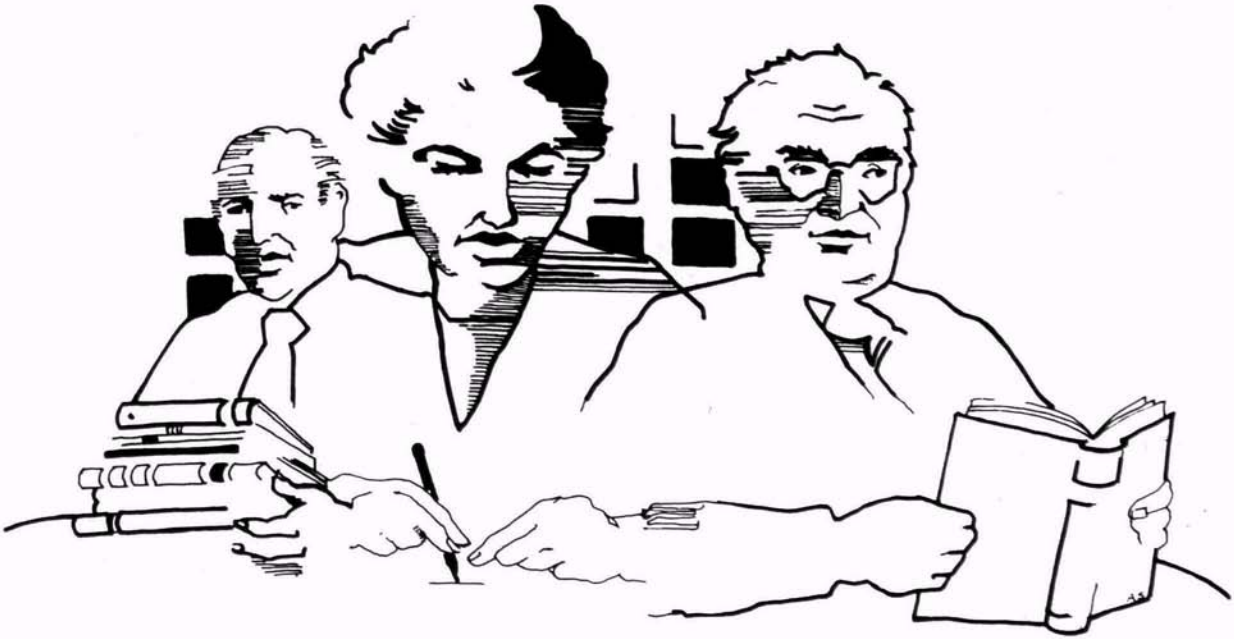

Teachers Can Learn to Teach More Effectively

William J. McCormick

The Delaware way to improve instruction is to find out what makes high achieving schools effective and then organize an inservice program to help other teachers learn about it.

In 1976, the Delaware Department of Public Instruction conducted case studies [1] to see if we could identify differences between elementary schools achieving higher than expected and those achieving lower than expected on state tests of basic skills. We found some notable differences, both in management and in instruction. Then we organized an inservice program to see whether or not teachers could learn to use the instructional practices characteristic of "higher than expected" schools. We found that they could.

The observation instrument used in our studies was an adaptation of Madeline Hunter's "Teaching Appraisal" instrument[2] and also included teacher characteristics that relate to pupil achievement identified by Rosenshine and Furst.[3] The types of variables we looked for were categorized as "process of instruction," "substance of instruction," and "utilization of resources." The biggest difference we found between effective schools and less effective ones was in the process of instruction.

Our data indicated differences in (a) teachers' understanding of the structure and substance of the content being taught; (b) their awareness of the particular characteristics of the group of students being taught; and (c) their use of practices consistent with principles of learning.

On some of the variables we studied, there seemed to be no major differences. For example, we found no relationship between school effectiveness and the expressed intentions of teachers to be more or less child-centered as opposed to content-oriented.

