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Teacher research leads to learning, action

By Joan Richardson

As a teacher in a Madison, Wis., middle school with a changing enrollment, Ginny Kester wondered how a sense of belonging affected the achievement of African-American students.

Instead of having idle conversations with friends and colleagues about this question, Kester embarked on a systematic review of the relationships between teachers, parents, and students in her school. She interviewed teachers, parents, and students individually and in groups. In her year-long project, Kester discovered that "the stronger the bond between a teacher and an African-American student, the greater the impact a teacher would have on a student's achievement."

In the busyness of a school day, teachers typically have little time to pause and examine the work they do. Increasingly, as Kester did, teachers are turning to action research as a way to create time and space to reflect on their work.

Action research is "a process where participants—who might be teachers, principals, support staff—examine their own practice, systematically and carefully, using the techniques of research," according to Cathy Caro-Bruce who leads the extensive action research efforts in the Madison (Wis.)

Metropolitan School District. Caro-Bruce is author of a forthcoming NSDC book, *The Action Research Facilitator's Handbook.* (See Page 7 for details.)

In her experience, action research is an effective way for teachers to learn because teachers explore topics related to their work and in which they already have an interest. But Caro-Bruce also says action research has hidden benefits for teachers. "What teachers learn from the process is as critical as what they learn from the results," she said.

Using the techniques of research, teachers* draft questions, collect data, analyze data, and act on what they learn. Acting on what's been learned is an essential part of action research, says Caro-Bruce. Merely answering a question is only going part of the way.

Unlike traditional forms of research, action research is more responsive to the discoveries that researchers make along the way. That means action researchers must be flexible and willing to follow their questions wherever the information takes them. "Action research is not a linear process. It's not something that's nice and neat and tidy. It's messy, but our

> ** Teachers is used throughout this article as a shorthand for any adult working in a school. Action researchers can include paraprofessionals, principals, custodial staff, librarians, and, when appropriate, students.*

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Continued from Page One

worlds are messy too,'' said Caro-Bruce.

Action research can be done alone or in a group. The group can be a few individuals, an entire school, or even an entire district. Caro-Bruce believes action research is best done in a group of 8 to 10 persons, each studying a different question. "When you work with a group, you get exponential effects. Groups provide a way to learn about your own question as well as the questions from everyone else in that group. So it becomes a much broader learning experience,'' she said.

Caro-Bruce outlines five steps for action research projects:

PREPARE TO BEGIN.

Before teachers write their research questions, they must become familiar with the action research process. Several resources recommended on Page 7 could be used for jigsaw readings to acquaint participants with what to expect from the process.

If others in your district have done action research, ask them to describe for the group what they did and learned.

"Help them understand that this is a flexible, fluid process that they will impact and that will impact them,'' Caro-Bruce said.

WRITE THE QUESTION.

Caro-Bruce recommends that a district—or a school—identify broad priority areas for action research and allow teachers to volunteer to explore topics that most interest them. For example, a district might decide to support action research on experiential education, brain-compatible teaching and learning, special education, and issues of diversity and learning.

Each group assembles and teachers identify areas of greatest concern for them. For example, a teacher who enters the diversity group might want to explore the question posed by Ginny Kester. Another might want to explore relationships with parents who do not speak English. (The

tool on Page 3 offers a series of open-ended questions to help participants narrow their concerns.)

As participants write their initial questions, other group members should provide feedback to help refine the questions. (The tool on Page 4 is one strategy for doing this.)

In addition, teachers should ask others outside the group questions such as these:
• What do you think about this question?
• Is this a worthwhile question to pursue?
• What suggestions can you offer to improve it?

As teachers reflect on the responses, they should refine their questions accordingly.

COLLECT DATA.

Data to answer the question can come from many sources. The sources will vary according to the question. In some situations, for example, the teacher will need "hard" data such as test results, parent-teacher conference participation, attendance, demographics, and financial records. Other teachers will need "soft" data from interviews with students, parents, and teachers; classroom observations; examining student work and lesson plans.

Caro-Bruce offers three general tips about data collection:
• Collect data from at least three sources. That will bolster the credibility of your final conclusion.
• Keep a data log, recording when all information was collected, time and place, and the data itself.
• Raw data is not very useful to anyone except the original researcher. In order to share your work, data must be organized and made presentable and understandable for persons unfamiliar with the project.

