable to quick judgments about the meaning of text. He defined “analysis” as first thinking broadly about the “problem” (e.g., the meaning of a symbol or significance of a character’s action) as a way for students to gain inspiration from their own thinking and experience. This step was essential before honing in on a specific research topic.

EXAMPLE: Mr. Price reads aloud an excerpt from Sometimes a Great Notion by Ken Kesey that tells the reader how to read. Mr. Price: “the notion that we should look for linearity doesn’t follow. It’s not the way we think. It’s not the way we learn, write, or think about things. Nonlinear thought. That’s the big idea of my course. . . . If we are looking for causal things in Latin American authors, we won’t find it.”

EXAMPLE: The teacher acknowledges that the process of finding meaning in two paragraphs is difficult. “The more we read, the more secure we get with temporary understanding. That is what we learn in this class.”

As these examples indicate, Mr. Price wants students to accept that thinking broadly and generating ideas, without reaching closure, can be difficult and frustrating. But he also suggests that students will come to accept temporary understanding as part of the process.

**Generation of Ideas.** While the problem-solving process involves generating possible solution paths, the writing process requires generating ideas. Mr. Price encouraged students to read broadly and to include their own experience as a source of ideas, even after they felt they had converged on a topic. He also wanted students to “unlearn” some habits or lessons that he considered ineffective.

EXAMPLE: Mr. Price discusses how to open the paper. “You were taught last year to open with an interest creating device. I think that’s dishonest.” He suggests that students begin with an anecdote about their idea, perhaps drawn from personal experience. Alternatively, he suggests to “just state your idea baldly.”

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\^2The first steps in problem solving include problem recognition and analysis. If the problem is well defined, the problem solver can represent the problem in a way that lends itself to solution. This involves specifying the parts problem, i.e., identify start state, determine goal state, determine constraints, and so on, in a fairly linear or stepwise fashion (see Stasz et al., 1990, Section 2 for further discussion).
Evaluation of Ideas. Mr. Price’s “theory of thinking” was that ideas and inferences are generated by connections that develop during thinking. This involves making decisions about the ideas, and whether they are worthwhile and potentially useful. Evaluating ideas is similar to evaluating different solution paths generated to solve a problem.

EXAMPLE: Mr. Price gives students a heuristic for detecting what really interested them: “As much as you study and read, if something catches your attention then it is significant.” He encourages students to select a topic that really interested them because they would be more motivated to write about something they cared about.

Thinking Heuristics and Strategies. Mr. Price taught students explicit heuristics and learning strategies. The preceding example illustrates a heuristic for detecting an interesting topic. He also taught strategies for generating ideas:

EXAMPLE: As students offer interpretations of a passage assigned for homework, Mr. Price lists them on the board. “If something occurs to you, jot it down. After a time, you can see the ideas recurring.”

EXAMPLE: Mr. Price reads a sentence from the novel and writes a list of “themes” from one sentence. He says “by taking one sentence we can talk about what the novel is about. Is it a novel about a hero? About death?”

In the second example, the list-writing strategy to generate “themes” is coupled with asking questions. Taken together, the strategy he teaches is: Read a paragraph/sentence; make a list of ideas or themes; ask questions. Often, Mr. Price would try to get students to identify or articulate a strategy, but he was not always successful.

EXAMPLE: After making a list and eliciting questions from students, Mr. Price says “What am I trying to do?” He pauses for a moment then says, rhetorically, “I don’t think I’ll get an answer.”

Mr. Price pointed out how the questioning strategy can help students evaluate their ideas and abandon less fruitful lines of inquiry.

EXAMPLE: “If you pursue an idea and it doesn’t lead you anywhere, you think, oh good . . . I don’t have to worry about that anymore.”

Heuristics and strategies can be important tools for learners because they provide concrete ways and “rules of thumb” to go about learning—they help students learn how to learn.
**Work-Related Attitudes**

Mr. Price attempted to inculcate several attitudes and dispositions toward the thinking and writing process. His general approach was to discuss the relevance of these skills for college, where students would be required to read material and write papers.

**Ability to Make Decisions.** The writing task was ill defined in many respects and required students to be creative and to make their own decisions. The teacher also encouraged students to think on their own by not answering their questions directly.

EXAMPLE: Students need to choose a topic for their research paper. One girl asks if “time and chronology” was a good topic for her paper. The teacher says “yes, if you find it interesting.” She responds by going up to the wall chart and recording the topic next to her name.

Mr. Price tended to deflect requests for information or help when he knew the students could or should answer the question themselves. He also stressed that students should not appeal to his authority or count on him to make the task easy. He rejected several appeals from one student, who wanted Mr. Price to explain the book so he could select an appropriate topic.

