EDUCATIONAL LEADERSHIP

Action Research for School Improvement

Action research is continual professional development—a direct route to improving teaching and learning.

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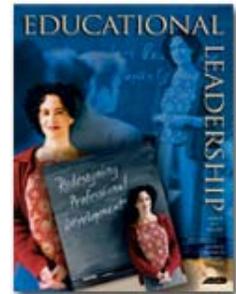
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Seeking to understand and acting on the best we know. That describes how most educators hope to live and grow as professionals. It also describes action research. For the past 10 years, I have used that statement to introduce action research to school teams, administrators, and other educators in central offices, intermediate service agencies, and departments of education.

A more formal definition of action research is continual disciplined inquiry conducted to inform and improve our practice as educators. Action research asks educators to study their practice and its context, explore the research base for ideas, compare what they find to their current practice, participate in training to support needed changes, and study the effects on themselves and their students and colleagues.

For 60 years, action research has been an avenue for creating professional learning communities whose members engage in problem solving and for attaining individual and collective goals. As Lewin (1946) wrote, action research can

> transform . . . a multitude of unrelated individuals frequently opposed in their outlook and their interests, into cooperative teams, not on the basis of sweetness but on the basis of readiness to face difficulties realistically, to apply honest fact-finding, and to work together to overcome them. (p. 211)

My experience with action research has convinced me of its potential to transform professional development. Action research can change the social system in schools and other education organizations so that continual formal learning is both expected and supported. It can replace superficial coverage with depth of knowledge. And it can generate data to measure the effects of various programs and methods on student and staff learning.

Action Research at Work: A Teacher's Story

Katie's school was involved in an initiative called "Every Child Reads." Sponsored by the Iowa state department of education, the initiative aimed to change the context in which participants engaged in professional development, help them become more closely connected to scholarship in reading, and support them in generating knowledge and increasing their capacity as learners and leaders. Over a three-year period, participating school facilitation teams (composed of teachers, the principal, and, when possible, district office and intermediate service agency staff responsible for supporting school improvement) became a statewide professional learning community engaged in the study of literacy.

Participants attended 14 days of workshops and received additional technical assistance at their school sites. They studied current practices in their schools and classrooms; examined research related to literacy development; selected and used evaluative instruments to assess literacy; organized and used data to make decisions about effectiveness; learned how to implement new practices; and learned to provide staff development to colleagues as they engaged in these same actions.

Katie implemented the picture word inductive model (PWIM), a new teaching strategy for her, and studied her kindergarten students' vocabulary development as a part of learning to use this model. The picture word inductive model is an inquiry-oriented language arts approach that uses pictures con-taining familiar objects and actions to

elicit words from students' own vocabularies. Teachers use it to lead their students into inquiring about word properties, adding words to their sight-reading and writing vocabularies, discovering phonetic and structural principles, and using observation and analysis in their study of reading, writing, comprehending, and com-posing. The picture word cycles (inquiries into the pictures) generally take from four to six weeks at the kindergarten level (Calhoun, 1999).

At first, Katie thought the learning tasks might be too demanding for her students. But as she tried the model and studied what her students did in response, she changed her mind. Katie's data collection showed that her students had achieved a mean gain of 16 sight vocabulary words during their third PWIM unit (in November), and a mean gain of 27 words in their sixth unit (ending in mid-March). These results confirmed for Katie the effectiveness of the picture word inductive model.

Katie also collected detailed data on each student's word knowledge as he or she began the unit and again at the end of the unit. The data allowed her to analyze the word-reading strategies that individual students were using: sight vocabulary, decoding, analogies, common spelling patterns, and context clues (Ehri, 1999). As she analyzed the data for each student and across students, Katie made many instructional decisions, such as which phonics principles needed additional explicit instruction, when more modeling was needed to support using context clues, which students needed small-group work on phonemic analysis, and who needed special attention to encourage independent decoding.

Studying specific domains of student performance and her own instructional practice has become a way of life for Katie.

The Power of Organization-Wide Support

Katie's use of action research occurred as part of a structured initiative sponsored by a state department of education. This initiative illustrates how education leaders in states, districts, and schools are attempting to make action research a dominant way of doing business—building an organization context that supports inquiry by school staffs working as a whole and by smaller groups and individuals pursuing their particular avenues of study. The development of inquiring communities is what distinguishes action research from school improvement approaches that focus on the implementation of specific initiatives, such as a new curriculum or a new mode of assessment.

Although I am an advocate of carefully conducted action research whether it is individual, collaborative, or organization-wide, I put my professional energy and time into supporting schoolwide and organization-wide action research (Calhoun, 1994; Joyce, Calhoun, & Hopkins, 1999). This action research option has the power to transform the organization into a learning community.

My experience is that regular use of multiple sources of data to inform us about student performance or our own performance is often threatening at first, because it requires that we juxtapose our practices and our students' performance against exemplary research-based practices and high levels of student performance attained in similar settings. The resulting confrontation and social turmoil, however, may be natural accompaniments to substantive change.