ANALYZE DATA.

Be systematic and objective as you examine your data. Here's a rough outline to follow:

• Jot down the themes, patterns, and big ideas in the data you've collected.
• Reduce your large list to a smaller one with three to five themes.
• Label information according to relevant themes. Create sub-groups where appropriate.
• Make notes as you go along.
• Review your information. Identify points which occur more frequently and are the most powerful.
• Write up your major points. Match collected data with each major point. (The tool on Page 6 presents a format for this.)

PLAN YOUR NEXT STEP.

What sets action research apart from traditional research is the expectation that researchers will do something with what they have learned. Caro-Bruce suggests several questions to help determine the next step:
• How do your conclusions differ from what you thought you would learn?
• What actions might you take based on your conclusions?
• What new questions emerge for you from the data?

Caro-Bruce warns school leaders not to be discouraged if teachers initially show little interest in action research. When action research was introduced in Madison in the mid-1980s, only two teachers signed up for a course to learn more about it. But teachers became more familiar with the process and the results and now 75 to 80 teachers a year do action research projects in Madison.

Another indicator of its growing acceptance in Madison is the financial support for action research. Initially, it was supported solely by staff development money; this year, the eight action research groups are funded out of seven different budgets.

"It's taken a long time to get to this point. Now, it's part of our culture. When we wonder about something, action research surfaces very naturally, very easily, as one way to explore the topic,'' she said.

Starting points

DIRECTIONS: This exercise will aid participants in thinking about the question that will guide their research. Prepare enough copies of this page to distribute to each participant. Participants should privately respond to each open-ended question. The facilitator then leads a discussion about ideas generated through this exercise.

TIME: 15 minutes for initial writing, up to an hour for sharing the responses.

I would like to improve:

_____

_____

I am perplexed by:

_____

_____

Some people are unhappy about:

_____

_____

I'm really curious about:

_____

_____

I want to learn more about:

_____

_____

An idea I would like to try in my class is:

_____

_____

Something I think would really make a difference is:

_____

_____

Something I would like to do to change   is:

_____

_____

Right now, some areas I'm particularly interested in are:

_____

_____

Source: Action Research Facilitator's Handbook by Cathy Caro-Bruce. Oxford, Ohio: NSDC, 2000. See Page 7 for ordering information.

GUIDELINES FOR DEVELOPING A QUESTION

Action researchers in Madison, Wis., generated this list of suggestions. A good action research question:

1. Hasn't already been answered.
2. Gets at explanations, reasons, relationships. "How does…?" "What happens when….?"
3. Is not a yes-no question.
4. Uses everyday language. Avoids jargon.
5. Is concise. Doesn't include everything you're thinking.
6. Is manageable and can be completed.
7. Is do-able (in the context of your work).
8. Is a question about which you feel commitment and passion.
9. Is close to your own practice.
10. Has tension. Provides you with an opportunity to stretch.
11. Provides a deeper understanding of the topic and is meaningful to you.
12. Leads to other questions.

*Source: Madison (Wis.) Metropolitan School District Action Research Group as it appears in **Action Research Facilitator's Handbook** by Cathy Caro-Bruce. Oxford, OH: NSDC, 2000.*

guidelines

Tools For Schools

Brainwriting

COMMENTS TO FACILITATOR: This activity will aid action researchers by providing them with new ideas and new ways of thinking about their questions. It will also give everyone practice asking questions.

MATERIALS: Felt tip markers, flip chart paper, masking tape.

TIME: One hour.

Directions

Have participants write their questions on separate pieces of flip chart paper, one question per sheet. Hang these sheets of paper around the room. *Time: 5 minutes.*

Divide the large group into smaller groups of two to three persons. Each group should review each sheet and write down at least one question aimed at helping the action researcher think more deeply or in different ways about the question. *Time: Allow 3-5 minutes per question.*

Individuals should look at their sheets and privately reflect on the questions posed by others. What new directions are they contemplating? What new ideas have been generated? *Time: 5 minutes.*

Invite each action researcher to share those new ideas/new directions with the entire group. If they haven't already done so, ask each action researcher to spend a few minutes writing down his or her observations. *Time: 20 minutes.*

ANOTHER STRATEGY FOR THE SAME GOAL:
- Write a question on a piece of flip chart paper, hang it up in the teachers' lounge, and invite colleagues to jot down their questions.
- In schools with active e-mail systems, teachers also could post such questions in messages to colleagues.