EXAMPLE: In a discussion of *The Storyteller* a student asks “why all these strange names? Are they real?” Mr. Price replies, “good question.”

EXAMPLE: Mr. Price gives students three suggestions for presenting the ideas they identified in the three novels. He adds that he is not suggesting that students adopt any approach. Mr. Price: “I believe a structure will emerge from your ideas. Just start writing.”

Here Mr. Price explicitly discounts a formula or analytic approach to structuring the paper and favors a nonlinear approach in which the structure emerges from the writing.

**Boldness in Decisionmaking/Thinking.** As mentioned above, Mr. Price emphasized a nonlinear thinking approach to writing. He encouraged students to choose any topic that held personal interest and to use their own experiences as a source of inspiration. He wanted them to “evade the obvious and go for their own ideas.” Mr. Price felt that the majority of students’ academic experiences or “what and how they learn in school teaches them to distrust their own ideas.” His challenge was to help students learn to trust in their own thinking and ideas.
Learning Parameters of Workplace Situations. Mr. Price was concerned with helping students appreciate the contingencies of the work world outside school. Since students in this class were headed for college, he wanted to prepare students for college work, and more generally, for lifelong learning. Thus, in addition to specific thinking, writing, or research skills, he wanted students to gain an appreciation of literature and an understanding that only critical readers become good writers.

EXAMPLE: “My goal is to help you recognize elements of writing, and ask yourself, why does he do that? You might not ask, but if you ask, you risk losing the TV-level of reading. . . . Those who play the piano or violin are more critical listeners of music. If you are concerned with being a good writer, you will be a more critical reader. You will notice these things instead of being lost in the art.”

He also expected students to assume responsibility for their work, as they would be increasingly required to do so in the future. He did not accept students’ excuses.

EXAMPLE: Carla approaches Mr. Price at the end of the class and tells him that she can’t do the assignment (the paper). He says, “I’m not willing to back off on the requirement.” He offers to give her individual help. Carla, looking dejected, goes back to her seat.

Later, Mr. Price commented that he knew Carla was crying and seemed upset that he “drew tears.” He showed caring and concern for the student, but upheld the requirement that she assume responsibility.

Encouraging Questioning of Authority. In the course of their research for the paper, students read articles and critiques about the novels that they had cooperatively gathered from local public and university libraries. Mr. Price encouraged students to question the interpretation that critics advanced. In class discussions, students freely challenged the teacher’s or other students’ interpretations as well. At the same time, he wanted students to respect others’ right to have opinions, even if these differed from their own.

Persistence. Throughout the paper writing activity, Mr. Price frequently acknowledged that students were engaged in a difficult task that was often frustrating. He encouraged them to persist, not only by helping them accept a state of “temporary understanding,” but by assuring them that the process of reading broadly, identifying themes, and thinking about one’s own feelings and experiences in relation to those themes would produce results. The payoff for persistence is “feeling pleasure at mastering a subject.”
**Cooperative Skills**

Although students wrote individual papers, Mr. Price encouraged cooperation among students in the reading and writing process. He had read extensively about research on the benefits of cooperative learning and conducted staff development workshops for teachers on this topic.

In particular, Mr. Price explicitly encouraged students to use each other as a resource for help solving problems. By doing so, he tacitly advanced the notion of “distributed knowledge”—every individual has some knowledge or skill that can be useful to a group task. He also had students work in small groups to accomplish specific tasks.

**EXAMPLE:** Students were required to give brief oral reports of any articles they read that might be of interest to the class.

**EXAMPLE:** Students push their desks together in groups of three or four to discuss a quote from *The Storyteller* and generate a list of ideas. Their assignment is to come to a consensus on the key idea. After about ten minutes, one student stands and orally presents the group’s idea to the class.

**Research Skills**

Learning important library and research skills also had high priority for Mr. Price. Students were required to use the library to identify relevant articles that the class could use for their papers.

**Library Procedures.** Specific library skills that Mr. Price expected students to develop included using the card catalog, locating and obtaining articles, and finding journals. He also met students at the university library on several occasions to help them with their research.

**Paper Format.** Students had to follow a standard format for their papers, which included creating a bibliography and proper use of quotes and footnotes.

**Heuristics.** To help students learn research skills, Mr. Price offered heuristics for using the library.

**EXAMPLE:** “When you get to the area [the library shelf that contains a book the student wants], look around at other books and titles. Are there other books that might be valuable?”

**EXAMPLE:** “After a while, you will not come across new titles. Then you will know that you have covered the literature.”
In the latter example, Mr. Price gives students a strategy for knowing when to terminate a literature search and move on. This way, students won’t spend unnecessary time looking for new information that they are not likely to find.

**Deemphasis on Domain-Specific Skills**

The content domain of this class was Latin American literature. Although his instructional goals clearly emphasized generic thinking and writing skills, Mr. Price also attempted to show students how this literature fit within a broader cultural context.

