

Implementing Strategic Teaching

A staff development project in East Meadow, Long Island, has given teachers the time they need for collaborative planning in order to help their students become strategic learners.

- This is exciting! We are really thinking about our teaching, and my students are more actively involved in class.

- I've never had time to think much about how to teach science. I have just followed the teacher's guide.

- Why don't we have a regular time together to plan our teaching? This is so useful. For the first time we are really discussing teaching in a meaningful way.

These are the voices of seasoned mid-career teachers who have participated in a three-year staff development program designed to help them understand and apply strategic teaching and learning. These topics are well grounded in the research literature (Berliner 1986, Brophy and Good 1986, Harris and Cooper 1985, Palincsar and Brown 1984, Duffy et al. 1986, Pressley and Levin 1983), but they are often introduced to teachers in bits and pieces. Unless teachers have sufficient time to make their own connections among theory, strategies, and their classrooms, the supporting theory may be lost, and their use of the strategies will suffer.

During the first two years of this program, teachers were introduced to the theoretical base for strategic teaching, learned specific strategies, and

observed demonstration lessons of these strategies in classrooms. They gained an understanding of what strategic teaching is and what they could do to help students become active strategic learners. Then, during the third year, teachers spent ample time together using a strategic planning

framework to design a unit of instruction in their own materials. (The planning framework is found in *Strategic Teaching and Learning: Cognitive Instruction in the Content Areas*, Jones et al. 1987.) The teachers applied what they had learned by planning together, teaching the lessons, and then sharing

Photograph by Barbara Shember, Meadoutbrook School



In planning how to tap into students' prior knowledge, each teacher selected a different prereading activity, taking into account student interests and teacher preferences.

and reflecting on their experiences. While working as a consultant with these teachers, I learned that they, like most elementary teachers, had not regularly been provided time for reflection, nor had they shared a knowledge base and planning framework to make it possible.

Here I hope to demonstrate how this process of instructional decision making provided an essential link between new knowledge of strategic instruction and its incorporation into the routines of teachers. First, I explain the framework and then provide an example of its application with intermediate teachers. The example highlights both the utility of the basic framework for teachers and the ways teachers modify strategies to fit their own needs and priorities.

The Planning Framework

The first three elements of the basic planning framework (see fig. 1) pertain to the content and strategies the teacher wants students to learn.

1. establishing the content priorities for the lesson or unit of study;
 2. establishing the basic organization of information that will facilitate student learning, whether used in the written materials students receive or not;
 3. determining the outcomes or criteria for evaluation of students' success.
- Items 4, 5, and 6 in the framework in Figure 1 deal with linking the first three items to student characteristics.
4. anticipating what prior knowledge students possess about the topic and the basic organizational frames that will be used;
 5. checking the texts and resource materials to determine if vocabulary and other text features will pose problems for the readers;
 6. anticipating what strategies students will need to learn the material and at what level students have internalized these.

Next, teachers plan the actual sequence of instruction, using the three phases of the teaching/learning process: preparation, presentation, and integration and application of ideas (see fig. 2). In initiating lessons or units,