CHANGING OVER TIME
Over time, action research questions will be modified. Encourage participants to keep a log of changes they make to their questions. This format could be copied and distributed periodically as a reminder or participants could be encouraged to follow this format in an action research journal.

Date:
My question at this time is:
My biggest concern is:
One thing I am learning is:
My biggest struggle is:

analysis

FIVE WHY'S ANALYSIS

When an action researcher states the problem to the group, have the group respond with this question: Why does this problem happen?

When the researcher responds, ask the same question again. Continue this pattern until the question has been asked and answered five times.

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Data collection

COMMENTS TO FACILITATOR: These questions can help a group of action researchers understand the points they must consider during data collection.

MATERIALS: Flip chart or overhead projector with transparencies.

PREPARATION: Write the Five W's and H on a flip chart or transparency to guide the discussion.

Time: One hour.

Directions

Have the group practice by choosing one person's question answering the Five W's and H about his or her question. Then, break the larger group into smaller groups of two to three persons and brainstorm.

FIVE W'S AND H

Why are you collecting the data?
- What are you hoping to learn from the data?
- What are you hoping to learn from using this particular data collection strategy?
- Is there a match between what you hope to learn and the method you chose?

What exactly are you collecting?
- What different sources of data will allow you to learn best about this topic?
- What previously existing data can you use?
- How much data do you need to collect in order to learn about this topic?

Where are you going to collect it?
- Are there limitations to collecting the data?
- What support systems need to be in place to allow the data collection to occur?
- Are there ways to build data collection into normal classroom activities?

When are you going to collect it?
- Does the plan include opportunities to collect data at different times?
- What strategies can you use to easily observe and record data during class?
- Can you afford the time to gather and record data using the strategies you've selected?

Who is going to collect the data?
- Are there data which can be generated by students?
- Do you have a colleague who can observe you as you teach or a student teacher who can assist with data collection?
- What can you do yourself without being overwhelmed?

How will the data be collected and displayed?
- How will you collect and display the quantitative data? The qualitative data?
- What plan do you have for analyzing the data?
- To whom will you present what you have learned?

ACTION RESEARCH QUESTIONS

How can I help students feel comfortable working with diverse groupings of classmates and overcome, at least part of the time, their desire to always be with their friends?

How can I more effectively facilitate independent writing in my kindergarten classroom?

How can I, a school nurse, better help classroom teachers address the complex issues of educating students with ADHD?

How can 5th grade student be encouraged to write thoughtful inquiry questions for a science fair?

How can the science department and the special education department heterogeneously group a wide variety of students in the same classroom and make it a successful experience for students and staff?

How does the Writing Workshop approach affect my students' writing and their feelings toward writing?

What kinds of assessments best help me understand and teach a particular learner with autism?

How does chronic staff absenteeism impact the education of students with cognitive disabilities at my school and how does it impact teachers and other staff?

What changes in our teaching styles, curriculum design, materials, and professional support are needed to implement a new math program in an inclusive classroom?

What classroom strategies are effective in developing student self-evaluation of their learning?

Source: Action Research Facilitator's Handbook by Cathy Caro-Bruce. Oxford, Ohio: NSDC, 2000. To order, see Page 7.

Tools For Schools

Data summary

Create this template and distribute to action researchers. Have them include this template in their action research journal. This will remind them of the importance of having three sources of data before drawing any conclusions about what they have learned.

WHAT I HAVE LEARNED
DATA SOURCE #1
DATA SOURCE #2
DATA SOURCE #3

Learning about
action research

- "Action research," by Jeffrey Glanz, *Journal of Staff Development*, Summer 1999 (Vol. 20, No. 3). Brief, introductory survey of action research.

