WHAT ACTION RESEARCH IS (AND IS NOT)

The teacher-researcher movement is an important part of a professionalization project, now underway among K-12 teachers, in which classroom teachers are establishing their special expertise in curriculum development. In the National Writing Project and some teacher centers, two examples of what this movement can become, K-12 classroom teachers have become recognized as experts in lesson design, and these teachers have become the consultants and leaders of staff development programs. The encouragement of action research among teachers is an effort to define an important role for teachers in theory development, in the explanation of why a lesson works for some students and not others.

This insistence on developing teacher expertise in the design of lessons and in action research is not just a matter of professional politics. It is one of the most urgent needs for making schools better places for teaching and learning. Teachers need some time in an adult environment to discuss ideas and to develop new insights with their colleagues—to learn to be learners again. Teachers spend very little time with their colleagues, and when they do, the agenda is usually set by someone else and the subject matter is often uninteresting. The workshops of the National Writing Project have shown that sessions run by classroom teachers and focused on lesson design can be intellectually challenging and inspiring. The same experience can result from collaborative research efforts by classroom teachers.

One of the problems is how to promote and use teacher expertise as a part of the institutional life of the school. Staff development workshops have become in some places part of the institution, but action research by teachers is still an outside activity. Many people who are interested in teacher research talk as if teachers should assume research tasks as a professional obligation. These people are often themselves members of an institution of higher education which rewards research interests with commendations, promotions, and higher pay. Today, classroom teachers K-12 are not promoted, paid, or commended for doing action research.

The one exception is the area of assessment. Under the minimum competency statutes, many districts throughout the country have been willing to give teachers the necessary time to score and analyze student writing samples. This institutional setting provides an opportunity to promote funded action research by teachers. Just recently I watched a group of San Francisco teachers analyze the data they had collected in their collaborative action research project, otherwise known in the district as the minimum competency examination. They found, for instance, that the length (total words written) of papers from the bottom to the middle scores showed dramatic gains, but that length in the middle to the top papers showed only small gains, confirming the intuition of most of the teachers that an emphasis on length and fluency was not equally important for all students. It is indeed rare in school assessments for teachers to have the opportunity to design assessment techniques, collect the data, and analyze the results. School assessments, like classroom lessons, often come pre-packaged. Yet collaborative action research by teachers is one of the ways not only to inspire teacher renewal but also to enable teachers to appreciate the complexity of their own classrooms and transcend some of their own perspectives through the intuitions and findings of their colleagues.

Basic and applied researchers in the natural sciences often have several criticisms of the kind of action research undertaken by the teachers in San Francisco. Some argue that action research is simply applied research done badly and that San Francisco teachers should not speculate about the trends in their data without submitting these trends to statistical tests. From the point of view of the basic and applied researcher the significance of any statistical difference—for example, length of papers—must be determined by the proper statistical procedures, not by eye-balling the numbers. Yet classroom teachers have usually not been trained in the use of statistical tests, do not have people available with the expertise, and sometimes do not have the necessary computer ability to handle the numbers.

How does one respond to these and other criticisms of action research? Dixie Goswami, for one, solves the problem by defining teacher research as "naturalistic inquiry procedures which do not result in statistical data toward which journals of education are so heavily biased." In other words, solve the problem of numbers by applying the label teacher research only to studies without numbers. Others solve the numbers problem by assigning to the teacher the role of teacher-partner who works with researcher on a research project:

The base of research involvement must be broadened to include an active role by the public school teacher. When the teacher becomes involved in research, researchers not only gather better data, but the context of research—the public school
classroom—is enriched by the study itself. Teachers and researchers ought to know each other better for the sake of research and the Children (Donald Graves, "A New Look at Research in Writing," in Perspectives on Writing in Grades 1-8, ed. by Shirley Haley-James [Urbana: NCTE, 1981], pp. 111-112).

Action research by teachers should not be limited to case studies or partnership roles for teachers, although both are forms of action research which should be encouraged. The point of the whole enterprise is to expand the teacher's role as a thinker about learning and teaching. Some of the advantages of counts and numbers in action research are often overlooked by advocates of teacher research who fear that teachers will become "pseudo-scientific." One of the advantages of numerical data is that it allows many teachers to work together on a large project in which they pool data. Many teachers like to begin that way. Another advantage is that in school assessments numbers are often what a school district is willing to pay for, providing the necessary funding for promoting teacher inquiry into such things as the writing process.

