

# The Trees or the Forest?

## A Response to Ruth Wade

GEORGEA M. SPARKS

I was pleased to be asked to respond to this article because I recognize the need for research that will help us design more effective inservice programs. Although I'm convinced of the need for meta-analysis as a tool for integrating the findings of related studies, I worry that the technique may distort the variables being studied. This distortion is not the one that we as social scientists are often accused of—missing the forest for the trees. Rather, without enough accompanying detail and clarification of variables, meta-analysis can result in our missing the trees for the forest.

My concern comes from direct experience. I was part of a research team that conducted a meta-analysis of 153 studies comparing open education with traditional instruction (Hedges, Giaconia, and Gage, 1981). In that project we each read five to seven original studies every week, noting in detail the definition of independent and dependent variables, interventions that were used, the samples described, important context variables, and so on.

The labels given to independent and dependent variables in a study are

often inaccurate representations of the actual practices or skills being manipulated or measured. A label may mean one thing in one study and something entirely different in another. We also found that abstracts and reviews of the studies provided so little information about a variable that it was difficult to interpret or use the findings. My lesson was that meta-analysis can be a useful tool if research reports are carefully examined to be sure that the studies being grouped together have defined and measured their most critical variables in the same ways. Otherwise, it can be a very risky business.

Ruth Wade (pp. 48) indicates that she read "many" of the 91 studies in her meta-analysis to determine the common independent variables. This worries me. If only a few were read in detail, how do we know how the variables were defined—how they actually looked in practice? After all, the purpose of meta-analysis is to enable us to know what works best. But when the critical variables are defined so briefly that it is hard for us to imagine them in practice, then how useful is the information? Worse yet, we may create our own definitions of the practices found to be most effective and make decisions that contradict the findings of the original studies.

An example will illustrate this point. One finding of the meta-analysis was

*A useful follow-up to Wade's meta-analysis would be a micro-analysis of the various studies to provide much-needed detail and clarification.*

Georgea M. Sparks is Visiting Lecturer, Department of Teacher Education, Eastern Michigan University, Ypsilanti

**“Meta-analysis can be a useful tool if research reports are carefully examined to be sure that the studies being grouped together have defined and measured their most critical variables in the same ways.”**

that “programs developed, initiated, or funded by the state or federal government or a university were significantly more effective than those initiated within the school, either by teachers, administrators, or supervisors.” Recommendation 2 (which was based on this finding) reads as follows: “Encourage teachers to become involved in state-, federal-, or university-initiated programs.” Obviously the terms “developed,” “initiated,” and “funded” can describe very different phenomena, but Wade lumped them all together in her recommendation as if they were identical variables.

One conclusion that can be drawn from this meta-analysis is that teacher involvement in projects initiated at the school site is ineffective and a waste of time. But is that what the studies really say? Could this finding have occurred because the variable of “funding” is so powerful that it washes out the effects of other factors, such as who initiates or develops the project? There is no way to investigate competing explanations for this finding because references for the original studies are not provided. Nor is there a reference to an available document that would provide such information.

It would have been helpful if Wade had included a figure describing the 91 studies, including author, date, sample, independent and dependent variables, and a brief description of the inservice program studied. If this was not possible due to space limitations, she could have provided a source for this information, as other

authors of meta-analyses have done (see Walberg, 1984).

#### **Duration**

I’d like to make two points about Wade’s finding that the number of hours or months spent in inservice training seems to be unimportant. First, the total amount of time may be less important than how that time was distributed. If, for example, a third variable were introduced—the number of hours per session—we may have found that more frequent, shorter sessions were superior to fewer, longer ones. Perhaps longer, less effective programs negated shorter, more effective ones when they were averaged together.

My second point relates to how the content or goals of inservice programs may influence program duration. In a previous analysis of several studies of inservice education, I reported that significant positive effects occurred after only a relatively short amount of training time (two half-day workshops) in Evertson’s Classroom Management Training (see Mohlman, Coladarci, and Gage, 1982). My experience with Stallings’ Effective Use of Time Training (Stallings, Needels, and Stayrook, 1979), however, indicates that five or more half-day workshops may be necessary for teachers to show significant changes in certain behaviors. The difference between the two programs is in the amount and complexity of the new practices being learned. It makes sense that complex, unfamiliar prac-

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tices will take more time to learn than will simple, familiar ones.

I don't think we should conclude that the amount of time that teachers spend in a program is inconsequential, although that seems to be Wade's finding. Other factors, such as the distribution of time and the goals and content of the workshops, should be taken into consideration.

### **Instructional Techniques**

My greatest concern is about the findings related to inservice instructional techniques because the terms used are open to interpretation. Because no details are provided to help us understand what is meant by observation, coaching, modeling, or mutual assistance, it is difficult to translate the findings into practice.

One of the techniques Wade found to be associated with lower effect sizes was *discussion activities*. But discussion can occur in at least two ways: (1) unstructured, unfocused, rambling talk, which is often unproductive; and (2) structured small-group problem solving, which has been shown to be highly effective (Stallings, Needels, and Stayrook, 1979).

In the Stallings' Effective Use of Time workshops, the groups are small (eight or fewer), and a leader keeps the teachers focused on solutions to the problem at hand (for example, how to get class started immediately after the bell rings). The workshop leader does not allow anyone to dominate the discussion, nor does he or she allow the discussion to degenerate

into a "gripe session." Clearly, the learning that occurs in this situation is vastly greater than it would be in a less structured discussion. Further, we should remember that in at least one survey of teachers' attitudes toward inservice activities, the overwhelming favorite was "sharing ideas and techniques with other teachers" (Holly, 1982).