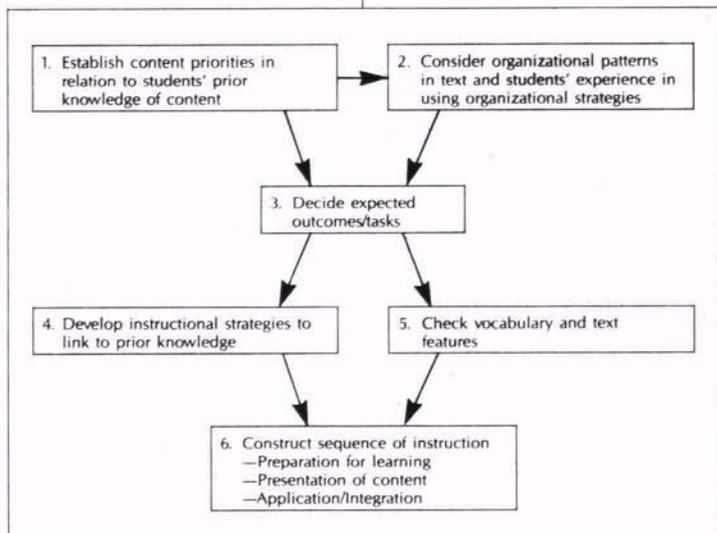


Fig. 1. Procedures for Strategic Instructional Planning

From: Jones, B.F., A.S. Palincsar, D.S. Ogle, and E.G. Carr, eds. (1987). *Strategic Teaching and Learning: Cognitive Instruction in the Content Areas*. Alexandria, Va.: ASCD, p. 70.

teachers need to decide how to prepare students for learning by accessing what they know, previewing the text or framework for learning, and then establishing questions or purposes to guide learning. Too often teachers move quickly through this initial phase of instruction (see Durkin 1979)

During the first two years of the program, teachers learned about the theoretical base for strategic teaching and observed demonstration lessons in classrooms.

and fail to engage students in a meaningful, personal way with classroom learning. If the rest of the instructional planning is to be effective, students need to be motivated and involved and need to feel that they can be successful.

At the presentation stage, it is essential that teachers design activities that help learners use their resource materials to develop both content knowledge and strategic behavior. At this time teachers can model thinking and strategic interaction with content. The teacher can coach students in applying previously taught strategies or have students coach each other. In each case the teacher makes a decision based on his or her understanding of students' needs for *scaffolded*, or guided, instruction. In scaffolded instruction, the teacher often "thinks aloud," thereby enabling students to solve problems they could not perform on their own. The goal of scaffolding is students' eventual independent use of learning strategies.

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Finally, teachers' planning involves providing ways for students to integrate and apply what they have learned. Too often students don't link what they are learning to their own lives. They need opportunities to synthesize what they have learned; for example, through oral or written summarizing. Students also need ample experiences in organizing and applying what they are learning, as well as frequent opportunities to assess what they have accomplished. Dialogue journals, for example, provide a simple format for this type of reflection.

An Example

The East Meadow Public Schools, a suburban Long Island, New York, district, concerned that its teachers provide the increasingly diverse student population with quality instruction, committed to a three-year staff development project between 1985-1988 to improve student thinking and learning strategies. This project was contracted through the Educational Services of The College Board. The district started the process with the intermediate teachers and then provided it to middle school and finally primary teachers. The focus of the project was on improving reading instruction across the curriculum, in science, social studies, and health as well as in language arts.

During the first year, teachers participated in districtwide meetings during which consultants discussed theory and modeled strategies consistent with the theory of interactive, constructive learning. During the second year, the consultants demonstrated strategic teaching in classrooms in each school, using instructional materials the teachers had selected. Before these demonstration lessons, the teachers met with the consultants to discuss objectives and planning. In a sense, the presenters were doing "think alouds" of their instructional planning. These sessions were followed by group observations of demonstration lessons. At debriefing sessions after the demonstration lessons, the presenters discussed what they had thought about and the decisions

they had made to adjust the lesson as a result of the interaction that had occurred during instruction.

Because this framework worked well for the observation lessons, the reading specialists in each school decided that for the third year, when teachers were to implement the strategies themselves, they would follow a variation of the same process. They decided to have the teachers meet to

plan a lesson together, with the help of the consultant, teach the lesson, and then reconvene for debriefing the success of these lessons. The teachers on each team determined the materials to be used for the lessons. As a consultant, I had the opportunity to engage with teachers in their collaborative instructional planning. Each team provided rich but distinct experiences, one of which I describe here.