EXAMPLE: The teacher begins class by discussing a newspaper article, “Cholera Compounds Peru’s Economic Misery.” He points out how one of the books they are reading, *Love in the Time of Cholera*, deals with a topic that’s relevant to current life in Latin America.

As mentioned earlier, the first semester of the course also included domain-specific knowledge goals, such as understanding the eight ways of meaning.

**Classroom Design**

To carry out his instructional goals, Mr. Price designed specific activities and created a particular environment for learning important thinking and writing skills. The classroom exemplifies many of the characteristics proposed for effective learning environments (Collins et al., 1989).

**Teacher Roles**

Mr. Price’s primary role was to facilitate and guide students through the reading, thinking, and writing process. Below we discuss several techniques he adopted in service of this role. He also often presented himself—accurately—as a learner, who was engaged with the students in the process of understanding contemporary Latin American fiction. In this way he put himself and the students on an “equal” footing, which served to set a tone of mutual respect and reduce the teacher’s authority, while increasing students independence.

In addition to adopting specific teaching techniques to support these roles, Mr. Price had relevant experience that he could share with students. He had taken a sabbatical from teaching to study writing at a local university. This experience was important in helping him formulate his instructional goals and to implement them effectively. He also read about cooperative learning and had
“conversations with people I respect” about literature. He believed that there is no model for what he was trying to accomplish—using cooperative learning methods to teach a composition process that employs a nonlinear approach. He described himself as “out there laying fence”—i.e., developing entirely new techniques and methodologies.

It was clear that Mr. Price is an avid reader. His classroom was stacked with books on various topics—computers, cooperative teaching techniques, architecture—and he had installed a sound system to play music when he was working on noninstructional activities in the classroom. Students could see that their teacher was a person who collected books and music. His animated reading aloud of the novels during class time—often punctuated by physical movements for emphasis—demonstrated his passion for literature and helped reinforce his messages: Read deeply and critically if you want to write well; acquire a love of good literature.

**Situated Learning**

In a situated learning environment students carry out tasks and solve problems that reflect the multiple uses to which their knowledge will be put in the future. In Mr. Price’s class students were required to produce a documented critical essay on a topic that applies to the three novels and has “important meaning in our culture.” This assignment gave students opportunities to actively engage in using the knowledge and skills they learned about writing, research, and themes in Latin American fiction. They learn to apply heuristic and learning strategies. They learn that particular skills and knowledge are transferable to a different context from Latin American fiction. To produce the paper, they must formulate their own problems and goals, and deal with difficulties that can thwart their progress (e.g., a key article is written in Spanish). Recognizing and delineating emergent problems that arise in the course of carrying out a rich, complex task is a crucial skill, often used by expert writers (Scardamalia, Bereiter, and Steinbach, 1984). Students also have opportunities to learn the constraints of the “embedding context”—in this case, the classroom—to help solve emerging problems, for example, by using other students as a sounding board for ideas.

Because students did not proceed in unison with their reading, writing, and research tasks, the class was organized to permit parallel work. Students recorded their progress on a wall chart, which permitted Mr. Price to track individual progress and organize classroom activities accordingly. During a single class period, then, he could give one-on-one help to students in need, while others worked alone or in small collaborative groups.
The situated learning was also sequenced to guide student growth from basic to more complex knowledge and skills. Mr. Price did not discuss sequencing principles explicitly or indicate that he thought about instruction in these terms; rather, he emphasized nonlinear thought and the fluidity of thinking and generating ideas as part of the writing process. However, his practices indicate a tacit understanding of sequencing. In the first part of the semester, for example, he taught classic rhetoric and the eight ways of meaning, and analyzed meaning in selections of poetry. Students also did “emulations”—an exercise in which students take a piece of good writing and mimic its sentence structure while writing on a completely different topic. He often began class by asking students to read aloud the emulation sentences that they had just written. Prose analysis using the eight ways of meaning and emulation exercises seem intended to prepare students for the reading and writing task that culminated in the critical essay assignment.

**Culture of Practice**

This class supported three cultures of practice: that of the writer, that of the reader, and that of the college student. Although it was not clear that students identified with each of these, most seemed engaged in their reading and writing during class and a few showed great enthusiasm. Discussions with students at the end of the semester (elaborated below) indicated that many felt the class initiated them into the culture of the college student.

Some classroom activities seemed to support one culture over the other. Activities and instruction focused on library skills and the format for the research paper, for example, were geared to developing college-relevant skills. Other activities, particularly those involving reading, thinking about, and discussing the novels were targeted toward the writing process. The many cooperative and group activities (discussed in more detail below) also seemed supportive of the culture of writing. Discussions about literature, the relationship of literature to culture, and the value of “reading deeply for understanding” supported the culture of the reader as a “connoisseur” of literature. But it is also clear that some activities supported several cultures of practice and, taken as a whole, complemented each other in the creation of a dynamic, challenging learning environment.

