

**COLLABORATIVE ACTION RESEARCH
"ON THE CUTTING EDGE"**

PAUL BRYANT

B.A., University of Lethbridge, 1981
B.Ed., University of Lethbridge, 1982

A One-Credit Project
Submitted to the Faculty of Education
of The University of Lethbridge
in Partial Fulfillment of the
Requirements for the Degree

MASTER OF EDUCATION

LETHBRIDGE, ALBERTA

August, 1995

*--- If you're not living on the edge,
you're taking up too much space! ---*

anonymous

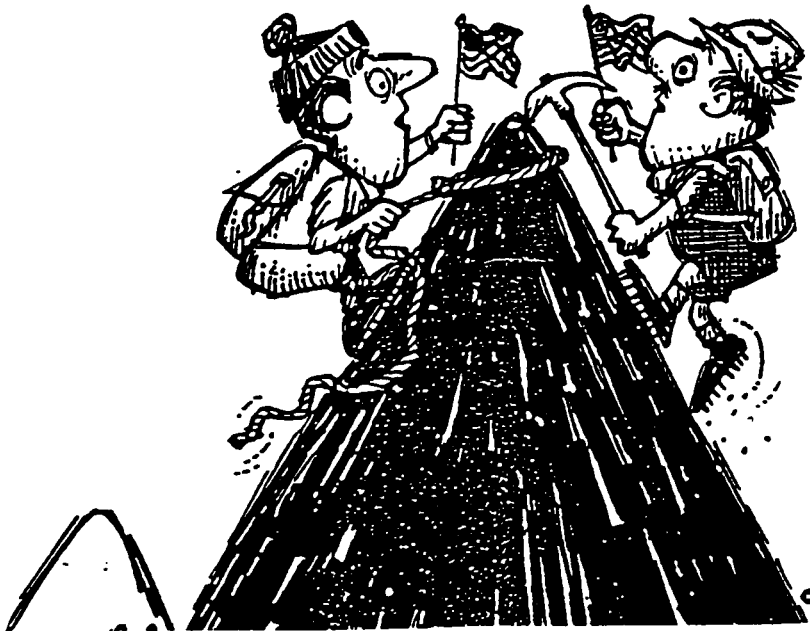


Table of Contents

	Page
List of figures	v
I. INTRODUCTION AND RATIONALE FOR THE STUDY	1
II. COLLABORATIVE ACTION RESEARCH LITERATURE REVIEW	7
Introduction	8
What is Collaborative Action Research	9
The History of Collaborative Action Research	12
Advantages and Disadvantages	15
The Collaborative Action Research Spiral	17
Setting the Stage for Collaboration	17
The Cycle	19
Stage One: Initial Reflection	20
Stage Two: Planning	23
Stage Three: Action	24
Stage Four: Observation	24
Stage Five: Reflection	26
Summary	26
The Individual's Responsibility	28
Summary	29
III. THE STUDY	31
Intent	32
Methodology	33
Data Analysis	34
Research Context and Participants	35
The Collaborative Action Research Process	36
Initial Reflection	36
Planning	37
Action	40
Presentations	43

Table of Contents (con't)

	Page
Student Evaluation	48
Data Collection and Analysis	51
Reflection	54
Summary of Findings	59
References	63
Appendices	69

List of Figures

FIGURE		PAGE
1	Action Research Spiral	19
2	Table of Inventions	21
3	The Action Research Spiral	27
4	Timeline of the Study	38

Collaborative Action Research: "On the Cutting Edge"

Introduction and Rationale for the Study

In the fall of 1994 I had the opportunity to organize a group of teachers at my school to talk about what we do for a living --- teach. It was a very exciting and uplifting time for me, and personally gratifying to be a founder of a group committed to examining and improving their teaching through a very non-directive approach. Teachers were videotaping lessons and presenting them to the group to discuss. Through extensive questioning and dialogue to encourage the "presenter" to examine his/her own teaching, many teachers were able to reflect on and identify areas that they wanted to work on (refer to Appendix A for further information regarding the "STEMS" group). It was at this point that I realized teachers reached a critical point in their own professional development. Even though they were genuinely interested in achieving personal and professional goals, I found that teachers ground to a halt at this point and asked "I know what I want to focus on, but now what do I do?". It seemed as though they were willing to make a commitment to a concerted effort of professional development, however they lacked the skills to follow through with their ambitions.

Guskey (1994) sees a major obstacle to those in charge of professional development is the finding of the illusive "best practice". According to him, most have a clear vision of what *ideal* professional development includes, however the exact process by which that vision can be accomplished is blurred and confused. He concludes his argument by stating that the process needed for

professional development is highly contextualized, and therefore there is no "one best way". Rather, there are a multitude of ways, all adapted to complex and dynamic characteristics of specific contexts. Success, therefore, rests in finding the *optimal mix* of process elements and technologies that can be carefully, sensibly, and thoughtfully applied to particular settings. With this in mind, research provides a number of procedural guidelines for effective professional development --- guidelines which reflect a framework for developing that optimal mix that will cater to a great variety of contexts.

The first guideline is that change has to happen at both the individual and organizational levels. There needs to be a balance between the two. For example, if organizational structures are in place, but lack personal incentives for collaboration and experimentation, this will inhibit any meaningful change in classroom practice. Conversely, Beane (1991) states that if organizational change doesn't coincide with the teacher, it creates a debilitating environment that can squash any change effort. Elmore (1992) states that there is scant evidence that structural change leads to any reliable way to changes in how teachers teach, what they teach, or how children learn.

Research also indicates that there needs to be a long-term goal or vision of professional development, and that this goal may be reached by a strategic plan of specific, incremental goals. The goals should gradually be expanded on what is successful in that context and offer support to those engaged in change (Fullan, 1992; Louis & Miles, 1990). The overall goal is necessary to avoid fragmented and uncoordinated attempts presented in isolation. If this is the case, teachers may perceive them as "isolated fads". Teachers tend to sabotage their attempts at professional development by "biting off more than they can chew" and trying to do too much in a short amount of time. Crandall, Eiseman, and Louis (1986) feel that the greatest success is likely when the size of change is not too massive that typical users find it necessary to

adopt coping mechanisms that seriously will distort the change, but large enough to require noticeable, sustained effort.

Teacher characteristics and their attitudes towards change are also important for effective professional development. Doyle and Ponder (1977) have suggested three criteria that influence teachers' decisions regarding the implementation of recommended practices. They are: 1) instrumentality, or the degree to which the recommendation is stated clearly and specifically; 2) congruence, or how well the practice fits into the existing philosophy of the teacher; and 3) cost, which is the weighing process between the effort required versus the payoff of the new technique. Therefore, professional development of any kind must directly address teacher's needs and concerns (Hall & Loucks, 1978; Weatherley & Lipsky, 1977). Sparks (1983) also suggests that teachers must believe in the importance and validity of the innovation in order to implement changes.

The discomfort that often accompanies change is compounded if individuals feel isolated and detached from their implementation efforts. Planning, implementation, and follow-up activities should be seen as joint efforts, providing opportunities for those with diverse interests and responsibilities to offer input and advice (Massarella, 1980). Loucks - Horsley, et. al. (1987) emphasize that *professional development is a process and not an event*. Because the conditions of the classroom are very different from training situations, teachers cannot be expected to simply walk out of the session into their classrooms with the skill completely ready for use. It has to be molded and adapted to fit the classroom context until, as Joyce and Showers (1983) state, it becomes under "executive control", or an active part of the teacher's teaching repertoire.

The early stages of implementation of an innovation are the most crucial. Teachers need to have regular sources of feedback to: 1) continue the innovation if they are perceived as having a positive effect with one's competence and effectiveness, or 2)

abandon the innovation if there is an absence of any evidence of positive effects. Peer observation in a non-judgmental, non-evaluative manner is an excellent source of feedback as well as a way of promoting a constructive interaction among teachers. Sparks (1983) found that teachers in a workshop-peer-observation setting improved more than teachers in a workshop-only setting.

Upon reflection on the principles of effective professional development offered by the research, I thought my next step in assisting teachers in the STEMS group to follow through with their ambitions and to make their goals reality was to develop a handbook with neat step-by-step procedures that would guide their path. However, upon further review of the literature, it seems that teachers need something much more flexible that will make their professional development very personal and contextualized.

A few years ago, I, along with a colleague, had the opportunity to undergo a collaborative "project" focusing on student learning styles. We researched learning styles and their relationship to various teaching styles, and subsequently planned a "unit" that provided a working context for our project. We made a conscious effort to alter our own teaching styles in order to meet the students' varied learning needs. It was our intention to increase the student's awareness of their "preferred" learning style and that each mode of learning has its own unique qualities that need to be valued in order for complete learning to take place.

The results of this project were very profound for me. I learned a lot about how different children learn, and therefore what methods of teaching they best respond to, but I was even more affected by the process that my colleague and I went through to gain this knowledge. The collaborative nature of the project was truly amazing. We not only developed the questions together, but discussed and reflected on those questions throughout the project. One question led to the next until we were engaged in constant dialogue concerning our project. We were

observing each other teach, videotaping, collecting data and recording our thoughts in journals. It was the first time in my teaching career that I was critically examining my pedagogy. I was truly excited about this because I discovered that I had the power to change the way I teach.

Although this project began as an informal collaborative "project", in retrospect it had all the qualities of collaborative action research. It focused on teacher's needs, questions, problems and intentions, and "wrapped itself around" the teacher's context and situation.

Therefore, my experience with collaborative action research has shown that the process possesses not only all of the principles necessary for effective professional development, but it is highly personalized, and therefore is capable of contextualizing professional development to make it truly meaningful to its participants. In addition, I have chosen collaborative action research to study in further depth for the following reasons:

1. Collaborative action research can help narrow the gap between theory and practice because the relationship between the two is cyclic, in that even though they are different, they are equal aspects contributing to the same phenomenon.
2. Practices developed in collaborative action research tend to be pragmatic in nature, being both workable in real-world contexts and meeting teachers' more immediate needs.
3. Collaborative action research is "user friendly" in that the language involved makes sense to teachers.
4. Traditional research into the theory of human action dwells mostly on the past and present. Because of the cyclic nature of collaborative action research, it not only examines the past and present, but also provides constructive alternatives for the future.

5. Collaborative action research records and reports on the dynamic process of creating alternative practices and understandings which inform teachers more about the possibilities, procedures, and practices for implementation (Butt, forthcoming).
6. The process of collaborative action research is both personal and contextualized, taking into account the many differences that exist in classrooms or schools.

Literature Review
Collaborative Action
Research

Collaborative Action Research Literature Review

Introduction

The term "action research" is not new. If the two words were analyzed separately, it is obvious that teachers already participate in both activities on a daily basis. Teachers "act" all the time. The teaching day is filled with teacher action --- action with children, action with colleagues, and action with parents. Teachers conduct "research" continuously as well. Even though the term research sometimes conjures up images of long questionnaires or laboratory experiments, and is more closely associated with theory rather than daily lived practice in schools, teachers conduct "on-the-job research" all the time. Some examples of this type of research may be calling a former teacher of a student who is experiencing difficulty, or going over a student's work, test results, portfolios, standardized tests, etc., to prepare for a parent-student-teacher conference.

Therefore, teachers are already performing "action" and "research". Action research is a systematic process that can fuse the two together to allow teachers to examine their teaching actions and actively explore the possibilities that there may be better ways of acting --- ways that result in a better teaching situation for the teacher as well as a better learning situation for the students in their classes. "Collaborative" action research can therefore be defined as a variety of stakeholders cooperating together to explore questions of mutual interest through cycles of action, experience and reflection, in order to develop insights into particular phenomena, create frameworks for understanding, and suggest actions which improve practice (Butt & Townsend, et. al., 1992).

In the following pages, collaborative action research will be explored in detail. The following questions will be discussed:

What is collaborative action research?

What isn't collaborative action research?

What is the history of collaborative action research?

What processes are involved in collaborative action research?

What are the advantages and disadvantages of collaborative action research?

What is the role of the individual in the collaborative action research process?

What is Collaborative Action Research?

