

Improving Instruction Through PET

The Program for Effective Teaching translates theory into effective and efficient teaching.

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In 1976, when only 34 percent of the fifth-grade students in math and 42 percent in reading were at grade level, the Newport News, Virginia, Public Schools initiated a series of changes that brought about dramatic results. Last year, for example, 76 percent of the fifth-grade students in math and 60 percent in reading were at or above grade level. Some of the credit is due to our staff development, specifically our Program for Effective Teaching (PET) and the clinical supervision used to implement its principles.

PET is based in part on the theories put into practice by Madeline Hunter at UCLA but it was modified for the needs of our system—40 schools and over 1,600 teachers. After working with Ernest Stachowski at the Long Beach Unified School District in California and as a result of additional help from Hunter who came to Newport News, members of our staff adapted a model that focuses on strategies intended to produce efficient and effective teaching behaviors.

Five instructional skills form the basis for determining these behaviors. They are selecting an objective at the correct level; teaching to the objective; establishing and maintaining learner focus on the objective; monitoring the progress of the learner and making adjustments, if necessary; and using the principles of learning: motivation, retention, reinforcement, and transfer.

By selecting the objective at the correct level, a teacher carefully matches learners to the right level of instruction according to task analysis. To teach to the objective, the teacher generates overt behavior in the student that is pertinent to the specific objective being learned. To establish and maintain learner focus through the entire lesson, the teacher uses set, closure, and covert and overt behavior that is relevant to the objective. The teacher also monitors



student progress and makes adjustments, if necessary.

Because there are degrees of motivation, retention, reinforcement, and transfer in every learning environment, the teacher can manipulate principles of learning to bring the student's level of motivation in line with what is needed for the learning and use reinforcement theory to strengthen or weaken behavior. Wise use of retention and transfer variables increases learning. The teacher augments these skills with an understanding of Bloom's taxonomy of educational objectives so that he or she can help learners develop appropriate levels of thinking.

PET is Different

What makes this model different from the theories abundant in education courses is that PET translates theories into behaviors that are easily observed in efficient and effective teachers. For example, to establish a learner's focus on the objective, the teacher incorporates the science of "anticipatory set" into three specific behaviors, but does so through his or her own particular style of teaching.

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The set for the lesson includes, in any order, involving the student in some observable behavior, relating the objective to something in the student's past for maximum transfer and retention, and stating specifically the learning or intended outcome that will result from the lesson. The set for the lesson, accomplished in just a few minutes of instructional time, increases the probability that the student will focus on the learning throughout the lesson.

For maximum learning, a teacher is responsible for the four components of teaching to an objective: explanation, questions, activity, and response to the learner in terms of the learning. A learner needs explanation, which the teacher provides through whatever is appropriate to the lesson: definitions, examples, models, and/or modeling. The explanation should be clear, correct, and specify the objective completely. If the teacher expects to promote positive transfer, the explanation should point out the critical elements that separate this learning from other learnings. By explaining only those things that enable the learner to accomplish the objective, the teacher saves valuable time.

To use another component of teaching to the objective, the teacher asks specific questions to check the student's understanding of the explanation. The questions, a type of formative evaluation, provide the teacher with observable behavior to monitor. Questions often help the teacher determine how effective the explanation has been so that he or she can perhaps rephrase a point, lower the level of difficulty of the question, or repeat the question if the learner did not hear it. By asking enough questions of students, at appropriate time intervals depending on the age group, the teacher can determine if the student is ready for the activity,

another component of teaching to the objective.

When the learning is new, a student often needs a guided activity so the teacher can monitor the learning closely. This helps ensure a high degree of original learning. In guided activity, the learner practices small amounts of the skill and, if the activity is selected at the correct level of difficulty, gets a high success rate. After the teacher observes that the student is learning correctly, then he or she can switch the student to an independent practice period in which to work unassisted for a longer period of time.

After the student has answered questions and completed parts or all of the activity, the teacher uses another component of teaching to the objective by responding to the learner in the language or terms of the learning. This kind of response is more specific than, "Yes, Johnny, that's it." It is often something like, "Yes, Johnny, that is one way to find the main idea of a paragraph." Such a response gives the learner appropriate reinforcement as well as specific knowledge of results. It also helps the learner form an association with the name of what he or she is learning so there is greater chance for positive transfer when asked later, for example, to find the main idea. The four components of teaching to an objective may appear in differing order, but all are necessary for efficient and effective teaching.

