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The Reflective Teacher: An Action Research Primer

by Diane DeMott Painter

Editor's Note: This article is actually a combination of four articles written by Dr. Painter for the VSTE Journal between Spring 1998 and Winter 1999. Formerly the Research editor of the VSTE Journal (and later its managing editor), Painter wrote the articles for a special series she originally called "The Reflective Teacher."

This article covers a number of important issues regarding teacher-researcher, also known as action research. What it does not address is presumed: teachers who are interested in conducting research in their classrooms or in their schools will be readily familiar with policies that protect the rights of human subjects. There may even be research review committees in place to ensure students and their parents are protected. Teacher-researchers are strongly encouraged to check into these policies before beginning any quantitative or qualitative measurement, no matter how innocuous it may seem.

We are happy to offer our readers the material again with the hope that they will become actively involved in teacher-research. Other articles published by teacher-researchers in this issue exemplify the principles that Painter discusses here.

Teacher-research: What is it? (Part I)

In the late 1980s, I was awarded a grant to obtain an Apple computer for my special education classroom. When the computer arrived, I was truly amazed at how my students enjoyed using it to write. It seemed to me that they wrote more, revised more often, and were better able to edit their text because they could use a spellchecker than when writing using paper and pencil. One afternoon, my superintendent came into my classroom and watched a student typing a story at the computer. He asked me, "Can you prove that 'thing' is helping her write?" I chewed on that question for a moment or two before replying, "I do not believe a computer can teach her to write, but I do believe it is enabling her to write." He looked directly at me and asked, "How?" I did not have a definitive response and that really bothered me. It was then that I realized I needed to investigate what was happening in my classroom. I needed to observe, document what I was seeing and reflect upon what I documented. But I felt

Reflective Teacher, continued

terribly alone and at a loss as to how to get started. I felt the need to talk with other educators who had the same interest in finding out and talking about what was happening in their classrooms.

Fortunately I discovered the Northern Virginia Writing Project and enrolled in a teacher-research course at George Mason University. I learned that teacher-research is a practical and action-based type of research that enables educators to follow their interests and their needs as they investigate what they and their students do. Teachers who practice teacher-research find that it expands and enriches their teaching skills and puts them in collaborative contact with their peers. Some people call it "action research" and by definition it is, "done by and for the people taking the actions and relates to the actions they are taking. Its purpose can be improving the practice of an individual researcher or it can be collaborative and focus on school goals" (Sagor, 1992, p. 3).

What is Teacher-Research?

Since the time that I took the teacher-researcher course, I have been actively involved in a teacher-researcher group at my last two schools. I have learned that teacher-researchers do a number of things with their colleagues. They:

- Develop research questions based on their own curiosity about teaching and learning in their classrooms.
- Systematically collect data and research methodology.
- Analyze and interpret the data and the research methodology.
- Write about their own research.
- Share findings with students, colleagues, and members of the educational community.
- Discuss with colleagues relationships among practice, theory, and their own research.
- Examine their underlying assumptions about teaching and learning.
- Assume responsibility for their own professional growth.

What are some of the effects of teacher-researcher projects?

- Increased sharing and collaboration with other teachers.
- Increased dialogue about instructional issues and student learning with enhanced communication between teachers and students.
- Revision of practice based on new knowledge about teaching and learning.
- Development of priorities for school-wide planning and assessment efforts.
- Contributions to the profession's body of knowledge about teaching and learning.

Reflective Teacher, continued

Creating Teacher-research Teams (Part II)

Introducing the Idea to Colleagues

You may want to introduce your idea at the beginning of the school year to allow for maximum time to develop research ideas, collect data, review literature, and write up your results. When you present the concept – perhaps at a faculty meeting – you may want to briefly share with other instructors what teacher-research is all about. Distribute a simple handout that outlines what teacher-researchers do with colleagues on a research team (see "What is teacher-researcher" above for points to include).

Hopefully you will find others willing to share the experience of being a teacher-researcher with you. Once you have found one or more colleagues interested in forming a Teacher-research Team (TRT), set an agenda for monthly meetings. A supportive administrator or a district office willing to provide start-up funds for administrative leave may enable you to meet once a month for half days. If funding to provide leave during the school day can not be provided, your TRT may need to meet after school. I would suggest that you cap each meeting with dinner at a local restaurant!