The traditional researcher investigates an educational issue and then generally leaves the implementation of the findings to the practitioners, mainly to principals and classroom teachers. Traditional research is often intended to expand or create new theory (McKay, 1992). In contrast, educators involved in collaborative action research think about a specific group in a particular setting with the main goal of finding better ways to do their job. Collaborative action research takes place when educators initiate and control the research in conjunction with the other day-to-day activities of leading a school or classroom. It's a search for answers to questions relevant to educators' immediate interests, with the primary goal of putting the findings immediately into practice. It is very practical in orientation in that it deals with real life problems of the classroom or school life.

Collaborative action research has action as its focus. It requires researchers to become involved and to *reflectively* act in ways that will improve the teaching practices in a classroom or entire school (Carson, et. al., 1989a).

Collaborative action research is also very democratic in that it encourages a great degree of talk and interaction between colleagues, inviting active collaboration in a joint attempt to improve teaching. All participants in a collaborative action research project are equal partners in the decision making processes affecting both the means and the ends of the research. Because of this partnership, collaborative action research is not imposed on teachers in a "top-down" fashion, but instead it is very "horizontal" in nature. Carr and Kemmis (1986) offer the following definition of action research which supports the collaborative nature of the process:

"action research is a form of collective self-inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which the practices are carried out."

Kemmis and McTaggart (1988) also point out that collaborative action research is a *systematic process* that includes four "moments" or stages that spiral to provide a continuous structure of professional development. The four phases include planning, acting, observing, and reflecting. Each of these will be discussed later in further detail.

As a summary, it may be helpful to list what collaborative action research is (by identifying its essential characteristics), and also what it is not.

Collaborative action research is...

- * a *systematic learning process* which improves education by change.
- * *collaborative* in nature whereby educators work together to improve their practices in empowering relationships.
- * a method of developing *reflection* about teaching.

- * the establishment of *self-critical communities* of educators that encourage each other to examine their teaching practices.
- * a *cycle* of planning, acting, observing, and reflecting.
- * a process that requires educators to *test* their ideas about education.
- * *open-minded and flexible* to adapt to the working realities of educators.
- * a *commitment to action* with an emphasis on the particular, therefore is *practical* in nature. The questions are down-to-earth and relevant.
- * a critical analysis of working contexts.
- * keeping a personal journal about teaching as a part of the *reflective* process.
- * a justification of teaching practices.
- * where the researcher works from the community perspective in building theory and analytic models from people's "real life" or *actual experience*. Action research reflects the richness and diversity of what other people have said or done.

Collaborative action research is not ...

- * the usual thing teachers do when thinking about teaching. It is much more systematic and collaborative.
- * simply problem solving. It involves problem posing, and *searches for questions beneath the questions* that are typically asked about educational practices. The analogy of peeling an onion applies to collaborative action research in

that layers are "peeled away" one by one in the search for better teaching practices.

- * "done to" people. Educators both *initiate and control* the process, focusing on their *own* work with the help of others.
- * hierarchical, but instead is *democratic*. Partners in a collaborative action research project possess equal ownership and influence.
- * a way to implement predetermined answers to educational questions. Collaborative action research explores, discovers, and works to create *contextually specific solutions* to educational problems as the process *evolves*. This research process is "open" in that it is flexible to adapt to the "messiness" of the classroom or school.
- * an end in itself. *The process and the means to the end are equally important.*

The History of Action Research

The term action research was coined by social psychologist Kurt Lewin in the United States in about 1944 in connection with research aimed to promote social action through democratic decision making and active participation of practitioners in the research process. Lewin believed that through action research, advances in theory and much needed social change might be achieved at the same time. He used action research in contexts as diverse as integrated housing, equalization of opportunity for employment, the cause and cure of prejudice in children, the socialization of street gangs, and the better training of youth leaders (Kemmis & McTaggart, 1988). The two crucial ideas that Lewin's work revolved around were: 1) group decision making, and 2) participant's commitment to improvement.

With the success of early action research as a process of change, Stephen Corey, then Dean of Teachers College at Columbia University in New York, was instrumental in the 1950s in applying the principles of action research to the teaching process. He believed that teachers were more likely to improve and modify their behavior if they were involved in reflecting on their own practices.

In the 1960s, action research was primarily used in the areas of organization development and human relations training.

The reemergence of action research in the 1970s took on a different kind of rationale than it did in its original form. Lewin's original work, although it emphasized field work, retained the scientific rigor of traditional research in the social sciences. While he conducted "traditional" research, he also tried to ensure that his research ended up with real-life applications rather than just written accounts of theory. This changed under the influence of curriculum theorists like Stenhouse, Schwab, Elliott and Skilbeck when they shifted the emphasis to the idea of practical deliberation, focusing on human interpretation, negotiation, and detailed descriptive accounts in place of measurement and statistical analysis (Kember & Kelly, 1993). The movement from a quantitative approach to a qualitative one was evident. Along with this trend came the idea that *the process of inquiry must develop naturally* rather than by preconceived ideas or hypotheses. Hence the expectation that a continuing number of cycles of inquiry including personal and group reflection be present. It was their intent that the outcome of this continuous process of inquiry would be to enable teachers to provide a clearer rationale for what they do based on their own professional observation and experience.

As the emphasis of action research shifted from a quantitative to a more qualitative approach, many "experts" claimed that action research was less rigorous and too limited in scope to be useful. They felt that the results could not be as easily

generalized to other contexts as more traditional research methods could.

During the 1970s and 1980s, action research was instrumental in educational reform in England and Australia. Kemmis and his colleagues at Deakin University in Australia indicate two main reasons for its renewed interest. First, there was a tremendous growth of school-based curriculum review and development, and second, there was a growing professional awareness among teachers seeking new ways of working and of understanding their work (Carr & Kemmis, 1986). Kemmis and his colleagues stressed the importance of the human action, as opposed to the positivist models of inquiry in education and social science and interpretive models that do not lead to action.

Action research has recently regained legitimacy in the United States as an integral part of teacher training and staff development primarily because of the successes of school reform in Australia and England. Carson and Sumara (1989b) list four specific reasons that led to the action research option in education. They are as follows:

- 1) Education is a very dynamic and complex phenomenon. Questions facing education today are both conceptually complex and situationally grounded. For example, any given school must respond to a cluster of questions related to standards, accountability, individual student differences, pedagogical responsibilities, and so forth.
- 2) Universal theories derived from educational research have increasingly shown themselves inadequate for responding to the actual questions of teaching.
- 3) Uncertainties about the future and the adequacy of our educational system have placed schools under greater critical scrutiny.

- 4) There was a concern that faculties of education do not have a close relationship with the teaching profession as do other professions with their professional faculties. In other words, there was a perceived "gap" between theorists and practitioners.

Advantages and Disadvantages of Collaborative Action Research

Researchers studying the benefits of collaborative action research are consistent in their findings that educators grow both personally and professionally. Pine (1981) and Smulyan (1987) found that educators involved in collaborative action research became more flexible in their thinking, more open to new ideas, and more able to solve new problems. Simmons (1985) indicates that collaborative action research projects influence teachers' thinking skills, sense of efficacy, willingness to communicate with colleagues, and attitudes towards professional development and the process of change. Shalaway (1990) determined that educators involved in collaborative action research establish rewarding relationships with school and university colleagues, increase their own self-esteem, and create new career opportunities. Calhoun (1993) states that collaborative action research has the potential to revitalize the entire learning community.

The collaborative nature of action research has shown many advantages. Recent research by Butt, Townsend and Raymond (1990) has shown that collaborative projects, the peer group, and mentor relationships clearly enable teachers to grow. Interacting with peers, planning action, taking action, and reflecting on the experience all require making the implicit explicit to serve cognitive, communicative, and emotional functions. What social contexts add over individual experiences is the synergistic effect of a group with a common problem, being in the same "experiential"

boat and having a common purpose (Butt, et. al., 1995). What groups also add, even if they sometimes deal with conflict, is positive interpersonal support and mutual affirmation (Huberman, 1988) as they pursue common goals. In the sense of power-relations and ownership, these groups are collegial --- participants are co-learners and co-teachers. The affective dimension appears to be very powerful. The social context of a group of colleagues working on a common project simultaneously challenges the individual teacher while providing the mutual support and encouragement (Raymond, Butt & Townsend, 1989). It provides, perhaps, as Wideen (1989) notes, a sheltered environment for taking risks.

It seems there is growing evidence of the advantages of collaborative action research. The process of collaborative action research is highly relevant because questions grow out of concerns from the group. It's highly practical with its goal of improvement. It's democratic, with members sharing power. And it's multi-perspective because all members contribute to the interpretation of the findings.

An additional advantage of collaborative action research is that contexts which enable teachers to collaborate in solving common problems in a focused way appear to enhance teachers' own *individual efforts* at development. This seems to support the idea of school-initiated and school-based projects, although cross-school groups of teachers with similar interests might also be helpful contexts for collaboration where there are common interests to be shared. By their voluntary, self-initiated nature, these activities encourage individual and collective teacher ownership. The mutual interests, trust, and support that develop within groups appear to provide the encouraging environment necessary for taking individual and collective risks. A collective commitment and challenge provokes and requires action, and the collective climate that develops also supports and promotes that action.

Although there are many advantages of collaborative action research, there is a danger, however, when a single description based on many interpretations is negotiated. This may result in one or two members of the group assuming leadership roles and could produce effects that are contrary to the principles of effective collaborative action research.

Another contentious point about collaborative action research is whether results or interpretations can be generalized to other situations or to group members who share different orientations to the world as readily as findings of more traditional forms of research. Some critics of collaborative action research also point out that because it is very contextualized, it therefore tends to be *ahistorical*, looking only at present conditions.

The Collaborative Action Research Spiral

Setting the Stage for Collaboration

The literature on collegiality is beginning to reveal conditions and generic practices that appear to foster collegiality and teacher development (Butt, Townsend & Raymond, 1990). Studies of schools and school-based projects have yielded some useful hints. In terms of maintaining room for the personal meaning essential for commitment and individuality within collective efforts, the work of Lieberman and Miller (1981) has revealed that: teachers must be regarded as experts with respect to their own classroom reality; their personal styles must be seen to have value; teachers need help in articulating their styles; and they need a dialogue to evolve collective projects out of individual concerns. The personal meaning of work can also be enhanced when it provides a mutually agreed organizing principle, serves sociability needs, sustains status and self respect, establishes personal identity, provides a routine, distracts from worry, offers achievement, and contributes to a cause (Woods, 1984).

In terms of involving teachers in collaborative projects, research speaks of "staged voluntarism" whereby teachers are given the choice of participation, with whom they participate, how, and for what purposes (Butt, Townsend & Raymond, 1990; Lieberman & Miller, 1984; Little, 1984). Bird and Little (1986) also found that collegiality was supported when agreements about desired practice were promoted and a common language was developed to describe and analyze it. In addition they found that, within the few schools that sustained strong norms of collegiality and experimentation, there were specific staff discussions of teaching practices, teachers observed each other at work, they worked together on plans and materials, and they learned from and with each other. They found that collegiality and experimentation will occur when teachers and principals describe and call for it, model it, provide support, reward, and defend it.

Watson and Stevenson (1989) found that the working conditions most supportive of collaborative action research provide:

- * A forum in which to share findings and frustrations.
- * Opportunities to educate but not indoctrinate.
- * Time to rethink, re-examine, and relive the principles that underlie their own activities.
- * Colleagues, and particularly the principal, who are supportive of the action research project.
- * Tolerance for changes in the classroom that result from the action research project.
- * Colleagues available to observe and help articulate the problem.

The Cycle

Lewin outlined a set of procedures for action research that are still adhered to today (refer to figure 1). This cycle is probably Lewin's most significant and best remembered contribution to the field of action research. In making innovations and changes in teaching, everything rarely goes perfectly according to plan the first time around. Usually, ways are discovered to improve the innovation in the light of teachers' experience and perhaps feedback from the students or others involved in the process. One cycle of planning, acting, observing, and reflecting, therefore, usually leads to another in which improvements are incorporated based on the previous cycle.

