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A Social Constructionist Approach to the Facilitation of Professional Development among Community College Faculty

Linda McKinstry Randolph
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To the Graduate Council:

I am submitting herewith a dissertation written by Linda McKinstry Randolph entitled "A Social Constructionist Approach to the Facilitation of Professional Development among Community College Faculty." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Psychology.

Katherine Greenberg, Major Professor

We have read this dissertation and recommend its acceptance:

Ralph Brockett, Ken Newton, Mary Ziegler

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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and recommend its acceptance:

Ralph Brockett

Ken Newton

Mary Ziegler

Accepted for the Council:

Anne Mayhew
Vice Chancellor and Dean of
Graduate Studies

(Original signatures are on file with official student records.)

A Social Constructionist Approach to the Facilitation of Professional Development among Community College Faculty

A Dissertation
Presented for the
Doctor of Education Degree
The University of Tennessee, Knoxville

Linda McKinstry Randolph
May 2006

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Abstract

My purpose in conducting this research project was to engage in collaborative action research with a group of faculty members in order to learn more about my own facilitation of collaborative learning and to identify ways in which I could improve. The participants and I used dialogue during our group meetings to help each other with the development and implementation of Classroom Assessment Techniques in the classroom and the review of the results. The structure for the semester-long project was the development of a Classroom Assessment Techniques seminar handbook for future use with other faculty in the college. The data analysis focused in two areas:

1) describing what the experience was like for the participants, and 2) describing my own experience.

Themes emerged from the hermeneutic analysis of data about the experience of participants: the faculty participants engaged because they had an "interest in making changes" in their practices; they had an appreciation for the diverse backgrounds of fellow participants – "what people bring to the table." In their descriptions of the collaborative processes of the project, they described their experience as "figuring it out together" and characterized the interactions with the group as a "shot in the arm." Participants also described several aspects of "just having the time," related to the need for dedicated time to discuss teaching and learning; feeling there wasn't always enough time to engage in collaborative learning; differing preferences for the best time of day to meet; the fact that collaborative learning processes have to "build over time;" and an

observation about the tension between allowing the time for social construction and dialogue versus the desire for the efficient use of time preferred by busy people. Project participants described not only changes in their knowledge through learning new content about Classroom Assessment Techniques but also described personal and professional changes such as a shift to a student-centered approach to teaching. They described their experience of the facilitator as a "guide from the side," who facilitated with flexibility, intentionality, and mutuality and stressed the need for relationships and a safe environment for collaborative learning to occur.

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Chapter One

Introduction

Many of us as teachers have attended a conference session or workshop, either on campus or in a distant city, and left enthused about the topic and ready to come back to the classroom and make some changes. All too often these intentions do not lead to any real change. Indeed there has been widespread discussion for the need to offer more effective professional or faculty development opportunities in response to increased demands from legislatures and the public for education reform and for accountability based on student performance. In response, there have been generated by various education agencies and associations lists of characteristics of effective professional development which have some overlap but also many inconsistencies and contradictions (Guskey, 2003). Of the several models for faculty development, which can be defined as the organized and deliberate attempt to improve teaching and enhance student learning (Vontz and Leming, 2005). The two with reputations as being less than effective are conference attendance and outside consulting (Bradburn, 2004). However, the research on what does constitute effective professional development is "very limited" (Chard, 2004).

In the larger context, this study contributes to the research literature on professional development for educators. More specifically, this is an action research study which contributes to the literature on social constructionist approaches to faculty development and supporting faculty integration of

Classroom Assessment Techniques (CATs) into their teaching practices. (Cross,

1997, 1998, 2001; Cross and Angelo, 1988; Cross and Steadman, 1996; Angelo,

1991; Angelo and Cross, 1993). Social construction of knowledge is the theory

of knowledge creation through the synergistic contributions of a group of

individuals and is the basis for the epistemology of collaborative learning. In my

study, collaborative learning is the approach for teachers to learn to use

formative assessment strategies implemented as teacher action research in the

classroom. CATs were introduced by Cross and Angelo (1998) as instructor-

developed techniques for obtaining frequent and generally anonymous feedback

on student understanding of course content in order to make modifications to

instruction. A planned series of CATs to answer questions about how students

are learning is termed Classroom Research (CR) by Cross and Angelo.