Getting Started With Your Own Teacher Research Team

Begin your first meeting with a discussion of the importance of maintaining a journal. Some teachers may tell you that they do not like to write. Emphasize that no one will see the journals, but it is important in the process of reflective-research that each teacher maintains one. Start with a free-write activity based on asking these questions:

- What do I want to figure out?
- What do I want to know about my teaching?
- What do I want to know about student learning?
- What classroom situation do I want to analyze?

After sharing highlights from the free-write session, brainstorm with your colleagues your interests, curiosities and questions. Marian Mohr, a teacher-researcher consultant, talks about the evolution of a research question. She suggests that TRT members recast their questions in several ways. Write your question first as a why statement: "Why do my students do…" or "Why do I do…". Next, recast your question: "What happens when...?"; "How does…?"; "What is happening when...?"

Settle on a question that you feel comfortable addressing and then brainstorm ways that you can collect data that may address the question you have chosen. As you begin collecting data, Mohr warns that you may discover that it will be necessary to revise your research question to fit the data.

You may find yourself asking, "Is there something else more interesting emerging

Reflective Teacher, continued

from my data?" She encourages TRT's to conduct a midyear review of the research question by asking, What data do I have? What does the data tell me about my question? What other questions does my data tell me about? Is my question more complicated than I had previously thought?

Do not worry if you need to revise or even change your question. Remember, the research that you are doing is helping you become more aware of what is happening in your classroom.

Collecting Data

After a few weeks you may decide that you need to expand or change the ways that you collect data. There are a number of terrific books available to teacher-researchers about collecting data. Most of the ideas presented in these books teachers already do in the normal course of teaching. I suggest Brenda Miller Power's (1996) book, *Taking Note: Improving Your Observational Notetaking .*

Power stresses that the first step in taking good observational notes is to gather your supplies. Experiment with materials to find what works best as you observe and write about what is happening in your classroom.

My favorite suggestion is using "sticky notes." I keep a sticky-notepad on my desk to grab quickly when I need to make a few notations. Then I stick the notes inside my journal, which will serve as a reminder to me to write about what I observed. I do this "free-write reflection" later in the day during a quiet time to myself.

Power stresses that notes keep you focused on the parts of your job that really matter which are your students and their learning. She suggests that you:

- Keep thoughtful records of student learning;
- Build confidence in what you are doing;
- Get into a cycle of reflection and change;
- Write narratives about your students without making too many sacrifices in other areas of your life. (In other words, do not let Teacher-research consume everything you do!)
- Give yourself permission to write freely.

What you might write about may seem trivial and should not be polished thoughts. Free-writes are raw data and thoughts that will provide insights and are "raw nuggets of truth that will shape the rest of your note-taking agenda."

Power's article provides many other useful note-taking strategies such as video-

Reflective Teacher, continued

taking, audio recordings, and creating record-keeping forms (such as checklists for recording tally marks on frequency of behaviors).

She stresses that it is important to get into the habit of taking daily notes. She acknowledges that a teacher's time is short and the needs of students are great, but even with those constraints, teachers can still systematically analyze and improve their observational skills with daily note-taking practice.

Remind your TRT members to periodically review their notes and consider these points:

- Why do you think you thought these notes were important enough to write down?
- How do these notes connect with earlier entries?
- Based on what you are seeing, what actions do you think you should take in collecting data in different ways, or change the way you are teaching?

Understanding What We Know: Data Analysis (Part III)

This section focuses on the types of data collection classroom teachers might want to consider and ways to begin data analysis.

Types of Data Collection

When engaging in teacher-research in your classroom, you want to be able to collect data in ways that are conducive to your teaching environment and teaching style. Some of the types of data collections you might want to consider are:

- Teacher observations with log reflections (case studies or group analysis)
- Teacher observation checklists
- Comparisons of progress marks from each interim and marking period
- Assessment results (running records, student work samples, portfolio analysis, chapter tests, quizzes and standardized test scores, comparisons of pretest and post-test assessments...)
- Comparisons of writing drafts
- Observation notes from an outside observer(s) such as a teacher-research partner, university intern, administrator
- Audiotape and/or videotape recordings of student-centered or teacher-centered activities
- Opinion surveys and attitude questionnaires

After looking over preliminary data, consider what appears to be emerging.

Reflective Teacher, continued

Important considerations when analyzing data:

- Curriculum/assessment matches- do the assessment methods fit into the curriculum or ways that match your teaching style?
- The context of the data- will it be possible to collect the type of data you have in mind considering your schedule and your classroom environment?
- Degree of change over period of time- do you think you will have enough time during the year to see a difference?
- The number of students and variables in your study
- The questions which the data is supposed to reflect- are your questions too broad? Or too focused for the data that can be collected?