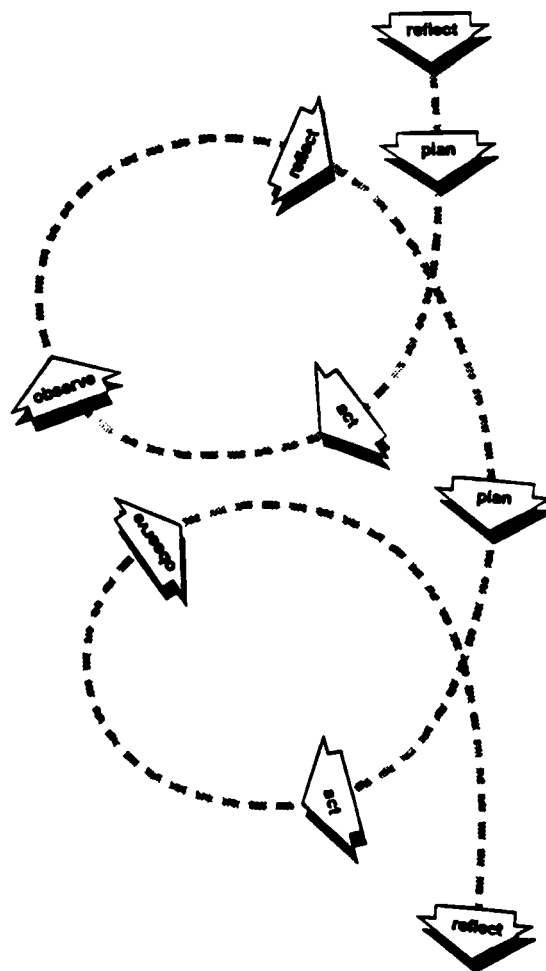


Figure 1. Action Research Spiral
(from Kember & Kelly, 1993)

Projects seldom fit neatly into a cycle of planning, action, observation and reflection, and therefore the process requires a high degree of flexibility. Like all descriptions of research endeavors, the collaborative action research spiral and the stages it describes appear much more clear-cut than occurs in reality. Planning is rarely perfect, action reveals the need for further planning, backtracking occurs, and so on. Nevertheless, it is useful to describe each stage separately in order to create a sense of what is involved in the collaborative action research process.

Stage One: Initial Reflection

Collaborative action research arises from a problem, dilemma, or ambiguity in a situation in which educators find themselves. Kemmis and McTaggart (1988) refer to these as "thematic concerns" that are determined by the group involved in the collaborative action research process. Thematic concerns should not be confused with a method which might be used to improve things. Instead, it should attempt to raise the problematic nature of a particular educational concern and not uncritically accept or propose an educational method or way that is supposed to be better. An example that illustrates this distinction is as follows:

Thematic concern: Developing in students a deeper and more active sense of what it means to think scientifically.

Method: Increasing activity learning in science.

It is common for these "thematic concerns" to fall into one of three categories: 1) curriculum changes; 2) modifications to teaching techniques; and 3) changes to the nature of assessment. Schwab (1969) offers a useful tool, called the "table of invention", to assist educators in brainstorming possible themes for collaborative action research projects (refer to figure 2). Schwab claimed that any educational situation could be understood in terms of the interactions between teachers, students, subject matter, and milieu (which includes the context, such as the

classroom, school, community and society in which the education is taking place).

	<u>A. teachers</u>	<u>B. students</u>	<u>C. subject-matter</u>	<u>D. milieu</u>
1. teachers				
2. students				
3. subject-matter				
4. milieu				

Figure 2. Table of Inventions
(from Schwab, 1969)

In using the table presented in figure 2, educators would work their way through the matrix from cell A1 to D4 by asking questions like "What do I think about teacher's relationships with students?" or "What have I noticed about teacher's relationships with students?" Reoccurring ideas or concerns will emerge and thoughts may become organized around a theme or a small number of reoccurring themes.

Once a theme or concern is identified, the difficult task of clarifying it is next. The concern needs to be sufficiently refined to be tractable and to ensure that the focus is on the most important issues. There are important questions to ask as the concern is

clarified. The questions may be categorized into the following categories:

- * **Scope for action**: Does the situation come from our own field of experience? Can we really do something about this? Is there a possibility of influencing the situation and/or taking action? Are we too dependent on other people or institutional structures?
- * **Relevance**: How important is this situation to us and our professional concerns? Is the issue worth the effort in an educational sense? Is it concerned with important educational values we hold? Is it likely that this situation will interest us for the duration of the project? Is it practical and of use to us?
- * **Manageability**: It is important to start small, and then get bigger when starting an action research project. It is better to build on successes, even if they are small, rather than having to reduce aims and expectations as they prove too impossible to fulfill.
- * **Compatibility**: How compatible would this question be with the rest of our activities? Would it be possible to build research activities directly into our teaching?

Preliminary observation and critical reflection are usually needed to convert a broad concern into an action theme. It must be remembered that a thematic concern does not often directly suggest a remedy. Educational problems are not that simple!

It is useful at this stage to record the existing situation and compare it to the desired outcome. This "before and after" measurement is necessary to evaluate the change and effects of the action taken.

In an attempt to further develop a knowledge base and a common language (both on the *process* of collaborative action

research and of the specific concern), a literature review is important. This review provides the collaborative action research team with an understanding of the problem, some ideas of how others have addressed similar problems, and may suggest possible ways of conducting the research. Borg (1981), however, lists some common errors in reviewing literature. They are: a) carrying out a hurried review in order to get started on the project; b) relying too heavily on secondary sources of information; c) concentrating on research findings and not on the methods and measurement processes; and d) failing to review information indirectly related to the problem.

Stage Two: Planning

The planning phase of the collaborative action research spiral involves constructing a detailed plan of action. This includes *who* is going to do *what* and *when*. A timeline is an important piece of the planning puzzle. It is at this time that a common language is developed among research participants to ensure that channels of communication remain clear. There is also the need to plan and negotiate observation and monitoring techniques for the proposed changes.

Again, it is important to note that plans need to be flexible enough to adapt to unforeseen effects and previously unrecognized constraints. It is impossible to anticipate all things in the working reality of a classroom.

Kemmis and McTaggart (1988) point out that the bottom line of the plan for action must be that it is critically informed in two ways: 1) it must recognize the risks involved in social change and the constraints of the situation; and 2) it should empower educators to act more effectively over a greater range of circumstances.

Stage Three: Action

The action phase is guided by planning, *but is not controlled by it*. Action needs to be fluid and dynamic, with educators required to make spontaneous decisions and exercising practical judgment. Again, reality can be messy and unpredictable. As new insights arise, they can be incorporated into current research, or may be possible topics for future research.

Stage Four: Observation

Observation has the function of documenting the effects of critically informed action. It provides a basis for reflection at the time, as well as in the future as the cycle runs its course. Collaborative action researchers need to observe the action process, the effects of the action (both intended and unintended), the circumstances and constraints of action, the way circumstances and constraints limit or channel the planned action and its effects, as well as any other issues that arise. Detailed observation, monitoring, and recording enables the assessment of the effects of the action or intervention, and hence the effectiveness of the proposed change. With the above in mind, it is important that observation not be too narrow, but instead be planned, responsive, open-eyed, and open-minded to record even the unexpected.

Techniques for Observation

Journals

Journals are excellent tools for recording on-going systematic critical reflections on the effects of the project and how it is progressing. It is a record of what the participants did and thought. Some of the items that may be included in the journal are: initial reflections on the topic of concern, the plans that were made, actions that were taken, impressions and personal opinions about the action taken and reactions to them, results obtained

from observational techniques, references, and notes from relevant literature that were discovered.

Supporting Documents

Supporting documents include copies of anything relevant to the topic being studied. These can include: student handouts, meeting minutes, memos among team members, copies of tests and examinations, or lists of test results and student grades.

Tape or Video Recording

The advantage of tape or video recording is that it provides an unaltered memory of the events that have occurred. It is a quick way of obtaining a complete, accurate, and detailed record of discussions in class, meetings, conversations or interviews.

There are some ethical issues which need to be addressed over the use of tape/video recording. The people taped should be aware of both the purpose and possible uses, and of course anonymity must be maintained in subsequent reports.

Questionnaires and Interviews

These are excellent techniques for obtaining specific feedback on a variety of topics.

Documentary Evidence

This category would include student work and other documents that may provide insights towards the topic of concern.

Triangulation

While triangulation is not an observational technique, it is the process of comparing and justifying data from one source against that from another. If only a few interviews were conducted, conclusions may be viewed with skepticism. But if the interview results concur with findings from a questionnaire, trends in examination results, and evidence in a journal, then the

conclusions are much more convincing. Therefore, it is important to have a broad range of techniques to validate conclusions. It is important to note that some techniques are better in certain situations than others. The chart found in Appendix B illustrates some common observational techniques along with their advantages and disadvantages.

Stage Five: Reflection

The reflection stage is an *active process* whereby educators try to make sense of processes, problems, issues, and constraints made manifest in their strategic action. It takes into account the reality of the situation. It is a critical reflection based on all of the observational techniques discussed above. Questions such as: "How effective were our changes?" "What have we learned?" "What are the barriers to change?" "How can we improve the changes we are trying to make in the future?" are asked at this stage.

This process is very fruitful when done collaboratively. Through dialogue, group reflection will usually lead towards a future cycle of research with a revised plan. It is through this process that the concern or problem becomes clearer and more focused.

Reflection is *evaluative* because it asks the researchers to weigh their experience, to judge whether effects were desirable, and to provide future directions. It is also *descriptive* because it provides a more vivid picture of life and work in the situation, constraints on action, and what might be possible both for the group and individual members as actors committed to group goals (Kemmis & McTaggart, 1988).

The Collaborative Action Research Spiral - Summary

Collaborative action research is a *dynamic* process in which planning, action, observing, and reflection are not static steps isolated from each other, but instead are interwoven "moments" in

the collaborative action research spiral. Each time "through" the cycle will redirect and refocus the group.

In the long term, educators will gain more than just researching on their "themes of concern", but will develop a critical perspective on the practice of teaching and on education itself.

It is at this point that researchers should share their findings with others. This should be done for two reasons: 1) to inform colleagues about changes effected; and 2) to provide an example to others who may wish to initiate their own collaborative action research projects, but are not sure how.

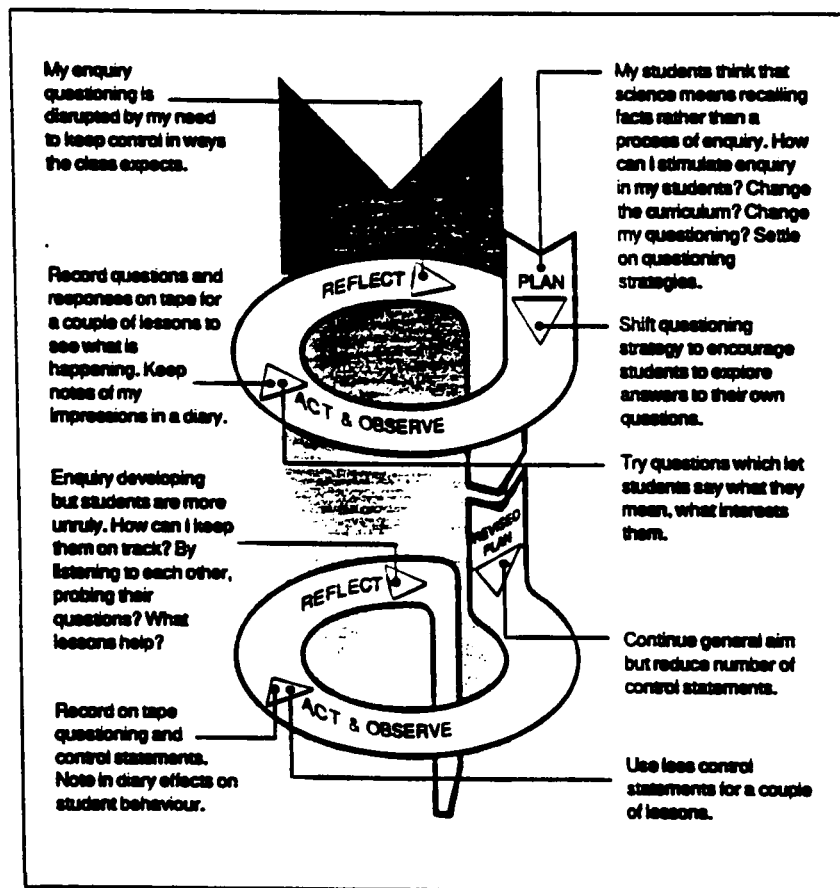


Figure 3. The Action Research Spiral
(from Kemmis and McTaggart, 1988)

The example provided in figure 3 is not *true* action research according to Kemmis and McTaggart (1988). While there is reference to a concern, it is not the thematic concern of a group. There is no reference to the commitment of a group of critical friends who can participate in the intellectual work associated with the spiral of action research. Collaborative action research should produce three results:

1. Changes in the use of language and discourses --- the actual way people describe and look at their working reality.
2. Changes in the activities and practices --- what people are actually doing in their work.
3. Changes in social relationships and organization --- the ways people interrelate in the process of education, and the ways their relationships are structured and organized in educational institutions.