Classroom Research can also be defined as action research.

While a considerable number of articles are available on the use of CATs

by individual instructors, a review of literature also revealed CATs and CR as the

basis for organized faculty development programs for both fulltime and adjunct

instructors at several colleges and universities (Mann, 2000; Williams, 1995;

Alfano, 1994; Stetson, 1993; Kelly, 1992; Berry, 1992). Richlin (1998) writes of

the value of teaching new instructors to use CATs "to shift their teaching focus

from survival issues to an interest in student learning" (p.79). Williams (1995)

found that participants in a Johnson County Community College project "gained

new ideas to try out in their teaching and [were] exposed to a range of teaching

styles and techniques" (p. 16). In a four-year study at the College of Marin,

Stetson (1993) found that grades, exam performance, and project quality all improved in the classrooms of those faculty participants in a CATs training program. In a quantitative study of Classroom Assessment students in eight Northern California community colleges, Caitlin and Kalina (1993) found higher retention rates for women, higher grade point averages (although not significantly so), and a more positive perception of classroom environment for minority students. Results such as these for both faculty and students provided a rationale to expect implementing a CATs professional development project at my college to be of benefit.

Researching education literature, I found no studies that included all the elements of my own study—professional development for college faculty using collaborative learning/social construction to learn action research/CATs to improve the practice of teaching. Tuby's doctoral dissertation (2003) was a phenomenological study of the experience of 18 adjunct instructors who learned to use CATs with the help of a facilitator; (Brown and Jelfo, 1994) reported on the efforts of faculty from three community college campuses who were recruited as part of a "Faculty as Researcher Initiative" and trained by consultants in the use of CATs and action research; and a 1966 activity of the National Training Laboratories Institute involved university faculty in using action research and moving from staff direction to collaboration to self-direction (Mial,1967). This last activity was aimed at linking new knowledge to practice. I did search for this study in particular because of Ken Newton having told me of his own involvement in a National Training Lab Institute project similar to mine and led by Fran Trusty

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and Warren Bennis. Dr. Newton described this as a successful action research project. (Newton, personal communication, January 23, 2002)

Action research "is usually described as cyclic, with action and critical reflection taking place in turn [and with] the reflection … used to review the previous action and plan the next one" (Dick, 2003). The purpose of the project around which I structured this study was to bring faculty together to formulate a series of CATs to study a particular teaching objective of each faculty member. My goals for the project were:

- To develop a semester-long, professional development seminar for my college's faculty to result in the incorporation of cognitive development for students in the classroom with the use of CATs as action and reflection cycles;
- To collaboratively develop the course with a group of core faculty;
- To prepare the core faculty to facilitate the course for other faculty using a social constructivist approach.

In order to meet these goals, I used a social constructionist approach with the core faculty who participated in the project. I provided the faculty group readings about collaborative learning and CATS. I mediated collaborative learning through modeling dialogic techniques and promoting reflective practice. with particular emphasis on helping participants understand and value the importance of the project as well as promoting principles, concept, and strategies that went beyond the project.