Specific activities seemed particularly interesting to us as guideposts to other teachers interested in teaching critical thinking or reasoning skills. One was Mr. Price’s practice of explaining his own teaching techniques, or sharing his own
experiences with writing, in ways that make visible the underlying skills and attitudes that form expert behavior.

EXAMPLE: Mr. Price models how to generate a topic from one’s own experience: “If any of you were moved by Dances with Wolves and the trashing of a native culture, then transfer your thoughts and feelings about this to One Hundred Years of Solitude or Love in the Time of Cholera. Note that there are several things I did NOT start with to develop a topic: the authors, the books, critical reviews. Start with your own personal interests in order to make your paper a consuming interest rather than work.”

In this example Mr. Price explicitly reveals his own thinking process in generating an idea. The availability of such models helps learners build and refine a conceptual model of the task they are trying to carry out (Collins et al., 1989).

Another time, he contrasted teaching methods to convey the purpose of a particular method:

EXAMPLE: “This is frustrating for you, isn’t it? You’re thinking, ‘why not just tell us what’s going on Mr. Price?’ I could use another technique. I could lie to you and make up a silly interpretation and make you argue with me. I think you’d like that better. How do you feel about this technique [i.e., not giving students an answer]?” The student replies, “Absolutely no clue.” Mr. Price repeats, “And that’s frustrating for you.”

In this example, Mr. Price told students that another way to go about interpreting literature was to advance a “straw man” that the group could argue about. He purposely rejects that approach, even though he feels the students’ frustration. Rather, the approach he takes—not giving his personal interpretation or a “straw man”—is better for having students experience temporary understanding. Getting comfortable with temporary understanding as a part of nonlinear thinking is a main lesson in his class: A lesson that reflects how “expert” writers accept uncertainty, and perhaps feel frustration, while engaged in the writing process. This technique also supports another instructional goal: to encourage students to do their own thinking without appeals to authority. Below we discuss Mr. Price’s use of modeling to illustrate other expert practices.

A second interesting activity related to developing a culture of practice concerns discussions about group norms. The teacher and students discussed norms at several points during the semester, usually when some issue arose about how to accomplish their work.

EXAMPLE: With only two weeks left in the semester, it seems clear that classroom time must be used to work on the papers if several
students are to finish. Everyone will have to keep on task. Mr. Price: “One last threat, or question actually. Some students will not work and will start late. What should we do about this?” Student #1: “Kick them out.” Student #2: “Let the librarian babysit them.” Student #3: “Let them sign themselves out and just not come to class.” Most students indicate agreement with this suggestion, and the teacher moves on.

This example illustrates how the class defined acceptable behavior for the group: either come to class prepared to work or don’t come at all. During this discussion students also rejected Mr. Price’s suggestion that those who were off task be required to give progress reports. One girl protested that this approach was fallible because students could “BS their way through that” (i.e., make up the progress report).

In addition to discussing group norms, Mr. Price often requested students to adopt behaviors conducive to creating an appropriate environment for work.

EXAMPLE: During silent reading time, Mr. Price instructs students to “please create a quiet, contemplative reading environment.” He counts down from ten until students stopped conversing. As students read, he circulates around the room and answers questions in a whisper.

A third way that Mr. Price enhanced the culture of practice was to invite “experts” to attend class and discuss different topics. Experts were regularly scheduled and appeared in class nearly every Friday. On one occasion Mrs. Verde, the Spanish teacher, discussed what she had recently learned in a university course on magical realism. On another occasion, a French exchange student in the class spoke about the French view of U.S. policies in Latin America, such as the invasion of Panama. This discussion was provocative, because students learned that other countries saw U.S. actions as imperialistic, not patriotic. By asking a student to speak, Mr. Price acknowledged that students can possess relevant expertise, not just teachers or other adults. In all likelihood, the opportunity to share his views as an “expert” enhanced this particular student’s motivation as well.

Motivation

Mr. Price believed that students were motivated when they successfully accomplished a task. He also acknowledged that students are not highly motivated to write. His most evident motivational device was his insistence that students choose topics that interest them. He reasoned that all students could write if they took the time and effort to discover what was relevant to their own
interests. In this approach, he emphasized intrinsic goals (e.g., the pleasure of
the creative process or the accomplishment of producing a good essay) over
extrinsic goals (e.g., write to get a good grade or please the teacher).

Mr. Price also praised students for good work when they selected a topic, raised
interesting questions, or offered insightful interpretations. He also gave students
opportunities to make individual, and sometimes unique, contributions to the
class discussion.