Ways to Analyze Data

Triangulate. Look at the same question based on your topic from at least three separate pieces of data and three points of view. For example, those three might be your observations in your research log, recorded comments by a student (tape recorded comments or quotes you have noted in your log) and examples of student work.

Compare constantly. As you look through your data, keep comparing what you are looking at with what you saw earlier. Use different bases for comparison. For example, if you have compared what the students did in October with what they did in January, try comparing their written work with their oral work.

Categorize. Set up charts, columns, outlines, counts. Make up your own categories or borrow those of another researcher. Watch for ways your data develops into categories different from other researchers. Explore those differences.

Order. Decide on an order and try it out on your data- chronologically, by importance and by frequency (how often it occurs).

Contrast. Look for what doesn't fit your assumptions or theories, what sticks out, goes against the grain. Look for what doesn't fit the theories of other researchers.

Speculate. Try out different hunches about what your data means. Make an educated guess and then see if it is supported by the data. Do not stick rigidly to an assumption or hypothesis you may have had. Imagine the world anew.

Renew. Rewrite your question many times, changing it when necessary to fit what's

Reflective Teacher, continued

interesting in your data. What is it you really want to figure out? Sometimes you will make the question more global, sometimes more tightly focused.

Visualize. Map out your data and draw it all on one page. Sketch the metaphors that come to your mind when you think of your data and what it means. Use colors and shapes to separate ideas.

Abstract and distill. State the essence of your findings as if you had to explain them in 50 words or less. What matters most in this data? Write as if you had been invited to speak at a conference and had to send an abstract of your work for the conference program.

Talk and validate. Explain your data interpretations to others and see if they can see what you see. Consider their different interpretations and use them to clarify, broaden and otherwise validate your findings.

The Influence of Teacher-research (Part IV)

This section illustrates several examples of how teacher-researcher projects often influence initiatives related to curriculum and instruction, planning and evaluation, and staff development.

Reporting the Findings

Susan and William Stainback (1988) provide some very useful tips about how to write a qualitative study that can be helpful when writing teacher-researcher reports. In their book, *Understanding and Conducting Qualitative Research*, they state that the purpose, characteristics and collected data (findings) need to be considered when deciding on the form and content of the report. Teacher-researchers most often write a report that is a storytelling involving "drawing a portrait with words" to provide a "personalized, emphatic understanding of their research setting" (i.e. the educational environment). They suggest that teacher-researchers begin their reports with a clear statement of the focus or purpose of the study. This gives the reader a better understanding of the theoretical framework that is guiding the study. Background information can be presented by briefly reviewing the professional literature or summarizing the current theories, concern(s), or debate(s) related to the focus of the investigation. Next, the research question needs to be stated along with an overview on how the research report is organized. This will provide the reader with an understanding of what is to follow. A clear description of the methods used in the study is important for the reader to understand the findings. The site(s), setting(s) and participant(s) should also be described (pp. 62-63)

Erickson (1986) states three types of information that should be reported: particular description, general description, and interpretative commentary. Particular description involves reporting polished versions of what is in the field notes and other

Reflective Teacher, continued

documents or materials. Actions of the participants, their comments during observations, and setting conditions are examples of particular description.

General description involves providing the reader with a summary of what occurred. The researcher should also link a key event to others like it, or an event unlike it, so that the reader can understand the relationship of the various events to each other. Summary tables or charts are useful for this purpose.

Interpretative commentary involves meaning as perceived by the researcher. The purpose of interpretative commentary is to provide the reader with the researcher's analyses and interpretations of the data and provide a discussion about practical significance of the findings and how they may relate to the theoretical framework that guided the study.

Finally, the report's conclusion section often refocuses on the purpose of the study and summary of the findings. Limitations of the study and implications for further investigations are commonly included in this section.

Publishing

When writing the paper, teacher-researchers need to keep in mind that they are first writing to better understand what the research implications mean to them. The implications are therefore important because the study was meant for them to better understand their students, their teaching methods and their particular teaching environment. To other people reading the research it will be important if they can relate to the study in some way. That may mean that the paper might be read by a fellow teacher, parent or administrator who wants to know more about the research topic and what was found. In some cases, a wider audience may read the paper such as readers of educational journals or magazines. Therefore, teacher-researchers need to think of the audience and the publishing criteria when writing the report. Publishing criteria for educational magazines and journals can usually be found inside the front or back covers of the publications. Most teacher-researchers who work in teacher-research teams first publish their reports in a team collection. This collection of TRT articles can be run off and bound or placed in a notebook and distributed to fellow staff members at their school or placed in the school library. At my school we also send a copy of our TRT articles to our school district's area superintendent and to the school system's staff development office. There are also Intranet and Internet publishing opportunities. Reports can be summarized as short articles and placed on a school's Intranet website in a section devoted to teacher-research.