This undertaking was a qualitative study accomplished within the structure of an action research design as is appropriate to the nature of this study's two research questions--examining my own and the participants' experience. Merriam states that "to understand a phenomenon, uncover the meaning a situation has for those involved, or delineate process – how things happen—then a qualitative study [is] most appropriate." (Merriam, 1995, p.99) Qualitative research can be said to illuminate an experience while action research provides the structure and mechanics for reflection for improvement and change in the action-reflection-action cycle. The study provided a framework suitable for a qualitative approach to learning about my own practice through examining the experience of participants: "Qualitative methods are particularly oriented toward exploration, discovery, and inductive logic" (Patton, p.44). Because this was to be a collaborative endeavor about action research, or studying one's own practice, the nature of qualitative study deemed it suitable as the mode of inquiry:

> Qualitative inquiry is particularly amenable to collaboration, where people in the setting participate actively in studying themselves, because qualitative methods are readily understandable and accessible. The principal researcher trains the co researchers to observe, interview, reflect, and/or keep careful records or diaries. Those involved come together periodically to share the data-analysis process. The purpose of such shared inquiry is typically to elucidate and improve the nature of practice in some arena of action….Participatory evaluation is a process controlled by the people in the program or community. It is something they undertake as a formal, reflective process for their own development or empowerment. (Patton, p.129)

Participatory action research offered the most promise in exploring participants' experience and answering my research questions.

The core faculty members who engaged in this process have become advocates for the use of CATs, have incorporated the regular use of CATs into their course curricula, have presented workshops at faculty in-services, and have facilitated the seminar for 38 faculty colleagues one year later. Working with groups of faculty such as this one is part of my practice as a community college administrator involved in professional development.

My Practice

I have been a facilitator of faculty projects and have been responsible for assessment and evaluation in different roles in the community college in which I work. For fifteen years, I have been responsible for a number of institutional projects that required participant groups of faculty and staff to variously conduct studies of the college and aspects of its functions, to develop curricular and instructional strategies to improve teaching and learning, and to evaluate the effectiveness of processes and changes. Effectiveness evaluations have focused primarily on the success of innovations in the classroom intended to improve student learning, grades, and retention.

The college at which I have worked for 20 years is a community college that fulfills a mission to provide open access education in career technical and university parallel programs for two counties. The college enrollment is approximately 7,500 students. The number of full-time faculty is 195 and adjuncts number 500. I have worked at the college in various administrative roles since 1989. As the project director for a Department of Education Title III Strengthening and Development Grant from 1993-1998, I worked with several faculty groups to

achieve instructional and curricular grant goals. In 1998, I began directing a Center of Emphasis for Innovation in Teaching & Assessment, a state-funded grant project. Centers of Emphasis are the community college counterparts to the Centers of Excellence found in state universities in Tennessee. The purpose for developing this Center was to establish a set of processes and resources that would provide opportunity and support for faculty and staff members to develop, implement, and evaluate innovative strategies for addressing academic program weaknesses. These weaknesses typically have to do with areas in which students are not learning and succeeding to a level considered appropriate.

I remain responsible for the Center of Emphasis (COE) project at the college, a multi-year project with several stated goals and objectives, including the following from a continuation grant proposal (Randolph, 2001, p.3):

- The establishment of a system that strengthens the links among faculty innovations in the classroom designed to improve student learning, program effectiveness studies, and departmental institutional effectiveness planning processes*;* and

- The development of an in-house education and training program/system to provide ongoing support for faculty-developed assessment and evaluations that are manageable and that can be integrated into practice for the continuous improvement of curriculum and instruction.

The area in which I've based my research design began for me in 1993, when I directed a Title III Strengthening and Development Grant project. One of

my responsibilities was working with instructors to set up an evaluation plan for each individual's grant activity; all of the grant's activities were related in some way to improving student success rates, either in a high attrition course or through support services targeting students at high risk for failure. The purpose of the evaluation plans was threefold:

      1. to provide feedback for improvements

      2. to ultimately provide information in order to decide whether the activity should be "institutionalized" (adopted as college-wide practice)

      3. to be able to report to the Department of Education that the college was evaluating the effectiveness of funded projects.