Reading/Thinking Processes	Teaching Activities
Before Reading	
<p>Preview text</p> <ul style="list-style-type: none"> • survey graphic aids • survey organizational patterns • determine content focus <p>Activate/access knowledge</p> <ul style="list-style-type: none"> • review content • review categories and structure • review vocabulary <p>Focus interest/set purposes</p> <ul style="list-style-type: none"> • ask questions • predict content, organizational patterns • determine strategy for reading 	To be selected
During Reading	
<p>Confirm/redefine predictions</p> <ul style="list-style-type: none"> • assimilate new ideas • withhold judgment <p>Clarify ideas</p> <ul style="list-style-type: none"> • attend to key vocabulary <i>f</i> • accommodate/revise ideas • generate new questions • evaluate ideas <p>Construct meaning for each segment of text</p> <ul style="list-style-type: none"> • select important ideas • connect and organize ideas 	To be selected
After Reading	
<p>Construct meaning for whole passage</p> <ul style="list-style-type: none"> • categorize/integrate information • summarize key ideas and their connections <p>Assess achievement of purposes</p> <ul style="list-style-type: none"> • confirm predictions • identify gaps in learning • generate new questions • extend learning <p>Consolidate/apply learning</p> <ul style="list-style-type: none"> • transfer to new situations • rehearse and study 	To be selected

Fig. 2. Reading/Thinking Processes Model Summary

Adapted from: Palincsar, A.P., D.M. Ogle, B.F. Jones, and E. Carr. (1986). *Teaching Reading as Thinking*. Alexandria, Va.: ASCD.

Strategic Teaching in 6th Grade Science

Four 6th grade teachers and I met to plan for a short six-page chapter on the endocrine system, the unit they had selected as their first group effort to apply the ideas contained in the project. Their science curriculum for the year was built around the textbook presentation of major body systems. Several body systems had already been studied, but the teachers were not enthusiastic about teaching this particular unit.

Planning for content learning

Using the planning framework, we first identified their content priorities for the students: to know the basic function of the endocrine system and to be able to identify the five major glands, their locations, functions, and malfunctions. These objectives reflected information contained in the text; therefore, we surveyed the textbook to see how consistently the information was presented and how clearly it was organized. We found everything to be in order, except the teachers noted that the chart on the last page did not include all the information they wanted students to learn; it identified the glands and their functions only. The teachers could see that use of a matrix outline during reading would help students identify the key information they wanted them to learn.

Following our preview of the material and the objectives, we discussed how to evaluate students' learning of the information. The teachers varied in how they intended to test students at the end of the chapter and in the level of application they sought. I wanted to pursue this topic further but decided to focus first on the prereading activities in hopes that linking content to students' life experiences might also help the group define their outcomes.

Linking to students

Next came the question of what the students might already know about science that would help them in studying the chapter on the endocrine system. When I asked the teachers to

brainstorm a bit on the issue, I was met with silence. It was clear to all of us that the formal presentation of the body system would be unfamiliar; however, it was difficult to predict whether students had any knowledge to bring to bear on the topic.

To help the group think further about this possibility, we discussed what the students might know from studying other body systems that would help them at least think of the major categories of information they should learn. Subsequently, Bob volunteered that his class should be able to anticipate that for each system the text described the body parts, their location, and their function. Pat added that problems or malfunctions were often described also.

Designing prereading activities

As we discussed the fact that the text was consistent in its presentation of each system, Bob became interested in finding a way to link that level of knowledge to the new system. With help from the group, he designed a prereading activity requiring students to identify from a list of terms those that fit together as part of

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particular body systems. He listed words for the circulatory system, the respiratory system, and the new endocrine system (e.g., "controls growth," "expels poison"). By asking students to group the words and identify their reasons for doing so, Bob hoped to stimulate their interest and also to find out if students were aware of the glands and the kinds of information appropriate to each.

Pat wasn't interested in this approach; she preferred to elicit associations that students might have had with people who exemplified glandular problems. The group identified the Fat Man from Hempstead, Long Island; actor Gary Coleman; the Amazing Hulk; and a seven-foot tall woman basketball player. I suggested that some students might have heard the expressions applied to them or to their siblings, "Their glands are out of control" or "Their hormones are hopping!" Although Pat didn't think that was likely, we listed it on the transparency we were creating for class use. Pat decided to begin her lesson by listing some well-known people with glandular disorders and asking students, "How might a doctor initially diagnose this person?"