Either before the activity or after, the teacher needs to provide closure to the lesson in which the student is involved and able to summarize the lesson learned. This involvement and summarizing promote positive transfer and focus the learner's attention on the objective one last time. Closure also takes advantage of the motivation that is often high near the end of the lesson—much like we all perk up when someone says, "And in conclusion. . . ."

These three behaviors of set, the components of teaching to the objective, and the two parts of closure are known as the lesson line and give the teacher a structural framework to use in an instructional period.

The Training

All teachers in our school division from K through 12 are being trained in these instructional skills and Bloom's taxonomy. For six days over a six-week period, the division provides substitutes for 30 to 36 teachers who attend all-day sessions

at our Teacher Resource Center. When they are at the Center, we use the same instructional skills with these teachers that we expect them to use when working with their students. The teachers also watch videotapes of other teachers, work in groups to plan lessons, or simulate teaching situations.

After each session at the Center where the expectancies are established, each teacher teaches his or her own students a lesson while a PET instructor is present. Following the clinical supervision model as developed by Cogan and Goldhammer, the PET instructor takes notes on the lesson behaviors and follows the observation with a conference with the teacher. Together they discuss the specific teacher behaviors that contributed to the learning process, usually identify one behavior that may not have been conducive to learning, and brainstorm for alternatives that might be more appropriate in a similar situation. The conference, usually held immediately after the observation, gives the teacher a chance to refine his or her understanding of the theories learned in the training sessions by applying these skills in the classroom.

While in training, teachers are not evaluated by the PET instructors. We are not administrators or supervisors: we are former classroom teachers who remain on teacher status and contract. This allows us to form the collegial relationship with the teacher that is critical to clinical supervision. After the teachers have completed the course, their building principals continue with them the cycle of supervision by repeated observations and conferences. The behaviors addressed in PET are only one set of criteria that teachers are evaluated on at the end of the year.

Reasons for Success

Our model of instructional skills has attracted national attention. School systems in Arkansas, Illinois, Kentucky, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Vermont, Wisconsin, and other parts of Virginia are presently implementing the model as a result of coming to Newport News for training or using us as consultants.

We're not surprised that our Program for Effective Teaching is successful. There are many similarities between the latest research on effectiveness* by Medley, Rosenshine, Edmonds, and others and our model. The model allows teachers to develop ways to increase

time-on-task, often cited as a requisite for learning. From the involvement step of set, through explanation, questions, and activity in teaching to the objective, through the involvement in closure, there are increased opportunities for students to engage in learning, both covertly and overtly. Because they know the intended outcome of the learning, there is less chance for either the teacher or the students to pursue irrelevant learnings and, as a result, lose time.

The model can be a vehicle for whole-group instruction because teachers learn how to monitor effectively through questions posed at the appropriate levels of the taxonomy. Done this way, whole-group instruction can efficiently handle individual differences without sacrificing effectiveness.

The model is suitable for direct instruction of basic skills as well as for the inquiry approach. When the explanation precedes the questions, the teacher can guide the learning according to the task analysis of the skill. When an inquiry approach is desirable, the teacher can precede the explanation with such well-worded questions as, "So what possible conclusions can we draw because of the relationship between A and B?" This approach helps students draw conclusions and inferences, but the teacher should rephrase the answer (which is the explanation) for students who were unable to operate at the higher levels on the taxonomy.

In the beginning, our primary emphasis in PET was on improving basic skills in reading and math through direct instruction. We have found, however, that the model is suitable for all areas of the curriculum, as well as for various teaching styles. The program has been a success in our district because we defined behaviors that bring about effective teaching. And, by training superintendents, principals, teachers, aides, and substitutes, we all share a common experience and have a common language that improves communication among all levels, and even between teachers and parents.

Teaching through the PET model is not the answer to all the ills found in instructional programs. But combined with criterion-referenced testing, a revised curriculum, and total school commitment, it is improving education for students in Newport News. **EL**

*See ASCD's videotape "Teacher and School Effectiveness" for summaries of some of this research.

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