The Individual's Responsibility in Collaborative Action Research

While the group within the collaborative action research project can be seen as the collaborative, cooperative, and collegial center of dialogue, action and reflection which drives both individual, team and organization growth, the individual also has a responsibility for this endeavor. Much research over the last ten or more years has focused on the individual nature of teachers' knowledge and development. In order to join the collegial dialogue, individuals need to know, understand, and be able to articulate the nature of their professional knowledge, teaching beliefs, teaching style and how they best learn. It is now clear from a variety of research that professional knowledge, development, and reflection is a very personal and unique

phenomenon. The *connection* of the individual teacher to the process of collaborative action research is crucial. As Kemmis and McTaggart (1988) state:

- * the individual is the bearer of language, but comes to the language finding it pre-formed as an aspect of the culture of the group.
- * the individual is an actor, but his or her acts are framed and understood in a social context of interaction that is determined as an aspect of the culture of the group.
- * the individual defines himself or herself partly through his or her relationships with others. These patterns of relationship are another aspect of the culture of the group.

Kent (1987) emphasized that for effective collaboration to occur, each individual within the group must be clear of their responsibilities they have accepted and agreed to. This strengthens the *positive interdependence* of the group, for in order for the group to succeed in achieving its goals, all members must effectively contribute towards those common goals.

Summary

Collaborative action research is a form of educational research which places control over processes of educational reform into the hands of those involved in the action. It has the potential to achieve the *optimal mix* of process elements that Guskey (1994) speaks of. Collaborative action research requires a balance of organizational and individual commitment to succeed; it involves long term goals that are reached by strategic plans of specific, incremental steps; it directly addresses teachers' concerns and needs, thus making change meaningful and relevant to teachers by providing them with the ownership required; it has regular sources of feedback that are built into the process; it

promotes constructive interaction among teachers and a powerful support system in which to implement innovations; and last but not least, collaborative action research affords equal importance to the means as well as the ends, stressing that it is a *process* rather than an event.

The Study

The Study

Intent

The intent of my study is to investigate, as a fully participating member from within, the effectiveness of the collaborative action research process as a tool for professional development. I hope to accomplish two things: 1) to research the topic of collaborative action research to find out what is involved and how it can be applied to my school setting --- within the complex, multi-dimensional "messiness" of the real world of the classroom; and 2) to actively engage in the collaboration process of action research with a colleague at my school with a goal of identifying both helps and hindrances of contexts and conditions necessary for effective professional development.

Research on collaborative action research emphasizes that it is a natural process that is constantly evolving. One "cycle" will lead to the next, continuously reshaping and molding teaching practice as well as the processes used. With this in mind, a framework of questions can serve as a starting point for this study. The questions I am interested in are as follows:

1. Is collaborative action research an effective vehicle for professional development?
2. What contexts and conditions helped/hindered the process of collaborative action research?
3. How is a climate of trust and collegiality, that is so important for the process to work, developed?
4. How can I, as a participant, bring my co-learner "on board" to create a truly horizontal and equal relationship?
5. What roles of individuals are necessary for the collaboration of the group to be successful?

It is my hope to answer the above questions, as well as others that emerge as the process unfolds, so that when findings are shared with other teachers they will feel:

1. more inclined to use collaborative action research as an effective vehicle for on-going professional development.
2. less threatened by the process and realize that it can be adapted to fit all situations.
3. that there is no "one best way" of conducting collaborative action research, and that obstacles and constraints are a natural part of the process.

Methodology

This study will be qualitative in nature, using the process of collaborative action research. *Due to the nature of collaborative action research, it is somewhat risky to become too rigid and precise in outlining how events will unfold*, however the following will offer a broad overview of how the study is to be carried out.

Step One. Choosing a Co-learner

Research indicates that involvement in a project such as this must be voluntary, and that all participants must have a commitment to a common goal. A colleague at my school who teaches the same grade level as I do and is interested in becoming a better teacher has volunteered to assist me with this project.

Step Two. Establishing a Working Relationship

My co-learner and I have an excellent relationship. We team plan and teach a number of units, and therefore we feel very comfortable in each other's classrooms. I feel we already have a very supportive and trusting relationship. However, it is necessary at this stage to bring her "on board" regarding the

process of collaborative action research. This can be done through discussions and/or the provision of relevant literature.

Step Three. Entering the Collaborative Action Research Spiral

Through initial reflection, focus on a common "thematic concern" will be achieved. This will be the compelling purpose of our collaborative action research.

Steps of planning, acting, observing, and further reflection will follow.

Step Four. The Next Steps

Collaborative action research is an on-going process in which the initial problem or issue is further refined and clarified. It is therefore possible to plan, act, observe, and reflect in a continuous fashion to "peel more layers off the onion" in the search for deeper meanings.

Data Collection Techniques

1. Both participants will keep personal journals for reflection on both the "thematic concern" and the process.
2. Interviews, conferences, and discussions involving participants to receive feedback and for "perception checks".
3. Classroom observations and videotaping of lessons during the process, as well as of conferences between participants.

Data Analysis

The process of triangulation based on all data collected will be used to answer the research questions stated earlier as well as any other themes that emerge as the process unfolds.

Research Context and Participants

Both teachers involved in this study teach grade four (9 and 10 year olds) at an elementary school in Lethbridge, Alberta. Ann (a pseudonym) has been teaching for fifteen years at a variety of grade levels ranging from grade one to twelve. She describes herself as someone who is constantly searching for better ways to serve her students. Others describe Ann as open, caring and dedicated to both her students and colleagues. I have taught for eleven years in grades two through four. We have taught cooperatively together at the same grade level for the past five years, and therefore an excellent working relationship has been developed prior to this study taking place, in that a supportive and trusting atmosphere is evident. Both of us feel very comfortable in each other's classrooms and freely share experiences, both positive and negative in nature. We plan and teach a number of units throughout the year as a team, as well as share resources. Communication between us is often non-verbal because words are not necessary to express feelings or thoughts. Many times we know what each other is thinking prior to any words spoken. We share similar philosophies towards teaching, and have very similar styles in our interactions with children. We also have a tremendous amount of respect for each other, and freely ask for advice or help. Our working relationship is truly based on trust and support. Therefore, the choosing of a "co-learner" was natural. When asked, Ann volunteered with great enthusiasm to be part of this study.

Once Ann had volunteered to be part of this study, I felt that it was necessary to bring her "on-board" regarding the process of collaborative action research. This way I was not declared the "expert" and she the student, but instead we were equal, contributing partners in the study. Ann also felt this was needed, and eagerly accepted journal articles and other relevant literature to familiarize herself with the process we were to undertake. Not only did this action make us more equal in the knowledge of the

process, but it also developed a common language to be used in future conversations. It provided a common ground that we could both refer to throughout the process, and served to strengthen and bond our working relationship.

The establishment of a working relationship is key to a successful collaborative action research project. Each member of a group need to feel valued as a fully contributing member towards a common, compelling purpose. This purpose must be something important to each member, or motivation will be an obstacle. It is with this in mind that establishing a thematic concern is crucial.

The Collaborative Action Research Process

Initial Reflection

I thought arriving at a mutual thematic concern would be more difficult than it was. We began by brainstorming a list of questions as possible areas to work on in early April. No question was discussed in great detail, but instead we were interested in deriving a list. It was after looking at our list that natural clusters formed, something like Schwab (1969) stated would happen. It seemed that the biggest task was to articulate the thematic concern. We finally arrived at *"How can we empower students to take more ownership of their learning, and relinquish some of the teacher-imposed structure that is present in our classrooms?"*. We both view ourselves as "student-centered", in that we cater to individual student's needs, but we wanted to encourage more flexibility in both teaching and learning styles to make our classrooms more vibrant places to be in.

It was through planning as a team that our common language was strengthened even more. We were definitely "on the same wavelength" in our discussions. Enthusiasm was very high at this point. We both had student teachers who were nearing the end of

their practicums, and therefore we were afforded time to discuss our ambitions. Not only did we have time to meet, discuss and plan, we were both champing at the bit to get back into our classrooms to teach! This only added fuel to the fire!

We decided to go away from our meeting to think about just how we could implement strategies to address the problem we came up with. In other words, we assigned ourselves homework!

Planning

In the planning phase we were cautious of falling prey to the common mistake of many teachers while charting their course of professional development --- biting off more than we could chew. We decided to start our collaborative action research relatively small and do something in conjunction to what we normally do in the upcoming unit on birds. Normally in a language learning "unit" we integrate a number of "strands" --- a novel study (Owls in the Family by Farley Mowat), a number of language learning, science, art, and math centers, library skills, and research. It was within the research strand that we decided to perform our research by encouraging student creativity and less teacher directed teaching. The "rough" plan was as follows:

- 1) Students brainstorm what they know about birds
- 2) Students brainstorm questions they would like to know answers to about birds
- 3) Using the brainstormed questions, students would categorize their questions into areas of possible study (for example, flight, nests, etc.)
- 4) Students would select working groups and research their topic taking into consideration their method of presentation. We would encourage students to use a variety of presentation techniques.

It was decided that we would combine our two classes together to initiate this process, and then split into our individual classes for the "actual research". This was done primarily because of the lack of resources for fifty children at once.

It was at this point that we got out a blank calendar to plot out a timeline. In doing this we decided when the students were to present and worked backwards from there, allowing time for each step. Figure 4 is a timeline for our research project:

Monday	Tuesday	Wednesday	Thursday
1 (May) Unit Kick-off Brainstorm Research (total group)	2 Swimming Lessons Novel Study - chpt. 1	3 Grouping & Choice of Topics - decide method of presentation	4 Library Skills Novel Study
8 Centers Day 1 - begin research	9 Swimming Lessons Novel Study	10 Centers Day 2 - research continued	11 Research Novel Study
15 Centers Day 3 - research (rough copy due)	16 Library Skills Novel Study	17 Centers Day 4 - research (begin good copies)	18 Swimming Lessons Novel Study
22 Centers Day 5 - research	23 Research Continued Novel Study	24 Centers Day 6 - research	25 Swimming Lessons Novel Study
29 Centers Day 7 Presentations	30 Helen Schuler Field Trip Novel Study	31 Centers Day 8 Presentations	1 (June) Presentations

Figure 4. Timeline of the study

May 19th
Bird Farm Field Trip

It is important to note that Ann and I felt comfortable enough with each other that our plans could be extremely flexible. There was little anxiety over deadlines or schedules, but these instead provided a *working guideline* for our project. If we had to push something back a day or two because of an interruption (as so often happens in an elementary school setting), it was not a problem. *We wanted to be guided by the plan, but not controlled by it.*

We discussed our roles in the process and decided we would adopt a team approach. In the combined sessions to launch the research unit, we would take turns leading discussions and acting as recorders during brainstorming sessions. Because our classrooms were right across the hall from each other, we could easily bounce back and forth if one of us ran into a snag.

A week prior to actually starting our bird unit, Ann and I met to discuss the collaborative action research project itself rather than the unit. We spent considerable time discussing how we could collect data to evaluate our progress. We came up with the following list:

- teacher journals
- student presentations
- student self-evaluation
- teacher observations
- discussions and informal conferences
- possible use of videotaping

We thought these forms of data collection would give us a good sense of how we were doing. Perhaps because of the nature of our research, we also were very interested to know how the children were feeling about their presentations. We both agreed that students could provide valuable input in how we teach. After all, that was one of the aspects of our research --- to make our teaching more student directed.