According to our systematic observations, the following were characteristic of teachers of grades 1-4

[1] James L. Spartz and others. *Delaware Educational Accountability System, Case Studies: Elementary Schools Grades 1-4 (A Report of Results)*. Dover, Delaware: Department of Public Instruction, 1977.

[2] Madeline Hunter. "Teacher Competency: Problem, Theory, and Practice." *The Early and Middle Childhood Years of Schooling* 15(2): April 1976.

[3] Barak Rosenshine and Norma Furst. *The Use of Direct Observation to Study Teachers*. Second Handbook of Research on Teaching. Chicago, Illinois: Rand McNally, 1973.

in schools where students achieved better than expected:

Structure and Substance of the Content

Teachers demonstrated a greater understanding of the structure and substance of the content being taught. They (a) were more specific about the lesson objective; (b) were better able to judge accurately the time needed to accomplish that objective; (c) made more frequent use of structuring comments as instruction proceeded from task to task; (d) better accomplished breaking the lesson into manageable and logical sequences; and (e) more ably anticipated problems in reaching the objective and made accommodations for them.

Special Characteristics of Students

Teachers also demonstrated a greater understanding of the special characteristics of their students. They (a) more often modified instruction on the basis of student responses; (b) used a vocabulary, oral and written, more appropriate for the age group; (c) adjusted the level of questions for different ability levels in the class group; and (d) made presentations at a more appropriate level of difficulty for most pupils.

Principles of Learning

Furthermore, the teachers demonstrated a greater understanding of principles of learning. They (a) made frequent use of opportunities to create and maintain an appropriate mind set for pupils; (b) frequently encouraged students to set appropriate and realistic goals; (c) used a more appropriate level of effort in creating an atmosphere of concern about the importance of learning the lesson content; (d) more often provided opportunities for learner success; (e) more often provided immediate feedback to learners; (f) more often checked the level of learning and proceeded only if an acceptable level of learning was achieved; (g) gave more appropriate consideration to the length and spacing of practice; (h) more frequently used classifications and generalizations and encouraged students to do likewise; and (i) in general, produced more coherent presentations.

The Inservice Program

Now that we had evidence that these practices were associated with better achievement, it seemed logical to design an inservice training program that would increase teachers' knowledge of variables over which they had some control and to present them with practical ways to apply that knowledge in the classroom. Forty-four teachers from five schools volunteered to participate.

The instructional variables on which the training was focused were the same as those on the observation instrument. Materials were selected from a list provided by Madeline Hunter through TIP Publications[4] and organized into an inservice package that included filmed lectures and programmed booklets.

We began with six formal one-hour sessions at which the filmed lectures were shown and discussed. Assignments were given in each of the five programmed instruction booklets and discussed at five of the inservice sessions. At least nine additional hours were required to complete the programmed instruction, bringing the total instructional time to a minimum of 15 hours. The formal sessions were held a week apart to give participants ample time to complete the programmed assignments and to test some of their new knowledge in the classroom. Those who attempted to apply what they had learned during and between sessions made many valuable contributions during group discussions.

Plans for evaluation included pre- and post-written tests to determine if and to what degree the participants increased their knowledge of learning theory. In addition, 26 participating teachers were randomly selected to be observed prior to and after the training to determine if there were any changes in their behavior.

In summary, the data indicate that the inservice training not only increased the teachers' knowledge of learning theory, but had a significant effect on their ability to apply it.[5] It is also interesting to note that these changes in teacher behavior occurred over a relatively short period of time (one semester) and with limited and informal supervision. Had well planned clinical supervision been available, the gains would probably have been even more impressive.

Equally significant, perhaps, is the way teachers responded to the inservice program. A typical comment was, "For the first time in my life, someone has helped me understand how to put theory into practice."

[4] TIP Publications, P.O. Box 514, El Segundo, California, 90245.

[5] A complete report of the project, including evaluation data, is available by writing to the author at State of Delaware Department of Public Instruction, P.O. Box 1402, Dover, Delaware 19901.

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