EXAMPLE: Mr. Price asks Maria, a Spanish-speaking student, to
pronounce a difficult Spanish word in the text. Maria pronounces
the word. Mr. Price attempts to mimic her pronunciation, but fails.
Throughout the rest of the reading, he pauses at the particular
word, and Maria pronounces it for him. Each time the students
laugh, and then Mr. Price continues to read.

Mr. Price expressed general distaste for grading and students who “push for
points.” His method for grading the critical essay was based on a scoring rubric.
The rubric sheet shows grading criteria for the content, argument development,
style and mechanics of the critical essay, with more specific criteria under each.
It presents four specific examples, ranging from lower to higher quality, for
fourteen different criteria. The “insight” criteria, for example, contrast
“discussion lacks basic understanding” with “shows special insight or originality
throughout treatment of the topic.” The rubric sheet gives students a clear
understanding of expected performance, which should aid in motivating them
(Hackman and Oldham, 1980). Mr. Price took each student’s best work and
scored it against the rubric. He also took student effort into account and
explained that “obstinate, nonperformers” would likely receive a “C” grade.
While the rubric sheet provided a clear guide for students and supported
grading for individual writing instruction, he was not focused on grades. His
main goal was to get students to apply appropriate effort based on their skills.
The way to harness that effort was through their personal interest in a topic, not
by holding up standards for achievement.

Mr. Price’s attitude about grades upset some students, especially those students
who have learned to manage their grades effectively. When these students asked
“What do I need to get an A?” he replied “I don’t know.” While students found
this answer frustrating, his response communicated the view that a teacher
cannot know what a student “needs to learn” because the student must
determine and judge this for him or herself. This approach also places some
responsibility for learning back on the students.
Cooperation

As mentioned earlier, Mr. Price showed students how to use each other as resources—for information about articles, for feedback on ideas, for figuring out the meaning of a passage. Students sought each other out for help in class and for rides to the local university library. He also used several group activities that yielded information that could be shared with the whole class (see earlier example of discussion groups to identify themes).

EXAMPLE: Students meet in small groups to read and study a single paper. Then groups are reformed to include one member from each of the previous groups. Each member in the new group then reports on the paper studied in the original group. In this way, all students hear about each paper.

Mr. Price gave students clear instructions about what to say in the second group: Take 3–4 minutes; don’t talk about your confusion; speak clearly; use lots of facts; give the title and author of the article; give an overview. In this way, students learned how to share information with the group in an efficient manner, within the time constraints of the class.

In addition, students read and critiqued each other’s papers. Students noted that this exchange was very helpful for their writing. They also learned to give constructive feedback without causing offense. One student explained that they were sensitive to the fact that roles changed back and forth between writer and critic as each student’s work was discussed in the group. Having students switch roles has been shown to be effective for acquiring skills in reading (Palinscar and Brown, 1984) and writing (Scardamalia, Bereiter, and Steinbach, 1984).

Toward the end of the semester, Mr. Price formed groups composed of students who were at roughly the same stage in researching or writing papers so that they could help each other to proceed:

EXAMPLE: The teacher works closely with students who are floundering (e.g., still had no topic for their paper). Students who have made some progress are instructed to talk about their ideas and projects: “Saying it out loud will help you. When you are explaining it to someone you are rehearsing what you will end up writing about.”

By adopting this strategy, Mr. Price gave students a heuristic for helping them form their ideas, and a cooperative audience to listen and provide feedback.
Teaching Techniques

We observed Mr. Price employing a variety of specific teaching techniques to support his instructional goals. Some were common methods typically associated with traditional teaching, such as lecturing, providing handouts with explicit instructions (e.g., for conducting library searches and compiling a bibliography) or giving direct answers to students’ questions. These directed methods were quite infrequent, compared to other techniques.

In keeping with his goal to make students think for themselves, he rarely answered direct questions that concerned literary interpretation, choice of topic, etc. He did answer specific questions about doing library work (e.g., where’s the best place to park at the university library? where are the xerox and change machines?) or the research paper (e.g., does it have to be typed? should we assume the reader has knowledge [of the novels]? do you want quotes and footnotes?). On occasion, Mr. Price would answer his own question when students seemed unable.

EXAMPLE: Mr. Price asks students to explain the difference between a sentence written by Llosa and one written by Garcia-Marquez. After much discussion, he concludes that the students are off track. “We are missing the point, so I am going to have to tell you what I am trying to get you to say. The meaning of the story is carried by the verbs, which are used descriptively.” He then diagrams the sentences on the board to illustrate.

Another fairly common technique used by Mr. Price is to give students exercises that provide specific practice in a skill: for example, to “read the next two pages and come up with a list of new ideas. Then draw an inference about how the ideas relate to your topic.”