It was at this point that we talked further about the notion of student choice and student-centered learning. Some equate student-centered learning to students having total control of what they do. However, we came to the conclusion that student-centered learning required considerable structure provided by the teacher(s) to encourage student choice. We felt that at the grade four level, students do not possess all the skills and tools necessary for good decisions and successful work. They need to be given the tools for success --- in our case, research skills in the collection, organization and presentation of information. We decided that within the framework provided, students should have many options and opportunities for individual choices. What this also meant is that we, as teachers, did not lose the "control" we thought we might have to lose in order to promote student-centered learning.

Action

On the first day of the unit both classes met in my room (my classroom is carpeted, and therefore students could sit on the floor). The children were very excited, perhaps because they could see our enthusiasm or perhaps because there were fifty students confined to a smaller space. The brainstorming went very smoothly. Ann and I took turns guiding the discussion and recording responses on the blackboard (which was quickly filled). We were both quite impressed with their knowledge about birds.

When it came time for the "what do you want to find out about birds" session, the students started slowly but quickly gathered steam to list about sixty questions. In fact, we had to bring the session to a close before all hands were down because of time constraints.

As closure for the first session, we asked the students if they could group or classify any of the questions they asked into categories. We did find a number of questions that could be grouped under houses, reproduction, food, enemies, protection and

flight. The students left the first session feeling energetic and proud of their accomplishments. After all, we did accomplish a lot in an intensive one and a half hour session.

It is interesting to note the change in student's attitudes when a topic of study is initiated with WHAT THEY ALREADY KNOW. It seems to empower students to want to learn more, not just because the teacher said they had to.

After the initial "kick-off", Ann and I worked with our classes separately, although we were often in each others classrooms while the other was teaching. Both of us thought nothing of helping students in the other classroom since we were so clear on what was to be accomplished. We both followed the same itinerary, although we did not do the very same thing on exactly the same day. I appreciated this flexibility, as the process then was able to fit into both of our schedules.

I began working with my class on their research projects on May 3rd. We looked at the questions the students had brainstormed earlier and arrived at headings for the categories. These turned out to be headings like flight, food, nests, reproduction, etc. This organization was somewhat different from earlier research activities. When we studied sea creatures earlier in the year, these words were subheadings rather than actual topics. Therefore, we discussed this to make sure the purpose of the research was abundantly clear. For example, if they chose nests to research, they would look at how different birds build different kinds of nests, why, etc. We then took the remainder of the period to do three things: 1) students chose their own partner or group (maximum of three per group); 2) the group decided on a topic of study; and 3) students began to brainstorm additional research questions that were associated with their chosen topic. Therefore, students ended up with a list of their own questions that would guide their research. As closure for the lesson we discussed possible ways of sharing their information to the class,

as they will become "experts" on their topic of study. I encouraged them to be creative and original in their presentations.

Students began their research the next day, recording information in point form. We decided that information would be easier to group that way and it would enable students to put the information into their own words. They were excited and were on task quickly. Little instruction was needed at this point, for they knew exactly what to do. My role at this point was to pull myself back and be a facilitator/encourager. An example of this was, upon request, making suggestions of other words students could look up in the index if they couldn't locate their exact topic. I did a lot of non-directive questioning of students, trying to get them to reflect on what they'd done and come up with answers on their own rather than just telling them what they should do next. I enjoyed this role. It certainly was more difficult for me, perhaps because results were not obtained quite as quickly as if I had told the students what to do. I felt that being at the end of the year and having a group of students who could handle this strategy was a definite asset.

As the students continued their research, I noticed that my energy level was not as high as it was when Ann and I were actually in the same room. Just having someone else in the room seemed to motivating and uplifting.

I was continually amazed at what the students came up with when they were motivated and given the right tools for the job. One group in particular impressed me with how they organized their information on nests. Without my prompting, they had constructed a grid with characteristics of nests at the top and kinds of birds on the left-hand side. They then recorded their information in point form right on this chart. When it came time to write up their final product, it was very easy. Other students chose to use webbing strategies and versions of Venn diagrams. None of these techniques had been specifically taught for this unit, however were modeled by myself at various times throughout the

year. And I thought they didn't notice! I shared my excitement with how my students were recording information with Ann, and she quickly echoed my remarks.

Throughout the data gathering stage we talked about methods of presentation, and how this method really dictated how they should be recording their data. Therefore it was very important to settle on a presentation method prior to recording information. The only guideline regarding their presentations was that something had to be handed in. For example, if a group was performing a play, they needed to hand in their script. If they were making a poster, it would be handed in. The methods of presentation chosen included news shows, puppet plays, reports, centers, puzzles and games.

According to the timeline that was set out and communicated to the students, presentations were to begin on May 29th. I asked who was ready to present in the class before, and the students asked if they could have an additional day. I was receptive to that because there seemed to be a genuine need and an atmosphere of sincere negotiation, therefore we began to construct a presentation schedule accordingly. The students seemed eager to present. In fact, a couple of the groups had been practicing their plays for a couple of days. Ann's class, due to a number of "interruptions", was about a week behind mine at that point, and presented the following week.

Presentations

I was very impressed with the presentations of the groups in my class, especially with how much information they collected, their organization of that information and their methods of presentation. Throughout the presentations, a consistent format was utilized. The students would present, and then there would be an open question period to allow the rest of the students to pose questions to the "experts" regarding their topic. It was at this time

we talked about "good questions" and that it was okay for the "experts" to perhaps not know everything on their topic.

Being an "expert" and presenting information to the rest of the class was not new to the students at this point in the school year. Earlier in the year they had been "assigned" topics to research and present in social studies, primarily due to a lack of resources. For example, when studying the Native American's traditional lifestyles, groups studied food, clothing, recreation, transportation, etc. What made our project different was the flexibility in presentation styles, and the actual "teaching" that was required.

There was not a formal facilitating structure employed to help the students become "good teachers" of what they had learned. Perhaps the most powerful influence on the children was our modeling throughout the year. Both Ann and I make a point of including a wide variety of teaching strategies in our classrooms. The students, in preparation for their presentations, were required to choose a method of presentation at an early stage, as well as create a "hard copy" that they were to hand in. This may have been a script for a play, a poster, etc. Perhaps it was this requirement that enabled Ann and I to ask the children reflective questions that helped them to anticipate how "their lesson" would unfold.

Ann and I tried hard to create a safe, open atmosphere in our classes so the students felt free to take risks and try new and different things. This was very important for the success of this project. At times we had spontaneous class discussions regarding the teaching component of this project. Students would share their plans and others would make suggestions and ask questions of clarification. This not only enabled students to share ideas, but provided an opportunity for students to solidify their own plans. Students would say "Hey, I like that idea. How do you think we can work it into our presentation?".

Presentation #1 - Enemies & Protection

The two boys in this group presented a news show. They captured the rest of the class' attention by beginning with a late breaking development about the Winnipeg Jets, and how they would be staying in Winnipeg for at least one more year. They then proceeded with their interview on birds, and more specifically on their enemies and how they protect themselves. They included many pictures obtained and colored from the CD-ROM in the school's library. They were very composed and confident in their presentation, showing that they had indeed collected a lot of information. They even went into great detail on man's impact on birds with the destruction of habitat, etc.

Presentation #2 - Food

The three boys that presented on food elected to create a report, along with appropriate subheadings and illustrations. They read and discussed their information to the class.

Presentation #3 - Food

These two girls acted out a play entitled "Welcome to Gooseberries". They came prepared with posters, props, uniforms, etc. They had their lines memorized, and when they forgot a line they would simply refer to their "menus". At the conclusion of their presentation they provided the whole class with a "gummy worm" to eat during the question period that followed.

Presentation #4 - Food

This presentation by two boys consisted of stick puppets that acted in the "Bird World Cafe". They provided a tremendous amount of information in their dialogue, and they even provided a poster to explain some of the different foods that birds ate.

Presentation #5 - Flight

These two boys planned and acted out a very humorous and informative play. They recruited five members of the audience to participate by being part of "their class" in the play. They also had a number of things that they passed around so everyone would get to touch something (like feathers, ceramic and stuffed birds, etc.).

Presentation #6 - Reproduction

The three girls that performed this presentation also provided a variety of things for the audience to look at and pass around. They wrote and acted out a play, but also included a poster including different types of eggs and babies, and gave the audience some "kingfisher" eggs (actually candies) to munch on. They then turned the tables a bit at the conclusion of their presentation, for instead of being asked the questions, they asked questions of the audience. These three really enjoyed being the teachers, and quizzed "their students" about facts presented in their presentation.

Presentation #7 - Appearance

The two boys that did this presentation did another play. It was about a newspaper boy who reads the paper to an old man because he had a hard time seeing the print. They organized their information into subheadings like feathers, beaks, size, feet, etc. They included pictures obtained from the CD-ROM in the school's library.

Presentation #8 - Appearance

The two girls doing this presentation wrote a play about two kids learning about birds' appearance. They had their script written out on a computer, organizing their information around a variety of birds --- flamingos, owls, swans, hawks, finches, Canadian geese, ducks, etc. They included models of a kiwi bird

and a hummingbird. At the conclusion of their presentation they gave away some jelly beans disguised as eggs.

Presentation #9 - Nests

These two boys utilized the news show format to talk about the construction of nests by a variety of birds.

Presentation #10 - Strange Habits

The two girls researching this topic were challenged in organizing their information because the "strange facts" they uncovered did not really fit into neat categories. They elected to do a news show, based on a "Did you know that..." theme.

Even though there was some duplication in the topics, the students' attention was maintained throughout all the presentations because the methods of presentation were so varied. I never heard the phrase "I've heard that before" at all from the students. They loved performing, and were entertained at the same time.

Ann excitedly called me over to her classroom during her class' presentations the following week. "You just have to come and see this!" were her words. Two of her boys were in the middle of their presentation. They had constructed three separate activities: a word search, a crossword puzzle, and a board game. They were rotating the class around the three centers very efficiently. Ann was amazed with just how much the students were capable of if they were just given the chance. She commented about how she merely asked leading questions like: "What is this group going to do while these students work on the puzzle?". Ann was beaming. She was extremely proud of her student's accomplishments. She commented that the students who normally wouldn't shine in a normal research-report activity were absolutely taking off when they decided to use sock puppets. Ann also made another comment that caught my attention. "I like this

so much, I think I'll teach like this all the time." By this statement I could see that she was able to visualize how she could incorporate this new strategy into her existing teaching repertoire. She was beginning to see the potential of this strategy in other contexts, something that effective professional development should accomplish.

Student Evaluation of the Project

Ann's Class

In a heads down vote, 22/23 preferred this method whereby they got to research and chose their method of presentation. They felt they learned more about many birds, rather than facts about one or two. This is in part to the structure of collecting information. Rather than just researching one type of bird, students looked across species at a common element (e.g. nests). Students appreciated the freedom to present the way they were best at, and chose methods according to their strengths. As one student said, "It was nice to present the best way I could". Students also stated that they thought about how they best learn, and ended up presenting that way. They were able to develop their own ideas to create more interesting and different ways of presenting. Many students were interested in the teaching aspect of the presentations. They gained an appreciation of the effort required to teach.

Paul's Class

I asked my students the following questions, and unlike Ann, I had my students write down their responses rather than answer orally. The questions and a summary of responses are as follows:

1. Did you like to be able to present in your own way? Why or why not?

*** Yes, it would have been boring listening to all the presentations if they were the same. (6)**

- * Yes, because it was more fun to present in your own way.
- * Yes, because I feel free when I present in my own way.
- * Yes, because I like to do different things like being a newscaster.
- * Yes, because we might not like what the teacher picks.
- * Yes, I appreciated having a choice of how we presented.
- * Yes, because I like to present a different way each time.

2. Did you learn more this way than if the class all had to present the same way?

- * Yes, I learned more this way because some people present differently and some groups have more or different information than others. (Note: 25/25 said yes, and gave a variation of this comment.)
- * The amount I learned depended on how much information the groups presented to us.