It would be a shame to exclude discussion activities from workshop activities, as Wade has recommended. Again, we need to know more about the studies that were included in this analysis. Did they provide opportunities for productive, solution-oriented discussions? The low effect size may have occurred because these two very different types of activities were averaged together, cancelling each other out.

The fourth highest effect size in this meta-analysis was produced by *observation of classroom practices*. Again, it would be helpful to have a description of how observation occurred in the studies analyzed. Were teachers trained in observation processes? Did teachers use observation instruments? Was participation voluntary? What did teachers do after the observation to help them reflect on what they saw?

In my recent study of teacher behavior changes after participation in Stallings' Effective Use of Time Workshops (Sparks, 1983), one training group received only four weekly workshops. Two groups received the workshops and between-session observations. Participants in one of these groups

conducted two peer observations with seating-chart instruments that focused on student off-task behavior and teacher-student interactions. The trainer "coached" the third group on two occasions, using the same instruments and post-conferences. All teachers in the peer observation group reached the criterion level on the major observation variables, whereas only a few in each of the other groups did.



Although this study clearly supported the value of providing teachers opportunities to observe each other in a nonthreatening setting, I am not convinced that coaching is as ineffective as the findings of the meta-analysis might suggest. First, it's important to consider who the coach is. It is possible that in my research the trainer was perceived as an outsider who would disappear at the end of the study. The effect of a colleague who would be on-site continually to help with implementation might be quite different. Second, the need for a coach may depend on how foreign to the teacher's normal style the new practices are. Wade does not provide these details, so there is no way to examine these questions further.

### Comments on the Recommendations

I agree with most of Wade's recommendations. Both experience and research support the value of including elementary and secondary teachers together; offering incentives; providing opportunities for independent study; setting clear goals; and using observation, micro-teaching, practice, and feedback. However, I would not discourage teachers from becoming involved in school- or district-initiated programs (Recommendation 2) given the evidence of success of the effective schools and school improvement programs (Eubanks and Levine, 1983; Wood, McQuarrie, and Thompson, 1982).

Wade's suggestion that the leader rather than the participants take on the role of designing and teaching the class (Recommendation 5) deserves a caution. Wade related this finding to the lower effect sizes produced by teachers teaching each other, group work, and discussion sessions. I hope this recommendation won't be interpreted to mean that teachers should never get together in small groups to perform highly structured tasks (designing and performing a lesson, brainstorming ideas, and so on) or that group discussions are never a good idea. Although discussion activities are discouraged in Recommendation 6, I know from experience and research that when teachers are involved productively in group sharing and problem-solving activities, they learn a great deal that can be taken back to their classrooms and used immediately.

In fact, the inservice strategies Wade recommends (observation, micro-teaching, feedback, and practice) all provide one thing that many of us would agree makes the most difference in teacher improvement—a way of looking at and analyzing teaching. These strategies provide opportunities for teachers to experiment with new practices to see how they work. In short, they encourage teachers to reflect upon their own teaching. Often, this reflection is best done with a colleague or in a small group.

While this meta-analysis provides insight into what factors make a difference in inservice education, there is much work to be done in this area. We have the "forest"—the major findings—but we lack an understanding of the specific, practical details that will allow us to apply the results. A productive follow-up to this research would be a micro-analysis of the studies included in each category to determine what made the practices more or less effective (see Giaconia and Hedges' 1982 micro-analysis of more- and less-effective features of open education programs). The next phase is to step up closer so we can see the trees within the forest. □

### References

- Berman, P., and McLaughlin, M. "Implementation of Educational Innovations." *Educational Forum* 2, 3 (1976): 347-370.
- Eubanks, E., and Levine, D. "A First Look at Effective Schools Projects in New York and Milwaukee." *Phi Delta Kappan* 64 (1983): 697-702.
- Giaconia, R. M., and Hedges, L. V. *Identifying Features of Open Education*. Stanford, Calif.: Stanford Center for Educational Research, 1982.
- Hedges, L. V., Giaconia, R. M., and Gage, N. L. *Meta-Analysis of the Effects of Open and Traditional Instruction*. Stanford, Calif.: Stanford University Program on Teaching Effectiveness, 1981.
- Holly, F. "Teachers' Reactions to Inservice Workshops." *Phi Delta Kappan* (February 1982).
- Mohlman, G., Coladarci, T., and Gage, N. L. "Comprehension and Attitude as Predictors of Implementation of Teacher Training." *Journal of Teacher Education* 33, 1 (1982): 31-36.
- Sparks, G. M. *Inservice Education, Training Activities, Teacher Attitude, and Behavior Change*. Doctoral dissertation, Stanford University, 1983.
- Stallings, J. A., Needels, M., and Stayrook, N. *How to Change the Process of Teaching Basic Reading Skills in Secondary Schools*. Menlo Park, Calif.: SRI International, 1979.
- Walberg, H. J. "Improving the Productivity of America's Schools." *Educational Leadership* 41, 8 (1984): 19-26.
- Wood, F. H., McQuarrie, F. O., and Thompson, S. R. "Practitioners and Professors Agree on Effective Staff Development Practices." *Educational Leadership* 40, 1 (1982): 28-31.

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