I required that each project follow the following process in the development phase:

      1. Identification of student barriers to success in the targeted course, formulated from information gathered in several ways. Some faculty surveyed and interviewed students to gather data on student perceptions of problem areas in each course and student attitudes toward particular courses and study strategies. In addition, success rate histories in the targeted course, as well as in related foundational courses, by various student demographics, were extracted from the student information system to try to identify patterns.

      2. Intended outcomes were established and articulated based on academic barriers to success.

3. Instructional and/or curricular strategies were developed and articulated to address those outcomes. The most common strategy was the infusion of a new technology into the course.

4. Assessments of effectiveness were planned, always including summative evaluations, while I also consistently encouraged the use of formative assessment strategies. Certain summative assessments were predefined in the grant and couched in terms of course success rates and longitudinal success in sequential courses. I typically helped develop a pre- and post- attitude assessment and generated those report results from my office; sometimes an exit survey of students was administered to gain student opinion on the effectiveness of resources and technology used in the course. Some instructors developed other summative evaluation methods and counts, including comparisons of test scores across course sections and semesters, attendance and tardiness counts, and dropout rates comparisons.

Each revised course was piloted for two terms. At the end of each term, I interviewed each faculty member, asking questions about the experience and reaction to any quantitative data that had been gathered by the instructor or by my office. I took notes which I typed up for use by the instructor and myself. I was concerned with systematically ensuring that evaluation resulted in improvement activities in a documentable way. But I was also intentionally providing a forum for reflection that is essential for the improvement of professional practice through critical reflection (Brookfield, 1995) (Schon, 1983).

My Experience Teaching Faculty about CATs

While working with each faculty member, I introduced them to CATs as a way of incorporating formative assessment into their evaluation plans. I became interested in CATs and CR as a practical and doable way to implement a continuous improvement cycle in the classroom.

> Classroom Assessment is based on the fundamental premise that classroom teachers need a continuing flow of accurate information about what students are learning and how they are responding to the teacher's efforts to teach them. Classroom Assessment Techniques can be used by any teacher of any discipline to assess students' learning during the semester while there is still time to make changes. (Cross, 1997, p.11)

Cross maintains that CATs are teaching tools, as well as assessment devices, that involve students in monitoring and evaluating their own learning while also engaging the teacher in reflecting on the class from a learning perspective. CATs are designed by teachers to be manageable tools integrated into the instructional process. The success stories for teachers and students as presented in *Classroom Research* (Angelo, 1991) occurred in classroom environments similar to those of this college's teachers.

A good rationale for the use of CATs is that they provide faculty feedback about student learning independent of institutional assessments, avoiding several disadvantages of reliance on an institutional research office for this type of information. There are however additional reasons that CATs are appealing to teachers as a form of research. The standard teaching load for an instructor at this community college is 15 credit hours per semester. Clearly the primary role of faculty at this college, as at other community colleges, is classroom instruction

and academic advisement. Neither research nor publication is an expectation of community college faculty, nor is there time allotted for such pursuits as part of faculty responsibilities. Thus, the college's faculty members are quite busy and are heavily invested in the success and achievement of students. Any educational research performed by faculty must necessarily be both relevant and manageable, able to be integrated into classroom activities rather than becoming a time-intensive add-on.

Traditionally, the typical pattern in educational research has been for an investigator to research a question, write up the findings, and publish the results along with recommendations for others to implement. As Cross (1998) writes,

> This has been a notoriously ineffective design for the improvement of teaching and learning. Teachers are far too busy to read reports of research that seem to result in equivocal findings that may or may not apply to their students or their classrooms. For the most part, they have only their own experience as learners to guide them. (p. 8)

Instructors do of course solicit feedback from students on what they are learning, but the use of CATs provides a systematic way to integrate formative assessment into instruction in order to find out if the student is learning what the teacher is teaching. The assessments are usually anonymous and quick to administer, and the results are shared with students. Continued use serves to build a collaborative relationship between teacher and students as student feedback on CATs shapes instructional focus and can guide instructional strategies as well. Classroom Research comprises a series of CATs administered over time to answer questions about how students are learning, while individual CATs typically indicate what students are learning.