3. What did you learn (other than facts about birds)?

- * I learned how to present a play in front of other people without messing up too much.
- * I learned to cooperate with your teammates and to group your information so people can understand it.
- * I learned I like to present in ways other than a report.
- * I learned that it is harder to cooperate in a group of three than a group of two.
- * I learned that it's hard to agree on how to present.
- * I learned how to organize information.
- * I learned that it is good to get together with the other people in your group to find resources, and not just books.
- * I learned that one person can't do all the work, because then the other person doesn't look like they're part of the group.
- * I learned that in my presentation there's different kinds of sub-titles that I didn't know of.

- * I learned that it is important to work hard and cooperate when you're working in groups.
- * I learned that you really have to speak loud and clear when you're doing a play.

4. What would you do differently next time?

- * I would add more information to make our play better.
(10)
- * I would add more props to make the room more like a restaurant setting.
- * I would do a different subject next time so I can learn different things!
- * I would try to bring in candy or something.
- * I would like to present in a way other than a report.
- * I would do something that is more creative.
- * I would allow more time to rehearse.
- * I would try other topics and other ways to present like a puppet play and flight.
- * Next time I would like to be more prepared.

5. List the pros and cons of this teaching method.

Pros

- * got to choose our own partners
- * sky was the limit
- * could do anything for a presentation
- * got lots of information
- * subjects, researching, plays, puppets
- * you get to work with someone else
- * learn more
- * got some ideas for next time we do this
- * got to meet new friends
- * learned lots and enjoyed listening to the other presentations
- * had fun presenting

- * I liked being the teacher and helping others

Cons

- * we had some difficulty getting information
- * we needed more time
- * sometimes people just listened to the play, and didn't pay attention to the information presented
- * it was hard hearing some people talk
- * working in a group of three was hard
- * I think I did most of the work in our group
- * some people who did plays talked more about their plays than their information

Data Collection and Analysis

Originally Ann and I planned to use teacher journals, interviews/ conferences/discussions, classroom observations and videotaping to collect data to evaluate whether our goals were being accomplished. However, we ended up using teacher journals, observation of student research and presentations, discussions and informal conferences, and student input via a questionnaire. I recorded observations and thoughts in my personal journal on a daily basis for the duration of our study. This provided me with a running log of my feelings and impressions of events that took place. This also became my major source of documentation for the study as I included daily observations into my journal. Ann also kept a journal. The following is a typical journal entry:

May 1, 1995

Today was the first day of our research, so both classes met in my room (my classroom is carpeted). The children were very excited, and I'm sure the fact that there were 50 students in a smaller space contributed to the atmosphere. The brainstorming went very well. Ann and I took turns guiding the discussion and recording responses on the blackboard. I think we both felt very comfortable with that

arrangement. The students gave a lot of really good responses, especially in the "what do you want to find out" category. We left these questions on the board, and as a wrap-up we asked the students if any of the questions could be grouped together to form categories or topics of study. We did find a number of questions that could be grouped under reproduction, houses, food, enemies, protection, flight, etc.

It was a successful beginning to our unit --- to start from what the students know and to give them an opportunity to guide their own learning. They seemed very motivated, and did not get the feeling that they "had to do this because the teacher said so".

Once the process got underway, I felt that Ann was very relaxed and comfortable with the situation. I know I was. There is always a little apprehension if I don't know EXACTLY how something will turn out, and I was pleased with today's efforts.

A large part of my daily journal consisted of daily observations I made regarding the students' work and their presentations. These observations were jotted down in a small notepad, and were later written up more fully in my journal. An example of an observation is:

- student x and y are having some difficulty getting started on collecting their information. Upon questioning, they concluded that their trouble was not because of a lack of information, but instead they were having a hard time recording and organizing their information. I asked them what their topic was and possible subtitles. Once they got going they began to list a number of different birds that made a variety of homes. It wasn't long before they went "aha" and took off. They were so excited about overcoming this obstacle they ran back to their "corner" and began writing!

Ann and I also met informally at least once a day. Our classrooms are right across the hall from each other, and therefore very convenient. Sometimes we would talk for five minutes, sometimes for sixty. We tried to schedule a more formal meeting

time every week during the month of May to "touch base". We felt this was necessary as May and June tend to be very busy times of the year. I would usually initiate the dialogue, however once we started there was no dominant participant. None of these meetings were audio taped, however I acted as recorder during these meetings.

Ann and I felt very comfortable inviting each other into our classrooms to observe what was going on. It was an invitation to observe the children rather than the teacher, for they were working quite independently on this project. After I went into Ann's classroom, I would make short notes to myself to be included in that evening's journal entry.

One of the most interesting sources of data for this project came from the students themselves. After the presentations were over, we asked the students what they thought of the project. We treated this very seriously, and asked the students to be critically honest. I had my students actually write out their responses to the questions, and Ann conducted her "survey" in a discussion setting. She would read the question and have students raise their hands if they agreed, etc. They then discussed each question as a class to obtain more specific feedback.

After all of the data was collected, we began the process of triangulation. We sorted through all the data looking for answers to the questions we posed at the beginning of our project, as well as any additional themes that surfaced. Questions were recorded in "squares" on a large grid, and once additional themes were found, they were also assigned a square. As other data supported an existing theme or answered a question, it would be added to the appropriate square on the grid. It was amazing how one source would support another. Often, Ann's comments would mirror mine. We often made the exact same observations, and drew the same conclusions based on a particular incident. The students' reactions were very similar to those of the teachers. It was not

uncommon for a single question or theme to be documented by all four types of data.

Reflection

One of the issues that Ann and I were interested in throughout this process was that of control. The idea of letting go and having the students take a more active role in their learning was somewhat threatening. This was especially the case for me as I'm an extensive planner. I go to great lengths to anticipate how lessons will unfold before they are actually taught and plan accordingly. Using this process, my role as a teacher changed. The students became the planners and the teachers became facilitators. We believed this concept in theory, but were not sure how we would handle the situation in practice.

Throughout the process we were very conscious of our language, particularly in posing questions to students in order to promote reflective thinking. Rather than "I would do this" or "Why don't you try", we substituted questions like "What do you want to accomplish?" or "How would your audience respond to...?". We concentrated on asking questions rather than making statements.

Another challenge was to help students anticipate just how their presentation would go. Were they to teach to one large group or several small groups. If they chose small groups, how would they manage all the students in the class at once. Therefore, the art of teaching required additional skills to be taught prior to the presentations.

Both Ann and myself were amazed by how much the students learned. Not only were they able to collect and organize a terrific amount of information, but they were also able to convert that information into a teaching situation, thus requiring some higher level thinking skills. They had to weave their information

into plays, centers, etc., and make it meaningful and easy to understand for their audience.

Both of us were excited to see how well the students performed in their presentations. We didn't think that the quality of teaching and the interest in learning would be so high. There were absolutely no discipline problems throughout this process, and during the presentations the audiences were unbelievably attentive and cooperative. Many groups continued to work on their presentations after the first ones had been given. They had seen what other groups had done and wanted their presentation to be just as good, if not better. We were also very surprised with some of the children's talents --- things that were perhaps not given the chance to be demonstrated earlier in the year.

We both felt that our own enthusiasm for the collaborative action research project rubbed off on the students. They were extremely enthusiastic and motivated to do well from the start to the finish of their research.

Our biggest frustration with this research project was that we initiated it so late in the year. We, along with the students, were just beginning to see the potential for student-centered presentations, and the end of the year was rapidly approaching. It would have been nice to have this serve as a springboard for bigger and better things to follow. I felt that the students felt the same way, for they were already planning what they would do the next time around. In a way, the students were also involved in a collaborative action research project of their own!

The reflection stage should serve to be both descriptive and evaluative. With the above descriptions in mind, I would like to answer the following questions as the evaluative component of this stage.

How effective were our changes?

Our changes were extremely effective from both the teacher and student viewpoints. Ann and I felt that we were very successful in empowering our students to take more ownership of their own learning and relinquishing some of the teacher-imposed structure that is present in our classrooms. We felt that we were not making all of the decisions for the students, even though at times they would have liked us to do that for them. The students echoed our feelings through their responses to the questionnaire at the end of the unit. All enjoyed the process and felt they learned more through this student-centered approach to research.

What are the barriers to change?

Even though Ann and I have an excellent working relationship, we both saw this as being a potential barrier for change. Because we were comfortable with each other, and were able to share as much as we did, we felt this was a necessity for change to take place. The flexibility within the unit was an absolute must. We didn't feel compelled or pressured to do everything at exactly the same time or according to schedule. We were able to make minor adjustments to fit our individual contexts.

Time and timing had to be the biggest barrier to change in our study. Time is necessary to plan, reflect, take action, observe, and above all, to collect data to see if the change is worthwhile. Having student teachers to afford us extra time was a bonus, particularly in the initial stages. I think that time may not be as critical in subsequent spirals of the collaborative action research process for us as a team because the critical foundation of a trusting, supportive relationship has already been laid. The timing of this study was not optimal. May and June tend to be very hectic months, traditionally a time for winding down and bringing closure to a school year. I felt we were going against the grain somewhat by initiating something new. The many interruptions (field trips,

etc.) made planning more difficult and lessened continuity within the unit. On the other hand, perhaps this research project was a good distraction from all the traditional end-of-the-year responsibilities.

Regardless of contextual constraints that may act as barriers for change, in the final analysis the most critical barrier to change is the participants themselves --- in this case Ann and myself. We were in control of the process. How we responded to various situations dictated the degree of success that the collaborative action research process would achieve.

How can we improve the changes we are trying to make in the future?

Ann and I spent quite a lot of time discussing this question. The following are suggestions that we made:

- * We need to allow for more student work time. Many groups met on the weekends and after school, however not all groups were able to do this.
- * We need to allow more class time. Increased time needs to be provided for monitoring and conferencing with groups of students.
- * Perhaps we need to build a monitoring scheme into the timeline. For example, "When you're finished this, see me ...".
- * We need to try to involve the students more in the planning stages, particularly by involving them in scheduling and planning their time efficiently.
- * We need to incorporate the idea of student choice (particularly in presentations) earlier in the year.
- * We could encourage the use of *student response journals* to promote reflection on an on-going basis, rather than

encouraging reflection only at the conclusion of the unit. This would provide a source of continuous feedback and would help us to monitor student progress.

What's Next?

This period of reflection naturally leads to other questions or possible topics of study for subsequent cycles of collaborative action research. Even though our original plan was to enter into a second cycle of collaborative action research, time again was our enemy. The first cycle took longer than anticipated, and therefore we decided that we would brainstorm a list of questions that we would continue to explore next fall. These questions would act as a foundation for the second cycle of collaborative action research. The following is the list of questions that were brainstormed at the conclusion of our first cycle:

1. How can we initiate a project similar to the one just completed at the beginning of the school year?
2. How can we educate and increase student awareness about learning styles?
3. How can we teach students to plan for a presentation with less teacher input?
4. How can we better utilize non-directive questioning techniques to encourage greater student reflection?
5. How can we incorporate higher level questioning skills into our lessons?
6. How can we encourage greater creativity in the choice of student presentations?
7. How can we use student-centered presentations in catering to our gifted and talented students?

8. At what point, and how, do we teach students to become "teachers"?

Summary of Findings

There seem to be a number of factors that will influence the outcome of a collaborative action research project. The first and foremost factor is that all participants must be committed to the overall goal of the project. This of course means that all participants need to be involved in negotiating a common, compelling purpose that is meaningful and important to everyone. Everyone needs to be involved from the "ground up", and be viewed as valued, contributing members of the project. It is this common bond that is the cornerstone for a trusting supportive relationship. It becomes the central focus, and is a source for dialogue. An example of this phenomenon is illustrated in the following story. Some of my best visits with my father have been out in the field at his acreage when we were both involved in a common purpose --- fixing fences. We were concentrating on the job at hand, but at the same time were talking about all kinds of subjects, some related to fencing and some not. In contrast, if we were sitting around the kitchen table with a discussion expected, we would feel much more pressured and awkward in our conversation. The common and compelling purpose serves to help overcome initial inhibitions and promote conversation.

Another factor necessary for a successful collaborative action research project is time. Time to meet and discuss, even informally is important. These do not always need to be planned, scheduled meetings with a fixed agenda, but may be "spur-of-the-moment" encounters. Trusting and supportive environments do not suddenly appear, but take time to develop. With this in mind, participants should not expect too much too soon, or perhaps force the process.