- *Action Research Facilitator's Handbook* by Cathy Caro-Bruce. Oxford, Ohio: NSDC, 2000. Includes numerous tools that will help an action research facilitator put these ideas into practice. Available through the NSDC Online Bookstore at www.nsdc.org/bookstore.htm.

- "Action research: Three approaches," by Emily Calhoun. *Educational Leadership, 51* (2), 62-65. Explores the differences between the three types of action research. Background article that can be used effectively for jigsaw activity.

- American Education Research Association. Special interest group that brings together teachers, administrators, and researchers in collaborative action research. Also have links to other action research sites. http://coe2.tsuniv.edu/ar-sig.

- Appalachia Educational Laboratory. AELaction is a free, facilitated forum for sharing ideas related to action research. To subscribe, send an e-mail message to majordomo@ael.org. Leave subject line blank. In body of message, type: subscribe aelaction<your e-mail address>. Do not include a signature.

- Madison Metropolitan School District Action Research Reports. Online access to about 400 published studies of teachers and administrators who have done action research projects. www.madison.k12.wi.us/sod/car/index.htm.

- Midcontinent Regional Laboratory. Offers links to journal abstracts, papers, listservs and other groups interested in action research. www.mcrel.org/resources/links/action.asp.

- *New Vision of Staff Development* by Dennis Sparks and Stephanie Hirsh. Alexandria, Va.: ASCD, 1997. Includes a chapter in which Cathy Caro-Bruce describes the action research efforts in Madison Metropolitan School District. Available through the NSDC Online Bookstore at www.nsdc.org/bookstore.htm.

- "School renewal: An inquiry, not a formula," by Bruce Joyce and Emily Calhoun. *Educational Leadership 52* (7), 51-55. Background article that can be used effectively for jigsaw activity.

- *Studying Your Own School: An Educator's Guide to Qualitative Practitioner Research* by Gary Anderson, Kathryn Herr, and Ann Nihlen. Thousand Oaks, Calif.: Corwin Press, 1994. Explores the issues involved in being a practitioner and a researcher and provides ideas for adapting the ideas of qualitative research to the reality of working in the classroom.

- "Using reflective questioning to promote collaborative dialogue," by Ginny Lee and Bruce Barnett, *Journal of Staff Development*, Winter 1994, (Vol. 13, No. 1), 18-21. Background article that can be used effectively for jigsaw activity.

- "When teachers are researchers, teaching improves," by Heidi Watts. *Journal of Staff Development*, Spring 1985 (Vol. 6, No. 2). Background article that can be used effectively for jigsaw activity.

Tools For Schools

Ask Dr. Developer

Dr. Developer has all the answers to questions that staff developers ask. (At least he thinks he does!)

Action researchers feel valued as professionals

Q *Action research seems like an awful lot of work to me. Teachers are busy enough as it is. Why would anyone want to spend extra time away from their class doing this? I'm skeptical but I would do this if I could see the value for me and for my students.*

A There are many levels in which action research can benefit you and your students.

On a personal level, action research respects the knowledge teachers have about their work. It's the opposite of teacher-proofing the curriculum. Action research acknowledges teachers' experience and knowledge as teachers and encourages them to find their own answers to problems they face, but in a systematic way.

Researchers and facilitators of action research have said that the process of doing the research is as significant as the findings of any project. Developing confidence in their abilities to tackle important questions leads teachers to be more flexible in their thinking. They tend to be more open to new ideas and less threatened when facing new problems because they know they have the tools they need to solve those problems.

Some of the best action research is done as part of a group.

The value of working with a group of teachers cannot be underestimated. As a teacher, you know how much time teachers spend working alone. That means they have few opportunities to talk with colleagues about issues that concern them. Action research is one avenue for bringing teachers together to share their concerns and figure out a way to find answers for them.

Working with colleagues on issues that matter to them builds a sense of trust among colleagues and can significantly alter the atmosphere in a school and a district. When you have a collection of educators who are knowledgeable about their craft, flexible in their thinking, and willing to take a risk, you are more likely to have a school culture that supports educational change.

Action research is probably not for every teacher. But it is a mechanism for professional growth for teachers who are willing to make the necessary investment of time and energy. And it is an excellent way to link personal professional growth with school change aimed at improving student learning.

Tools may be copied and used in workshops.

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