The good news is that when groups have adequate organization support in using data as a source of information to guide practice, leadership generally surfaces within the group. These leaders provide examples of using classroom data to make instructional and curriculum changes and model informed decision making and problem solving in action. Their schools begin to use on-site data and the external knowledge base as sources for continually assessing the effectiveness of actions and current practices.

This emerging leadership often signals a change in the social system of the school. It doesn't come easily in most settings, but with opportunity and leadership from school and district administrators, it happens. Along with benefits for students, educators feel more professional.

Using a Structured Action Research Model

Educators who wish to use action research for professional development or school improvement should select a structured process to use in the school, district, or region. Many resources are available. Although all action research

approaches encourage disciplined inquiry, reflection, and the improvement of practice or expansion of knowledge, they do vary in purposes and emphases.

My own approach (Calhoun, 1994) focuses on the schoolwide or district-wide pursuit of student learning goals. It emphasizes using action research to change how the organization works so that educators study student and staff learning continually and pour information from the external knowledge base into the collective study and action-taking process. Glanz (1998) provides a number of tools useful for administrators and leadership teams as they study school effectiveness and student performance. Sagor (1992) emphasizes the development of collaborative action research teams who identify issues or problems, study the context of those problems, collect data, take actions, and engage in discourse and reflection around the results of those actions. And Hopkins (in press) emphasizes changes in classroom practice through careful study by individual teachers as researchers.

After selecting a resource or action research model, those leading the effort need to learn to use it in their work and determine how to support its use within their organization. If no one in the initiating group has experience and skill in using action research, perhaps faculty members at the local college or university can provide technical assistance.

If the group wishes to use action research to support school improvement as well as individual professional development, the chief administrators in the school or district need to be on board—preferably as members of the initiating group. In most settings, school or district staff members will need to change the way they use data, study student and staff learning, and use the external research base. These changes are unlikely to occur if principals, district office staff members, and the superintendent do not participate and help lead the effort.

The Schoolwide Action Research Matrix

Figure 1 provides an example of how schools might structure their action research around a common student learning goal. In providing technical assistance to sites working to implement action research focused on student achievement, I often recommend that they use this Schoolwide Action Research Matrix as a guide for structuring collective inquiry and action. The matrix includes a place to identify the student learning goal that a staff selects for its current collective focus and six sections to describe the content of collective study and action. Educators build their school or district action plans and staff development plans around the actions outlined in each of the six matrix sections.

In the example shown in Figure 1, a high school staff focused on improving reading comprehension because staff members felt that many of their students could not read and write well enough to succeed in the core academic curriculum subjects. Here are some of the major action research tasks that they engaged in during the first year, led by their action research facilitation team.

Current Student Information

Scores on both norm-referenced tests and state curriculum exams told the staff that their students were performing below expected levels. For example, the staff reviewed data comparing their students' reading performance on the state curriculum tests in 8th grade with the performance of the same cohort in 10th grade. In the three years studied, the mean percentiles in reading had decreased 12 percent, 10 percent, and 14 percent from their 8th grade levels.

Staff members also collected data about perceptions. Teachers identified many instances where students would have been able to manage the assignments from their courses had they had better literacy skills. And according to data from the past three years of school climate questionnaires, dissatisfaction with students' reading and writing performance had been a persistent problem identified by parents (42 percent), the business community (60 percent), and school staff members (75 percent).

External Information About Learners

The staff reviewed data on student reading performance in high schools with demographics similar to theirs. Out of 21 high schools studied, they found three where students were performing at much higher levels in reading and writing on state tests administered in 10th grade. The principal had insisted that the staff look at these data because he wanted teachers to recognize that some schools with similar student populations were achieving better results.

To gather information about the literacy standards that students should be achieving, the staff also reviewed their district's new curriculum standards document and the executive summary and sample items from the National Assessment of Education Progress in Reading (Donahue, Voelkl, Campbell, & Mazzeo, 1999).

The Schoolwide Action Research Matrix—One Example

	School Focus: *To improve reading comprehension* (Academic student learning goal in a curriculum area)			
	Learners (Students)		**Learning Environment (District/School)**	
ON-SITE INFORMATION: (Information at the district/ school level)	**1. Current student information** **Gates-MacGinitie scores, grade 9:** Only 25% of students scored at GLE 9.0 or higher **State Tests:** Matched comparisons, student performance decreased from grade 8 to 10: 1998–1999, 12% 1999–2000, 10% 2000–2001, 14% **Teacher, parent, and business leader perceptions:** consensus that students are not prepared	**3. Student performance and response we would like to see** • Students able to comprehend and learn from the texts being used in courses • No loss from 8th to 10th grade on state curriculum tests • More benchmarks will be developed	**4. Information about the current learning environment in our district/school** • Summer school • Tutorials • Buddy program • Special education • Reading aloud • Group work • Extra time for assignments • Computer tutorials	**6. Learning environment we would like to see** • Increased staff development on designing classroom activities and homework assignments • Increased student access to tradebooks • More tutors • A course for accelerating literacy for struggling students