I think one of the keys to this study was in bringing my co-learner on-board, and making our working relationship truly

horizontal and equal. Both of us were equal partners in the process, never assuming what needed to be done, but instead communicating and negotiating what was needed. This process of negotiation is critical. It is very important that all participants be crystal clear on the purpose of the study and their individual roles *right from the start*. The group needs to maintain an attitude of positive interdependence, whereby all members' contributions are valued and are critical for the success of the overall project.

It is important to note that although a collaborative action research group may have a common thematic concern, this thematic concern may be manifested in different ways in their respective contexts. Participant expectations should be shared with and supported by other group members. This serves to help group members appreciate a broad range of individual differences and classroom contexts, and therefore increases the scope of the study. This dialogue will also promote further reflection for all members of the group.

Flexibility is another factor we found crucial to the success of a collaborative action research project. The nature of the process demands flexibility, but in reality being flexible is sometimes difficult (perhaps due to the busy schedules of educators, timetabling, etc.). When a schedule or timeline is created in the planning phase of the collaborative action research process, it is important that participants are guided and not controlled by it.

At the conclusion of any collaborative action research cycle, the following questions have to be asked to evaluate the success of the project and plan for future cycles. They are: 1) Did this collaborative action research project change the way we talk about, describe and look at our working reality?; 2) Did this collaborative action research project change our working relationship?; and 3) Did this collaborative action research project cause changes in our teaching activities or practices?

There is no doubt that Ann and my working relationship was changed due to this project. Our conversations were more focused on pedagogical concerns, perhaps because we had a common language with which to describe and analyze our teaching practices. Therefore, our working relationship was changed because we were looking at our working realities through different eyes, and at a whole new level. We were searching for deeper meanings, rather than just "scratching the surface" for answers. We became much more systematic and focused in our search for better ways of serving the children in our care.

This project has not only affected specific teaching techniques, but how we viewed our roles as educators. There is little question that both Ann and I are committed to integrating this new technique into our existing teaching repertoires. We see the obvious advantages, as do our students. We both feel they are more motivated and demonstrated high levels of achievement through greater student choice in presentations. It teaches children many process skills that are crucial in today's society. It allows children to be creative and to explore their strengths. It provides an outlet for students to demonstrate skills that we, as teachers, did not know they possessed.

We both see that our roles as educators need to be further examined. Rather than just being a "transmitter" of knowledge, we need to instead be facilitators to help children access and use that knowledge. This involves a whole change of attitude in the classroom.

Is collaborative action research an effective vehicle for professional development? It sure was for Ann and myself. We have just begun to see the potential for us as "researchers" in the classroom. It provided us with a systematic way of examining our current practice and a structure to enable us to plot our professional development path for the future. It is highly contextualized, practical and relevant for classroom teachers. Above all, it provides an opportunity for teachers to create and

continuously refine their own pedagogy. In our collaborative action research project, students were also encouraged to be part of this process. For us, this is truly *"living on the edge"*!

References

References

- Beane, J.A. (1991). Sorting Out the Self Esteem Controversy. Educational Leadership, 49 (1), 25-30.
- Bird, T. & Little, J.W. (1986). How Schools Organize the Teaching Occupation. Elementary School Journal, 86 (4), 493-511.
- Butt, R. L. (Forthcoming). Linking Teacher Development and Evaluation: Lessons for Policy from Two Case Studies. Journal of Educational Policy.
- Butt, R.L., Steel, V., Chow, P., Bryant, P., Gibbs, J., Hatt, R., Enns, E., & Smith, K. (1995). Facilitating Teachers' Professional Learning: An Evaluation Study of the Southern Alberta Professional Development Consortium. A Composite Research Report. University of Lethbridge.
- Butt, R. L., Townsend, D., & Raymond, D. (1990). Bringing Reform to Life: Teachers' Stories and Professional Development. Cambridge Journal of Education, 20 (3), 255-268.
- Borg, W. (1981). Applying Educational Research: A Practical Guide For Teachers. New York, Longman.
- Calhoun, E. F. (1993). Action Research: Three Approaches. Educational Leadership, (October), 62-65.
- Carr, W. & Kemmis, S. (1986). Becoming Critical: Education, Knowledge and Action Research. Philadelphia: The Falmer Press.
- Carson, T., Connors, B., Ripley, D., & Smits, H. (1989a). Creating Possibilities: An Action Research Handbook. Edmonton: University of Alberta, Faculty of Education.
- Carson, T. & Sumara, D. (Eds.) (1989b). Exploring Collaborative Action Research. Edmonton: University of Alberta, Faculty of Education.

- Crandall, D., Eiseman, J., & Louis, K. (1986). Strategic Planning Issues That Bear on the Success of School Improvement Efforts. Educational Administration Quarterly, 22(3), 21-53.
- Doyle, W. & Ponder, G. (1977). The Practicality Ethic and Teacher Decision-Making. Interchange 8, 1-12.
- Elmore, R.F. (1992). Why Restructuring Alone Won't Improve Teaching. Educational Leadership, 49(7), 44-48.
- Fullan, M.G. (1992). Visions That Blind. Educational Leadership, 49(5), 19-20.
- Guskey, T.R. (1994). Results-Oriented Professional Development: In Search of an Optimum Mix of Effective Practices. Journal of Staff Development, 15(4), 42-50.
- Hall, G. & Loucks, S. (1978). Innovation Configurations: Analyzing the Adaptations of Innovations. Paper presented at the annual meeting of the American Educational Research Association, Toronto.
- Huberman, M. (1988). Teacher Careers and School Improvement. Journal of Curriculum Studies, 20 (2), 119-132.
- Joyce, B. & Showers, B. (1983). Power in Staff Development Through Research on Training. Association for Supervision and Curriculum Development.
- Kember, D. & Kelly, M. (1993). Improving Teaching Through Action Research. Campbelltown, Australia: Higher Education Research and Development Society of Australasia Inc.
- Kemmis, S. & McTaggart, R. (1988). The Action Research Planner. (3rd. ed.) Victoria, Australia: Deakin University.
- Kent, Karen M. (1987). Conditions for Collaboration Among Colleagues: Is Your District Ready? Teacher Education Quarterly, 14 (2), 50-58.

- Lieberman, A.L. & Miller, L. (1981). Synthesis of Research on Improving Schools. Educational Leadership, 38, 583-586.
- Lieberman, A.L. & Miller, L. (1984). Teachers, Their World and Their Work: Implications for School Improvement. Alexandria, VA: Association for Supervision and Curriculum Development.
- Little, J.W. (1984). Seductive Images and Organizational Realities in Professional Development. Teachers' College Record, 86 (1), 84-102.
- Loucks-Horsley, S., Harding, C.K., Arbuckle, M.A., Murray, L.B., Dubea, C., & Williams, M.K. (1987). Continuing to Learn: A Guidebook for Teacher Development. Andover, MA: Regional Laboratory for Educational Improvement of the Northeast & Islands.
- Louis, K.S. & Miles, M.B. (1990). Improving the Urban High School: What Works and Why. New York: Teachers College Press.
- Massarella, J.A. (1980). Synthesis of Research on Staff Development. Educational Leadership, 38(2), 182-185.
- McKay, J. (1992). Professional Development Through Action Research. Journal of Staff Development, 13 (1), 18-21.
- McNiff, J. (1988). Action Research: Principles and Practice. London: MacMillan Education.
- Pine, G.J. (1981). Collaborative Action Research: The Integration of Research and Service. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Detroit.

- Raymond, D., Butt, R. L. & Townsend, D. (1992). Contexts for Teacher Development: Insights From Teachers' Stories. In Hargreaves, A. and Fullan, M. (Eds.) Understanding Teacher Development (pp. 143-161). London: Cassell and Columbia, N.Y.: Teachers College Press.
- Schwab, J.J. (1969). College Curricula and Student Protest. Chicago: University of Chicago Press.
- Shalaway, L. (1990). Tap Into Teacher Research. Instructor, 100 (1), 34-38.
- Simmons, J. M. (1985). Exploring the Relationship Between Research and Practice: The Impact of Action Researcher in One's Own Classroom. Paper presented at the annual meeting of the American Education Research Association, Chicago.
- Smulyan, L. (1987). The Collaborative Process in Action Research. Educational Research Quarterly, 12 (1), 47- 56.
- Sparks, G. (1983). Synthesis of Research on Staff Development for Effective Teaching. Educational Leadership, Nov., 65-72.
- Watson, D. & Stevenson, M. (1989). Teacher Support Groups: Why and How. In G. Pinnell and M. Matlin (Eds.), Teachers and Research: Language Learning in the Classroom (pp. 121-122). Newark, DE: International Reading Association.
- Weatherley, R. & Lipsky, M. (1977). Street-level Bureaucrats and Institutional Innovation: Implementing Special Education Reform. Harvard Educational Review, 47(2), 171-197.
- Wideen, M.R. (1989). School-focused Teacher Development. Paper presented at the International Conference on Teacher Development, Ontario Institute for Studies in Education, Toronto, February.

Woods, P. (1984). Negotiating the Demands of Schoolwork. In M. Hammersley & P. Woods (Eds.), Life in School: The Sociology of Pupil Culture (pp. 225-237). Milton Keynes: Open University Press.

Appendices

Appendix A

STEMS

A Teacher Development Project at Nicholas Sheran Community School

What Is STEMS?

No, the letters S-T-E-M-S do not form an acronym as so often is the case in educational circles. The term STEMS refers to a teacher initiated teacher development project at Nicholas Sheran Community School in Lethbridge, Alberta. The project involves a group of about fourteen teachers and administrators who meet once a week to share and discuss teaching in a more formal setting.

The Origin of STEMS

It all started when two other teachers and myself were discussing the events of the previous two days on our return trip from an annual school retreat. We were commenting on how refreshing it was to actually have a retreat theme that dealt with everyday teaching, and not introducing something *new* to implement upon our arrival back to the school! It was during this discussion that we recognized that even though a group of teachers "work" in the same building, we really perform the majority of our jobs in isolation. We felt a genuine need to get together and talk, and in particular, talk about our *teaching*.

Soon after, our committee of three called the initial meeting of STEMS (the name to be explained later), to begin our staff on a journey of teacher initiated teacher development.

Philosophy of STEMS

It was felt that in order to ensure the success of our group it was essential for us all to have a common purpose for meeting. Our common purpose is *to improve the quality of teaching and learning that takes place in our classrooms*. Along with this common purpose goes along a common belief. We must have confidence that our actions will make a difference in our student's lives. For the above two reasons, the group at Nicholas Sheran is completely voluntary, for in order to be effective for individual teachers, everyone must "buy into" the model. This supports the notion of a teacher-controlled model as opposed to a "top-down" model that is *imposed* on teachers.

Structure or the Process

Non-directive Teacher Development

Glickman (1990) outlines four clusters of supervisory behaviors: non-directive, collaborative, directive informal, and directive control. These behaviors of supervision form a continuum ranging from a high degree of teacher control (non-directive) to a very low amount of teacher control and input (directive control). STEMS would most closely resemble the non-directive approach, for it was felt that the teachers at Nicholas Sheran possess a great amount of expertise, commitment and responsibility in regards to their professional growth. These qualities enable them to determine their *own* path of teacher development. Therefore, the following assumption is made: *individual teachers know best what instructional changes need to be made, and have the ability to think and act on their own.*

The following section outlines some important principles involved with non-directive supervisory behaviors.

Non-directive Principles

- * Non-directive behaviors help teachers to determine their own plans
- * Non-directive behaviors consist of listening, reflecting, clarifying, encouraging, and problem solving.
- * This is a non-judgmental approach, with the teacher in control of their own teacher development.
- * The purpose of non-directive behaviors is to produce an active "sounding board" for thoughtful professionals.

Session Agenda

Perhaps before we go any further it would be helpful to outline a typical session.

One teacher volunteers to be a "presenter" for the session. It is the responsibility of the presenter to videotape some of their teaching (approx. 10-20 minutes) and come prepared to share this tape with the rest of the group. This normally would involve: 1) deciding what lesson(s) to videotape, perhaps concentrating on a perceived area of improvement; 2) videotaping; 3) previewing the tape and editing out portions they would like to share; and 4) bringing it to a session to present it to the large group.