In contrast to these more traditional methods, Mr. Price adopted a number of methods that can help students acquire and integrate cognitive and metacognitive strategies for using, managing, and discovering knowledge (Collins et al., 1989). These include articulation, modeling, scaffolding and fading, coaching, providing analogies, and providing individual instruction. Illustrative examples of these methods follow.

Articulation

Articulation methods get students to articulate their knowledge, reasoning, or problem-solving processes in a domain. Mr. Price asked specific questions or adopted other techniques to promote articulation. He often did so when reviewing material learned in prior lessons.
EXAMPLE: Mr. Price reviews the steps in the process of writing the paper by having students recall and share the principles they had learned earlier: “I want to review with you ‘how to do the paper’ with you telling me how. I’ll write down the good ones.”

In addition, cooperative tasks involving role switching (writer or critic) led students to formulate and articulate their knowledge.

**Modeling**

The technique of modeling is used to externalize an internal (cognitive) process or to make an activity more explicit. Mr. Price frequently modeled and often explicitly told students that he was doing so. This provided students with a specific cue: Watch and listen to me and you will learn what to do.

EXAMPLE: Sue asks Mr. Price a question, which he suggests she bring to the class. Mr. Price: “Let me model what I’d do.” Mr. Price then asks her question to the class. Several students answer. Sue replies, “That’s good! Thank you.”

In this example, Mr. Price models how to use other students in the class as a resource and reinforces one of his cooperative learning goals. In an earlier example, Mr. Price modeled how to generate ideas by using a feeling about a movie to direct one’s thinking about the novels.

**Scaffolding and Fading**

Scaffolds are supports (verbal or physical) that a teacher provides to help students carry out a task. Fading occurs when the teacher gradually withdraws support until the students are on their own. Mr. Price used physical scaffolds by, for example, writing on the board three different possible structures for the research paper.

EXAMPLE: Sue is having difficulty identifying a topic for her paper. Mr. Price offers to help her: “First, we can generate some lists. What do you like to do in your spare time?” Sue: “I like to take photographs.” Mr. Price suggests she try the topic of “imagery” and “develop a list of 30 ‘pictures’ taken from the novels as examples of the author’s use of imagery.” After some discussion Mr. Price suggests she might “talk about them as a walk through a gallery.” Sue: “What’s my thesis?” Mr. Price: “You won’t know until you make the lists.”

In this example, Mr. Price gets Sue started by asking a question. After they identify imagery as a topic, he suggests ways for her to begin thinking about the
topic (scaffold). Once he sees that Sue can carry on herself, he stops making suggestions and does not answer her question about a thesis (fade).

Another example is revealed in his design of cooperative activities, where he forms groups based on student progress with the paper. He works with the group of students who have not yet identified a topic (scaffolds); he instructs students in other groups to present their topic and ideas orally to the group (fades). Note that students in the latter groups have already had much practice in listening to and critiquing others’ ideas; students have learned necessary skills to help each other.

**Coaching**

Coaching consists of specific feedback, hints, suggestions, and so on, relevant to a particular problem that arises as students are engaged in a task. Mr. Price used hints to get students started on a task. However, he was careful to emphasize that hints should not be taken as answers: Students had to generate their own ideas.

**EXAMPLE:** Students are assigned to read two quotes and generate ideas about their meaning. Mr. Price says, “I’m going to put two words on the board to guide those of you who are lost.” He writes “cultural” and “evolution” on the board. “If you put them together, they may have an interesting meaning. If you are not lost, and have ideas, do not look at them or they will lead you down a path that is mine.”

**Providing Analogies**

Mr. Price often illustrated specific points with analogies. Some were fairly general and others were drawn from typical school learning experiences.

**EXAMPLE:** The process of figuring things out is like a ball of yarn. The more you pull, the knots get worse, but eventually you figure out what to pull so the knot comes apart. Mr. Price drew a ball of yarn at the board while he talked.

**EXAMPLE:** In explaining a strategy for evaluating ideas, Mr. Price invokes science class. “In a science experiment, one strategy is to figure out the negative case—don’t go after what you think it is, but what it isn’t.”

In Mr. Price’s analogies, we see a parallel to Ms. Adams’s “war stories”: these were anecdotes from her experience as an interior designer to teach students a particular lesson, such as why not to use linen fabric for drapes (Stasz et al.,
The anecdotal retelling of experiences to one’s associates on the job has been shown to be an effective means for teaching and learning diagnostic skills in a community of workers (Orr, 1986). Because Mr. Price is a teacher, not a writer, he had no war stories to share. His analogies are possibly weaker than war stories for teaching a specific fact or process, but they might help students by relating the writing process to an image that students can visualize (pulling on a ball of yarn) or to a process that they have experienced in another context (e.g., the science experiment).