	2. External information about learners/students	**5. External information about the learning environment**
EXTERNAL INFORMATION: (Study of literature, standards, & best practices)	• Data from the state testing program from other high schools with similar demographics; found 3 schools with better performance • NAEP Executive Summary and test items • District curriculum standards	Collective study of four selected texts: • Moore et al. (1999). *Adolescent Literacy: A Position Statement* • Stahl (1999). *Vocabulary Development* (pp. 8–13) • Richardson (2000). *Read It Aloud: Using Literature in the Secondary Content Classroom* • Showers et al. (1998). "A Second Chance to Learn to Read"

Student Performance Goals

Staff members decided that they wanted to improve the reading performance of all their students to the point where students could at least manage the secondary education that was planned for them—the basic high school curriculum.

Using the state tests, they set one of their first targets: Students would not lose ground in their scores on these tests between 8th and 10th grade. Staff members, however, were not ready to set other benchmarks or indicators of performance. The facilitators agreed that it might be useful to begin by studying what worked to improve reading performance and how much this performance could be improved in a semester or year. Then, the staff would set further benchmarks for improvement.

Internal Information About the Learning Environment

Next, the facilitation team organized the teachers to identify the programs, initiatives, and instructional practices that they were currently using to address the literacy problem. Organization efforts already in place included summer school programs, after-school and lunchtime tutorials, a "buddy program" in which high school students read with elementary students once a week, and special education programs. In addition, individual teachers identified what they were already doing to help struggling students, such as reading materials aloud, using computer programs, giving students extra time for assignments, and using cooperative learning. The teachers agreed, however, that they had no systematic program or plan for accelerating the reading and literacy development of the struggling readers and writers.

External Information About the Learning Environment

The facilitation team had a resource collection of about 20 articles and chapters and four books. From this, the team selected four items for in-depth study by the staff. At staff meetings during the next two months, the teachers worked in cross-department groups to discuss and analyze each item. Using structured response sheets (Sparks, 1999), they identified curriculum ideas, instructional strategies, and assessment techniques that would be applicable in their courses, as well as ideas about organizing the learning environment more effectively in terms of staff deployment, class size, changes in course availability, and scheduling. A facilitation team member worked with each group.

Learning Environment Goals

The facilitation team studied what groups had derived from their analyses and put together a tentative action plan for the staff to review. The plan included actions at the school level, actions all teachers would take, and actions for departments. Actions included

• Providing a series of staff development sessions on designing classroom activities and homework assignments, including modeling and discussing successful strategies for gaining meaning from text.

- Increasing student access to high-quality, non-fiction tradebooks at a range of reading levels (in classrooms, the school library, and community libraries).

- Recruiting more tutors, providing a better support system for them, and increasing the amount of time tutoring is available before and after school.

- Developing a course for accelerating literacy for those students who are reading two or more grade levels below their placement. The course would be 90 minutes per day, replace elective courses, and focus primarily on the reading and writing of informative prose. Both teachers and students would study progress assiduously.

Some Results

A group of teachers volunteered to teach the literacy course. A consultant helped the group design it and learn the new teaching strategies that were needed. The teachers selected students for the course on the basis of a combination of standardized test scores and teacher judgment, serving the poorest readers first. During the first semester, the teachers enlisted the students in the formative evaluation process. For example, each student kept a "word box" that contained cards with vocabulary words that he or she was learning.

It became immediately apparent that the standardized test scores were *overestimates* of the actual reading levels of many of the students. About half of them were not even sure of the "high-frequency, useful little words" that are often learned in the first year of school.

At the end of the first semester, a re-administration of the standardized test indicated that about half of the student scores had risen about two grade level equivalents, and by the end of the second semester, most of the students were making gains and had learned how to learn more effectively. Teachers and students are continuing to refine and improve the class.

The Potential for Change

As with other types of school improvement efforts, school and district staff members who attempt to make effective use of action research will encounter barriers to change. They may have difficulty providing time for the staff to work together, finding and supporting staff members who are willing to lead such work, and designing collective work that improves student learning, professional expertise, and staff leadership capacity simultaneously.

It's a challenging task to help staff structure action research into their work and the work of the organization. Yet we know that improvement in education requires us to change the typical, ineffective practice of professional development.

The good news is that we have options and models. When used as an organization-wide process for school improvement, action research changes the context and provides a way of organizing collective work so that professional expertise is tended and extended, helping to build a strong professional learning community. Whether action research is used as a school improvement tool or as an individual professional development option, staff members who draw on the current research base, add to their current knowledge, and create new knowledge-in-action can make instruction in the school or in the classroom more intentional and effective for student learning.

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