Another way to disseminate findings is to present a project as a short report during an informal sharing/discussion session at school, or as a conference paper at educational conferences, such as the VSTE Conference (held in the Spring), regional

Reflective Teacher, continued

conferences, or other conferences such as those sponsored by ISTE, AECT, AACE, or subject-specific consortiums.

Finding Resources to Support Teacher-Research

Finding the time to meet and talk about findings and determine their implications can be difficult. It is often helpful to find staff development funds to provide for substitutes so teachers can meet as a team. Reproducing reports and going to conferences to report findings can also be expensive. Fortunately there are a number of organizations that recognize and support teacher-research initiatives. Other associations that support teacher-research initiatives are:

- Virginia Reading Association
- International Reading Association
- The Spencer Foundation
- National Council of Teachers of English Research Foundation

The U.S. Department of Education's Office of Educational Research and Improvement published a guide for educators with little or no formal training in research or evaluation. It has some wonderful teacher technology surveys and rubrics to determine technology competency and staff development needs. It is entitled, *An Educator's Guide to Evaluating the Use of Technology in Schools and Classrooms*. The URL for the guide can be found at the end of this article.

How Teacher-Research Projects Often Influence Whole School Initiatives

Although the primary purpose of teacher-research is for teachers to learn more about themselves as teachers and how they teach their students, discover how to address student needs, and improve the instructional program, many schools see the work teacher-researchers do complimenting the goals and objectives set forth in school plans. Quite often school plan initiatives have the same focus as teacher-researchers when it comes to looking at the instructional program and how to improve it. Betsy Sanford at Lemon Road Elementary School addressed the Fairfax County School Board in February, 1997 and said,

In this, the third year of our Lemon Road teacher research group—a time during which teachers have pursued such varied topics as how students develop spelling strategies, the inclusion of LD students in the regular education program, and how we develop a school-wide vision of technology use. The program at Lemon Road is beginning to benefit from the hard look we've taken, singly but in a collaborative setting, at instructional issues. Not one of us has all the answers, but together we have a way to search for answers.

Reflective Teacher, continued

In another example, a team of four to six grade teachers at Mosby Woods Elementary School developed and tested a rubric to assess students' strengths and needs in report writing. A comparison between the data collected in Fall 1996 and Spring1998 indicated improvement for all three grades in planning for and in writing the final report. Several implications emerged from this instructional inquiry study. Chief among them was the development of a scope and sequence for research and report-writing skills that provides a common vocabulary for planning and developing lessons and procedures. (Impact II Star, Winter 1998).

At Deer Park Elementary School a group of teacher-researchers investigated "What Happens When Students Work in a Student Learning Team Environment to Complete Multimedia Research Presentations?" Their findings led the team to make several recommendations to the staff in the way technology initiatives are implemented throughout the school:

1) Encourage teachers to make careful considerations when grouping students to create project teams, keeping in mind strengths, weaknesses, temperament, and independent working skills;
2) Emphasize keyboarding skills and completion of keyboarding lessons during the first half of the school year in grades three and four so that students are more proficient with keying in text when they begin projects in the second semester;
3) Develop and provide guided lessons in reading information and note-taking skills along with making use of a structured note-taking form when conducting research projects;
4) Allot more independent work time at computer stations in the classroom which would enable students to be more creative with their projects; and
5) Develop and use rubrics to assess the quality of the presentations as well as independent work skills. Part of the school plan that addresses independent learning came from teacher-researcher findings and recommendations.

As school systems investigate instructional programs and strive to find ways to improve student achievement, they often look at "what is happening" using traditional educational research methods such as standardized testing, surveys and other quantitative methodologies. The work teacher-researchers often do helps to explain the "why" of what is happening because teacher-research provides interpretive research through its qualitative approach to research. Teacher-research is concerned with the questions that arise from the lived experiences of teachers and everyday life of teaching expressed in a language that emanates from practice. Teachers are concerned about the consequences of their actions, and teacher-research is often prompted by teachers' desires to know more about the dynamic interplay of classroom events. Hence, teacher-research is well positioned to produce precisely the kind of knowledge currently needed in the field. (Cochran-Smith & Lytle, 1993, p. 5-22).

Reflective Teacher, continued

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