Letters

Making Our Own Uses of Meta-Analyses

Regarding the Sparks and Wade articles on inservice training (December/January), the point is made that meta-analysis is another tool to combine with experience and intuition in educational planning. The danger, of course, is to simply use any of the three as it suits our prejudices. But if that can be avoided, we should be able to make more sophisticated and sensible determinations about how to use our schools' time and money in attempting to improve teaching.

Two years ago, a group of our local teachers decided to take another try at installing a K-6 science program in which all children would engage in hands-on activity with science materials. They used the findings of two independent national meta-analyses and local findings to plan their project.

The national and local studies showed that children benefited more in all measurable traits from activity science than from textbook programs. (This is apparently the type of "robust effect" to which Wade refers.) But local findings also showed the importance of recitation methods that are usually not available in activity programs. Our local teachers decided to do both in a way that would keep textbooks from overwhelming the activity program.

The meta-analyses also showed no effect for inservice training. But our group, out of their intuition and experience, determined that training of a very specific type was critically important to what they wanted to accomplish, and decided that such training would accompany the implementation. (This, I believe, follows Wade's intention "not to suggest what not do do.")

One-and-a-half years later, after 200 training sessions, 2,000 teacher hours of training, and over one-quarter million student hours of active hands-on participation in science, we are well into the implementation, convinced by evidence of many kinds that giving teachers training in how to use the activity unit means they will:

1. Be more likely to use them.
2. Have less difficulty with them.
3. Spend more class time on them.
4. Be more likely to respond to requests for feedback (because they care more about improving the program).

This lends support to Sparks'[1] suggestion for micro-analyses.

The case may not yet be tight enough to convince a large audience, but it has sufficiently convinced the nine school districts whose 500 teachers are participating to require each teacher to take four or five hours of training the first year, two to four hours the second year, with additional training planned for the third year.

We need meta-analyses such as Ruth Wade has provided. We need, just as badly, critical responses such as those provided by Georgea Sparks.

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[1]As but one example of how the effects of variables of special interest can be buried in obviously confounding variables, we were led early in our study to believe that children in activity programs were consistently more pleased about science than those in textbook programs, and that boys and girls participated in activity science to an equal extent. Both of these findings were altered when we differentiated our data according to students' sex and grade level.