**Individual Instruction**

Although many of Mr. Price’s class activities involved group work, he viewed writing instruction as individual. He gauged student progress through conversations with each and tried to determine whether they had developed any “big ideas.” If the student could discuss something he or she had achieved, such as reaching some new understanding, then Mr. Price concluded the student was on the right track. He often worked with students one-on-one. When class was not in session, he was frequently available to students requesting help. During the final weeks of the course, he scheduled individual consultation times for which students could sign up for help on their papers. Mr. Price said he “loved to grade papers” because it helped him focus subsequent instruction on individual students. Again, we see that his emphasis was not on grades per se, but on using signs of student learning to gauge student progress and suggest how learning could be facilitated.

**Student Perceptions and Accomplishments**

All of the students in Mr. Price’s class who responded to the survey (N = 23) were college-bound, with three-fourths intending to go directly to a four-year college or university. The schedules of all but two students reflected the college preparatory track, taking courses such as higher-level math and science. One-third of the students chose the course to improve their writing skills. Only three indicated that they had chosen the class to avoid the alternative senior English courses.
Critical Thinking and Writing Skills

Survey responses indicate that about half of the students (52.2 percent) felt the class improved their writing skills “a lot,” while over two-thirds (69.6 percent) said it helped them write a better paper.3 In group discussions, some students reported that the writing exercises were most helpful in honing their skills and would have liked more of them. One student said the emulation technique was most helpful to him in writing the paper. These students generally felt the time spent reading the novels and writing the critical essay was less useful.

In the focus groups, students spoke about learning a concept that Mr. Price called “negative capability,” an ability to tolerate confusion temporarily in the process of achieving insight:

EXAMPLE: Mitch said he “learned about negative capability—if you let yourself be scared by something and don’t run away from it, eventually you will figure it out. It will come to you out of the blue.”

EXAMPLE: Karen described herself as “a math person” who had to know if something was right or not. In this class, the teacher said “well, it could be this or that, or something else . . . what do you think?” As time went on Karen said that knowing was “less important” and she came to accept “not knowing.”

In classroom observations, we noted many instances of students discussing ideas and interpretations about the books with each other while in small groups. During these sessions Mr. Price typically circulated around the room and unobtrusively listened to student discussions. In this way he was able to monitor that students had indeed learned to hone their thinking skills.

Reading and Appreciation of Literature

When surveyed, 70 percent of the students said the class taught them how to understand literature. In the focus group, Anna discussed how she learned to read better and was more confident in her reading ability after having tackled three “difficult” books.

Students were mixed about the choice of Latin American literature: David wished for “American writers on familiar topics like the family,” while Anna “liked the unfamiliar topic” and Susan “found it fascinating.” On the survey,

3Students responded to statements on a scale from 1 (strongly disagree) to 5 (strongly agree). Unless otherwise noted, percents represent those students responding “4” or “5.”
nearly half of the students (47.82 percent) said they did not like the books they read.

Research/Library Skills

By the end of the semester, every student “agreed” or “strongly agreed” with the statement that “it’s important to learn how to do library research.” In focus groups students said they had learned to construct term papers and do research.

EXAMPLE: Susan: “I didn’t know I could research before. I used research to learn it [the topic of her paper] on my own. I really mean this!”

Cooperative Skills

Ninety percent of the students felt that class helped them learn to work with other students. About 70 percent felt cooperation helped them write a better paper. In focus groups students commented that reading and critiquing of each others’ work was a helpful learning technique. In class, we observed many instances of cooperation, where, for example, students shared library heuristics with other students based on their own experience. One student mentioned that many articles had subject indices in the back that helped determine if the article contained information on their chosen topic. Another discussed the use of the periodical index as a research tool.

Work Attitudes and Preparation for College

Three-quarters of the class believed they had learned skills in this class that would be helpful in the future. In focus group discussion, students said the class had given them a “taste of college” where courses are not structured, there is little busy work, and courses involve broad coverage of topics. This discussion of class structure was echoed in the survey, where nearly three-fourths of the students “disagreed” or “strongly disagreed” with the statement “this class had a lot of structure.” But in discussions students were quick to clarify that lack of structure was not necessarily a problem: “Lack of structure doesn’t mean the ideas weren’t thoughtful”; the class was run in a “kick back” mode, but that “doesn’t mean it wasn’t challenging”; “in-depth handling of the topics provides the structure.” Students also said the unscheduled aspect of the class and deemphasis on grades made for a “stress-free environment.” Their comments suggest that students had come to accept the unstructured nature of the class and saw it as a positive experience and useful preparation for college.
Bob’s experience in this class made him think differently about college.