A typical session is structured as follows:

1. Introduction/Review of last meeting
2. Presentation
 - * Presenter to introduce the video
 - * Viewing: audience to watch, listen, and record questions of presenter
 - * Presenter to respond to the video first

- * Group Dialogue (to be directed by the facilitator)
- * Presenter to give his/her final thoughts

General Issues

Next meeting

- * time/date
- * presenter?

Again, it is extremely important that the *presenter is in control at all times*. This is why the presenter has the first and last say concerning their video, for they are in charge of setting the agenda. There should be enough time so that presenters are not rushed and have all the time they need to talk before and after the video.

It is during the dialogue section of the session that specific protocols and guidelines are crucial. Teachers need to know they are in a trusting, supportive and confidential atmosphere, free from capricious judgment. The following are guidelines that we put in place to ensure such an atmosphere. These guidelines were discussed at our initial meeting and are reinforced at every subsequent session to stress their vital importance.

- * avoid criticism
- * suspend judgment
- * listen
- * engage the presenter in productive conversations
- * leave ownership of the teaching with the presenter

The importance of these guidelines cannot be understated, even if the staff is perceived to already be supportive and trusting. This can be a very threatening experience for the presenter if these guidelines are not strictly enforced.

For many members of the group, the art of questioning in a non-directive way was a challenge. The goal is for questioners to engage the presenter in reflection, and therefore the presenter should do most of the talking. In an effort to stimulate thought in this area, participants were given "question stems" that helped this process, hence the name STEMS. Some examples of these question stems are:

- * I noticed that ...?
- * How did you feel when ...?
- * How did/do you know ...?
- * What were the best things about ...?
- * Is there anything you would or want to change ...?
- * How did you evaluate this lesson/ your teaching ...?
- * Can you tell me about ...?
- * Is the purpose ...?
- * How do you think ...?
- * What are you finding ...?

This by no means is an exhaustive list, but served as a valuable resource to ensure that participants in the discussion were asking questions that were not deliberately *judgmental* in nature. Compare the above list of question stems to the following questions that we have tried to avoid:

- * Why didn't you ...?
- * How come you didn't ...?
- * I would have ...?
- * I think ...?

The statements that follow these stems can be critical in nature, and therefore may be extremely destructive to the process. Group participants need to constantly keep in mind that the purpose of the conversation is to focus on the presenter and not to draw attention to themselves!

Growing Pains and Issues Encountered

It should be stated that any staff teacher development project needs to be adapted to meet the needs of the participants. As mentioned earlier, the style of interaction skills used is largely dependent on the qualities possessed by the group. It is therefore essential that the group constantly re-evaluate and revise the process to meet changing needs.

The following are issues that STEMS encountered from our experiences.

1. Should protocols be so structured?

It was suggested in the group that we didn't need to review protocol at every meeting, but instead *assume* that we are a trusting and supportive staff. However, since our group has an "open door" policy, in that anyone is welcome to drop in for a session, the need to review is obvious. Also, it was agreed that the guidelines governing our group need to be rooted firmly to create clear channels of communication and to make sure all participants are on the same wavelength. This is to *ensure* the success of our group, not to prevent it. It must also be explained that these guidelines have to be in place to ease the tension of presenters who are ready to "lay their life on the line" in front of others. Who would want to do this if they didn't know what to expect from the other group participants?

2. Is videotaping a necessary part of the process?

Yes, videotaping is a necessary part of the process. In fact, it *expands* the process. It is not uncommon for presenters to watch their video many times and *analyze* their teaching **before** even presenting. It helps teachers to view their teaching *objectively*, as opposed to "how they felt" a lesson went.

The video also offers an unaltered memory of the lesson. Many times teachers videotape a lesson two to three weeks prior to presenting. Teachers without the videotape may say "I wish I could have done a better job, but I can't remember exactly what I said or did".

In our STEMS group the videotape is important because it brings all group participants into the classroom or work context of the presenter. They may notice things that the presenter didn't, and yet they all looked at the same vignette of teaching.

The thought of videotaping was a major obstacle for some group participants. It was a threatening experience in that it never "lies", and shows exactly what happens in classrooms. However, in a non-judgmental, supportive and confidential atmosphere this threat is diminished.

3. *What is the facilitator's role?*

The facilitators have a role that is absolutely crucial, for they are the ones that ensure that boundaries are not being crossed and guidelines are maintained. It's their job to make sure the focus is on the presenter in a non-judgmental way, and that group participants are asking questions and not telling their own stories. They are the chair for the meeting.

It may even be helpful if the facilitator meets with the presenter prior to the session to affirm the protocol and listen to any concerns they have, so that they may be avoided in some way.

4. *Do administrators have a special role?*

Both administrators at our school are active participants in STEMS. However, as much as possible, they are just another member of the group. It is not the purpose of this group to act as a method of supervision, but instead to improve the quality of teaching and learning in our classrooms. It is very

important that the administrators' roles be clarified early to avoid unnecessary confusion.

5. When is an appropriate time for suggestions and "teacher stories"?

Discussions quickly center around some problem in the classroom, and the overwhelming urge for teachers is to help others out, perhaps because that's the nature of our jobs! Therefore teachers are quick to make suggestions or offer advice about something that works for them. It must be remembered that the ownership of problems belongs to the presenter. Participants who feel they need to "fix" the presenter's problem do three things: 1) they are being judgmental in that they perceive a need that may not even be present; 2) they are shutting down the conversation by offering a solution; and 3) they are taking the ownership away from the presenter.

A possible compromise can be, *if the presenter requests*, to set aside a time **after** the formal session for participants to get together and brainstorm in a more collaborative fashion ways to address a particular problem. The important aspects are the presenter's request and the timing of the brainstorming session.

6. At what point should praise or compliments be given to the presenter?

Praise has the potential to do at least two things within the group. It can dissipate some of the tension if the presenter is being overly critical of him or herself, or it can bring the dialogue to a halt. It must be remembered that the purpose of the questioning is to encourage reflection by the presenter. If a group participant offers praise, that reflection can be stopped. It works the same way as "wait time" when questioning a group of students. If a teacher waits before calling on a

student to answer, he/she is forcing the whole group to think about the answer. However, if there is no wait time and the teacher asks the first student with his/her hand up, the rest of the students stop thinking about a possible answer.

Therefore, in order for praise to be effective, it has to be very specific. Rather than saying "I thought that lesson was very good", perhaps say "I liked the way you distributed the water for the experiment by involving students". *The caution with praise is that it is judgmental in nature.* It is because of this that it should be kept to a minimum and watched very carefully. Many times group participants will inject a bit of non-specific praise prior to a question. This is usually not useful.

7. Is the tension created at sessions normal?

Some of the sessions of STEMS have been very intense. Examining yourself as a teacher can be a painful experience, for there is the tendency for the presenter to be overly critical about his or her teaching. However, this can be a *positive tension*. This type of tension needs to be present in order for the process to work. It's a stimulant for change to take place. There is always a tension between "what I do and what I should be doing". The key word in the previous sentence is "I", for it is a tension produced and controlled by the presenter.

It should also be noted that the presenter is not the sole recipient of this tension. All group participants are involved in the process of reflection, even when they are not presenting. They are continually asking themselves questions like: "How would I react in a situation like this?" or "That is something that I need to work on as well".

Conclusion

STEMS is a teacher development project that is practical, staff oriented and voluntary. It provides for individual flexibility,

for each presenter is on his/her own path of teacher development. This process is not a panacea, for not all problems are solved for participants. Instead, it is a stepping stone towards further teacher development. STEMS is only a part of the on-going cycle of teacher development. It is at this stage that teachers identify areas of concern by reflecting on their practice. After their initial presentation to the group, they then will plan their own series of actions. These may include attending an in-service, peer coaching with other teachers, visiting another school or teacher for observation, taking a university course, professional reading or team teaching, just to name a few possibilities. It would then be expected of teachers to videotape themselves at a later time and come back to STEMS for further reflection on the same or perhaps a different need.

More than anything else, STEMS has provided us with a forum to discuss our teaching and an opportunity to reflect on why we do the things we do. It has created the opportunity for our school staff to unite and share a common goal. I have noticed that at the conclusion of our STEMS meetings, participants are left "buzzing". They are on a "high" and are excited about teaching.

For the Future

I see this process blooming into a larger venture, possibly involving other adults besides teachers that work with students in our school. There is also the potential to involve interested parents and educate them more about what we do in the classroom. This will be another way to build bridges between the home and school. Involving students in the process is yet another possibility.

References:

Glickman, Carl D. (1990). *Supervision of Instruction: A Developmental Approach*. Toronto, Ontario: Allyn and Bacon.

Rogers, Sandra (1987 October). "If I Can See Myself, I Can Change." Educational Leadership , 64-67.

Townsend, David and McHugh, Sheila (1994). An Assessment of the Impact of the Teaching in Focus Project Upon Teaching and Learning at the University of Lethbridge.

Acknowledgments:

Dr. David Townsend - for his enthusiasm and his willingness to share experiences of the TIF (Teaching in Focus) group that is currently used at the University of Lethbridge.

Appendix B

OBSERVATION METHODS FOR ACTION RESEARCH PROJECTS

Method	Advantage(s)	Disadvantage(s)	Use(s)
Field Notes (or) Teaching Log	simple; on-going personal; aids memory	requires practice; subjective	specific issue; case study; general impression
Journal (teacher)	personal; informal; possibilities for dialogue & reflection	time; subjective; lack of focus; individual	interpretations; personal growth; observations; questions for further study; reflections
Student Journals (or diaries)	provides student perspectives	subjective; requires structure	diagnostic; evaluation; triangulation
Interviews and Discussions	can be teacher- student; observer- student; student - student	time consuming; difficult in larger groups	specific, in-depth; information and feedback
Questionnaires	highly specific; easy to administer; comparative	time consuming to create and analyse; problem of "right answers"	specific information & feedback; comparisons
Documentary evidence (i.e. student work, etc.)	illuminative; feedback/evaluation	time consuming to analyse; some documents difficult to obtain	provides context and information
Videotape Recording	visual and comprehensive	can be awkward and distracting; availability of equipment	visual material; diagnostic; compre- hensive view
Audio Tape Recording	versatile; accurate; provides ample data	transcription is difficult and time consuming; may inhibit talk	detailed evidence of language; diagnostic
Slide/Tape Photography	illuminative; promotes discussion	difficult to obtain; superficial	illustrates critical incidents
Case Study	accurate; represent- ative; uses range of techniques	time consuming; requires skill in writing	comprehensive overview of an issue; publishable format

Adapted from McNiff (1988).

Appendix C

VOLUNTEER CONSENT FORM

Dear (Teacher's Name),

Over the past two years I have worked with teachers to help them identify possible areas for their professional development. However, regardless of how genuine their intentions of change are, once an area is identified, they often do not know what the next step should be. Research on teacher development states that certain conditions must be met in order for effective change to be achieved. *Collaborative action research* seems to provide all of these necessary conditions, and therefore I would like to experience this process to investigate positive and negative elements related to the effectiveness of collaborative action research as a vehicle of professional development.

I would like to invite you to join me, as an equal and participating partner, to experience the process of collaborative action research. Specific topic(s) of the research will emerge through dialogue between us as the process unfolds. Participation in this study is completely voluntary and you may withdraw from some or all of the activities involved in the study at any time without prejudice. Names and other identifying information will be changed in any papers, products or conversations related to the study to conserve anonymity of participants. Furthermore, upon request, there will be complete disclosure of all observations that relate to your participation.

If you are willing to join with me in exploring the effectiveness of collaborative action research as a vehicle for professional development, please sign the form on the following page.

Your cooperation and participation is truly appreciated.

Yours truly,
Paul Bryant

Further inquiries may be made to myself or to either:

Rick Hesch, Chair	or	Richard Butt
Faculty of Education		Faculty of Education
University of Lethbridge		University of Lethbridge
Human Subjects Research Committee		Project Supervisor

I, _____, am willing to participate in a study of professional development with Paul Bryant. I understand that if my comments are quoted or my materials are used in sharing this study, it will be done anonymously unless I give my express permission for authorship.

Signature: _____ Date: _____