Two teachers were not interested in either of these options for engaging students before initiating the unit, so we brainstormed some more. Jean liked the idea of doing an anticipation guide, an activity introduced during the three-year staff development effort. So the group generated 10 true-or-false statements they thought might be interesting to students (e.g., "Diabetics must take insulin to stay alive"; "If your kidneys fail, you won't grow to adult height"). Ed decided to use a knowledge rating scale, another activity introduced during staff development. We developed a scale containing terms (e.g., *hormone*, *dwarfism*, *giantism*, *pituitary*) with which students could rate their familiarity; that is, whether they had ever seen the term, could define it, and so on. Thus, each teacher wanted to introduce the lesson in a different way; no two selected the same prereading/study activity.

This step, planning to link new information to students' prior knowl-

The teachers applied what they had learned by planning together, teaching the lessons, and then sharing and reflecting on their experiences.

edge, was the most difficult part of our work together. These teachers were not accustomed to engaging students in this way and seemed skeptical that students would know enough to make the effort worthwhile. However, because building on prior knowledge is critical to learning, it was essential to find the right activity for each teacher to use so that he or she would feel comfortable engaging students prior to the content presentation.

Helping students construct knowledge while reading and studying

The teachers had already taught students the importance of making notes as they read; they felt that writing while reading would be appropriate for this chapter, too. Because the chapter described five different glands—their location, function, parts (including hormones secreted), and malfunctions—we decided that a matrix outline would help students not only learn about each gland but also help them to compare and contrast the different glands (see fig. 3).

We debated whether to list the characteristics of the glands that students should describe across the top of the matrix or to leave that blank for students to supply as they read. Because the students had experience in identi-

fying basic categories for each of the other body systems they had studied, Bob decided to let them try to fill in the slots. The others chose to use the completed matrix. In a very pragmatic way the teachers were providing a scaffolded instructional plan. They recalled what their students had been learning and planned instruction that could provide a partial structure for their use of that knowledge.

From planning to the classroom

Our 45-minute planning session had produced a great deal of reflection and instructional material. We had four different prereading activities and a matrix for notetaking. Now it was time for the teachers to put their plans into action in the classroom. At a feedback session after the lessons, they discussed their successes. The students had known much more than any of them had anticipated. Pat offered, "Almost everyone has a relative with diabetes. They know a lot about it." In Bob's class, obesity had come up as another problem related to glands. Students had added fictional characters with glandular disorders to the list we had brainstormed in our planning. The teachers were surprised and delighted. Bob's class had categorized the different body systems easily and

had even added information about the reproductive and excretory systems, which hadn't yet been studied. Being a realist, Jane reported that "for the 5 percent of the students who are tuned out, they were still out of it today."

As we continued our debriefing of the lessons, teachers commented that students had preferred outlining using a matrix over the customary notetaking. The teachers were clearly surprised by how much the students knew and by how the activation of "real world experience" had motivated them to want to read and learn the material in the text. They began making plans to try some of the other prereading options in future units.

The planning to link new information to students' prior knowledge was the most difficult part of our work together.

Gland	Location	Function	Hormones	Malfunction
thyroid				
pituitary				

Fig. 3. The Endocrine System

Strategic Teachers and Learners

The planning framework and the instructional model described here are good vehicles to help teachers make sense of the many strategies currently being introduced in the schools. Depending on the district, the school, and the particular teachers, some components of the instructional model will be more in place than others. In the example given here, linking students' prior knowledge to new information was what needed attention. The planning framework can help teachers and consultants pinpoint specific areas to address in other contexts.

Clearly teachers need time for reflection and for planning together in order to tailor instruction to their students' needs. Packaging strategic instruction is not easy. Both specific strategies and the scaffolding of instruction—moving from introduction and modeling to guided practice to independent, self-monitored use of learning strategies—takes careful, patient work.

To ensure that teachers continue their growth, resource people should be available for support, encouragement, and assistance with problems. Finally, teachers need recognition and reward for their efforts. Acknowledgment from the administration is key, as are receiving support from and sharing with peers. The most gratifying reward for teachers' efforts, though, is, day to day, seeing their students become more active strategic learners. □

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