EXAMPLE: Bob explained, “[I] normally want people to tell me what they expect from me and to move me along, piece by piece. That’s linear thinking—just what Mr. Price is trying to stop. I understand the problem I have. I’m just nervous that I’ll get scared in college and go back to bad habits.”

Other students expressed more confidence in their abilities as a result of the class.

EXAMPLE: Lila said she had been worried when they first got the assignment for the essay and was “shocked that the stuff just flowed out” of her. She learned that she could do all of it herself and that “it was all there inside of me.”

**Motivation**

Students made several comments about how the class structure motivated them to learn. The deemphasis on grades, lack of “punishment” if an assignment was late, and the opportunity to improve grades with effort enhanced motivation and made students work harder.

EXAMPLE: Lila said she worked really hard on her paper and got a “B.” In the past, she would have been upset by a “B,” but had learned that a “B” did not mean that she wasn’t smart. “It’s okay not to know something right now, because if you continued to work on it, maybe next year, you would know it then.” Gerry added that “if you got a grade you weren’t satisfied with, you could revise the paper and make it better. . . . This is important for learning to write because when you write, you revise.”

Students also felt motivated because their teacher cared about them as people, cared about their work, and really believed that students could learn to write. Mr. Price was “a father figure . . . no, more of an uncle” to them.

A few students felt that the deemphasis on grading made it easy for some students to coast through the class: “If you just showed up, you got a “C,” or it was easy to “show up, [mess around], and get a B.” But by and large, students felt motivated to work, despite the fact that, as seniors, most had already been accepted to college and their grade was, in some sense, irrelevant. This prompted one girl to note that it was a tribute to the teacher that so many seniors continued to come to class and work on a difficult assignment in their final semester.
School Context

Access to Knowledge

Mr. Price voiced several complaints about lack of resources. He had no dictionaries. He could not take the whole class on a “field trip” to the library. He had no computer terminals for accessing on-line library databases to identify and read relevant articles. He bought paperback copies of the novels with his own money. He would like to have an assistant to help him put together the materials needed for the class. Mr. Price also wished for more preparation time, which would, for example, allow him to plan more group activities in the English composition class.

Press for Achievement

Since Mr. Price taught a college preparatory English class in a school that emphasized academics and college placement, he received strong administrative support. The administration and Mr. Price had high expectations for the homogeneous group of “high-ability” students enrolled in his class. Interviews with school administrators indicate that college prep students have more course-taking options than other students. “Honors” classes also tend to have smaller class sizes (e.g., an average of seventeen students in honors English, compared to 33–38 students in other English classes). Pressure for honors classes is so high that the district instituted a waiver policy whereby parents could enroll students in honors classes despite placement advice that the class is too advanced for the student. Many parents are willing to pay for extra tutoring to keep a student enrolled in honors or college preparatory classes.

Interestingly, while Mr. Price’s college prep class received much support from the school, parents, and students, he personally opposed “tracking” students and objected to “honors” classes. He felt that the push among some students (and their parents) for grades was often counterproductive to learning. In addition, he felt that students with vocational interests—as many as 40 percent of the student population in his view—were not being well served by the school because of the college preparatory emphasis.

Mr. Price’s concerns seem well founded. Because of state and district graduation requirements, students often need prerequisites to enroll in advanced classes. Counselors use middle school grades to place students in, for example, Math A (pre-algebra) or Algebra 1, in the ninth grade. This placement effectively determines a student’s “track” and acts as a gate to enrollment in other classes. To meet district graduation requirements, the school assigns academic credit to
vocational classes whenever possible (e.g., landscape/horticulture counts as life science and electronics as physical science). Mr. Price disagrees with this practice and has argued that his own class in landscape/horticulture should not receive science credit. These tracking and crediting practices limit access to knowledge for many students by either preventing enrollment in future classes or by providing a less rigorous curriculum content in some courses.

**Professional Teaching Conditions**

Mr. Price had a great deal of autonomy in teaching the class: “the principal and the others leave me alone.” Mr. Price said he originally felt some pressure from the English department and administration to teach in a more traditional manner and include grammar and vocabulary in the course. He said he would rather teach somewhere else than teach traditional content. He noted that his class went beyond the state’s model curriculum guidelines and was at a higher level: In his class, “grammar is not separated from the study of literature.”

Although Mr. Price’s relationship with the school was not always smooth, he seemed able to conduct his classroom as he chose and to collaborate with other teachers (e.g., he team taught a ninth grade English class using a cooperative learning model). The school administration seemed respectful of Mr. Price’s abilities and of his willingness to teach “difficult” students in the landscape/horticulture class (see class synopses in appendix). It appeared that Mr. Price had some leverage with the school administration by teaching landscape. His personal reasons for teaching the landscape class, however, clearly had more to do with his interests and concerns for students, than any desire to gain favor with the school administration.