The question still remains: how does one respond to the criticisms of basic and applied researchers? They define significance in terms of statistical tests, not an eye-balling of numbers, aim for generalizations about writing on many topics and in many settings, not just the school's selected topics and test setting, and, because they have research responsibilities, they have more opportunity to seek optimum solutions to research problems. These three norms of basic and applied researchers—tests of significance, generalizability, and optimizing controls of problems—are defined somewhat differently by classroom teachers engaged in action research. This difference between the action research of classroom teachers and the basic and applied research of university researchers is the same as the fundamental differences Herbert Simon identifies between the science of design and the natural sciences (The Sciences of the Artificial, [Cambridge, Mass.: M.I.T. Press, 1981]). Teachers, like architects and engineers, are part of the science of design.

The first difference, whether to eye-ball numbers or to apply statistical tests, is an issue of experience. First, teachers are not taught these tests, and basic and applied researchers are. Maybe this situation should change, but, as far as I know, no teacher preparation program in the country includes introductory statistics as a required course. But the second reason for the difference is even more important. This reason is based on the intuitions that result from experience. Classroom teachers, K-12, see as much as ten times more data each week than do university researchers. That is, K-12 classroom teachers see more students, and from this experience master teachers develop intuitions about broad patterns and trends among students, just as chess masters develop pattern recognition about chess pieces. Thus, when classroom teachers eye-ball numbers, they apply their intuition of broad patterns among students as a test of significance. The value of statistical tests for classroom teachers is that these tests are a means of objectifying and confirming intuitions, but intuition remains the teacher's first test of significance.

The second difference, the degree of the generalizability, results from a difference in goals. Basic and applied researchers in education have set as their goal the asking of questions about writing on various topics and in various settings both in and out of school. They call this goal "the study of writing as a multiple construct." Action researchers in education have set as their goal the asking of questions about writing in response to some problem of lesson design in schools (How do students differ in the way they handle an assigned writing task? How does this one student differ in the way she handles different writing assignments?). School lessons, like other design problems, usually "imitate appearances in natural things while lacking, in one or many respects, the reality of the latter" (Simon, p. 8), and, as a result, although a lesson might attempt to imitate some writing experience in natural events outside of school, the writing experience in the lesson remains a school construct, designed for certain limited goals within the budget and institutional constraints of schools. The lesson often results from interactions among parents, teachers, students, and the school boards. Thus, basic and applied researchers have no business criticizing action researchers for not treating writing as a multiple construct, and action researchers have no business criticizing basic and applied researchers for not providing lesson designs. The two types of researchers have overlapping but different goals.

The third difference between the action researcher and the others is that the action researcher has fewer opportunities for optimum solutions to problems. For one thing, the action researcher may know that a question about lesson design requires a particular kind of control or contrasting group, but the classroom teacher as action researcher is limited by circumstances to a particular classroom, school, or district. The action researcher should be encouraged to proceed with what is at hand. For another thing, the classroom teacher may know that natural science says that the reliability of various counts of features in papers can be improved if each feature is counted twice and the two counts averaged, but the budget for the school assessment may not make such a solution possible.

In such a situation, the designer "satisfies," according to Simon, selects a solution which "suffices" to get the job done and at the same time "satisfies"

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the need for a solution which, if not the "best," is at least "better" than other alternatives. Says Simon, "No one in his right mind will satisfice if he can equally well optimize; no one will settle for good or better if he can have best. But that is not the way the problem usually poses itself in actual design situations" (p. 138).

In summary, the two central questions facing those interested in the teacher-researcher concept are (1) how does teacher research become institutionalized within present K-12 school systems and (2) how can teacher research be shielded from the criticisms which basic and applied researchers level against one another. A promising answer to the first question is expansion of school assessments to include close analysis of writing samples and studies of the writing process. The answer to the second question is to draw clear and distinct divisions between basic and applied research, on the one hand, and action research by teachers on the other. I suggest that teacher research have a different name (action research) and that it derive its research norms from the design sciences, not the natural sciences.

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