A Classroom Research Project typically begins with a question about why or how something is occurring in the classroom, while CATs define what is happening, what is being learned. Both Classroom Assessment and Classroom Research are forms of action research, including as they do a cycle of planning, acting, reflecting, and feedback into the instructor's practice with changes or refinements. For my study, the development of a Classroom Research Project was the action research to be performed by faculty participants as we proceeded. More information about the format of Classroom Research Projects is included as part of Chapter Two.

Statement of the Problem: My Experience Teaching Faculty to Use CATs

The action research I designed for this project, and the collaborative learning I planned as the process to engage faculty in reflection and social construction, began with the idea of teachers practicing the use of CATs in the classroom as a professional development activity. I first became acquainted with CATs in 1991, and when I began working with faculty in a Department of Education Title III project, I realized that Classroom Assessment offered a useful approach to meeting the assessment demands of this major federal grant. I was so enthused about the potential of CATs as an assessment-for-improvement model that I asked project faculty to include methods of formative assessment in their plans for achieving grant objectives. I provided the participating faculty with resources describing the use of CATs as developed by other faculty in varied disciplines from colleges and universities around the country. Although some of the members of the faculty I worked with seemed to appreciate the worth of

CATs, few continued using CATs beyond their work on the grant. I continued

providing copies of Angelo & Cross's *Classroom Assessment Techniques* (1993)

over a period of four years and continued suggesting use of this sort of

techniques in the evaluation plans. I think I initially assumed that teachers would

be very enthusiastic about adopting and adapting the use of CATs, but in fact I

observed little if any lasting interest. I realized that I had not systematically

investigated the influence or effect, if any, which may have occurred as a result

of the introduction to CATs. Additionally, research has shown that for sustained

use of CATs by teachers, collaborative work with teaching colleagues is

important as well as a strong demonstration of administrative support. (Cross,

1997). Through focus groups and surveys of faculty over a three-year span,

Angelo and Cross (1991) found the three most frequently mentioned benefits of

participation in Classroom Research programs to be 1. collegiality, 2. positive

student response, 3. intellectual excitement and renewal. Angelo (1993) speaks

to the benefits of CATs use:

> When faculty collaborate with other teachers or with students in assessment of student learning, they often experience synergy. That is, by working together, all parties achieve results of greater value than those they can achieve by working separately. Participating teachers often remark on the personal satisfaction they feel in working with colleagues and students toward the shared goal of improving teaching.
>   The single most frequently mentioned benefit of Classroom Research was one neither Cross nor I would have predicted. Repeatedly, faculty participants said that they benefited most from meeting and working with other colleagues. They valued the opportunities provided by on-campus CATs initiatives to engage in clearly focused discussions on teaching and learning with colleagues and to collaborate on projects aimed at understanding and improving the quality of student learning. (p. 11)

Finally, a most important implication for me regarding the use of CATs by faculty was addressed by Angelo (1991): "While faculty can practice [the use of CATs] independently and in isolation, most have not. Instead, many of those who have enjoyed the greatest success … have been members of campus groups" (p.14). When I entered the Educational Psychology Collaborative Learning doctoral program at the University of Tennessee, I began to see the potential of collaborative learning and the beneficial effect of fostering an environment that encourages and supports collaborative learning. I became convinced of the need to facilitate an experience for the faculty with whom I worked on teaching and learning improvement projects. As part of COE grant objectives and of my job responsibilities, I wanted to provide the collegial, collaborative support necessary for faculty to learn about the use of CATs as assessment for improvement and to sustain the use of Classroom Assessment and Research.

Although I had tried to foster collaboration among participants in most of the groups I have worked with prior to this project, I believed that I could improve my skills at facilitating the development of a "community of resources" (Katz, Sigel, and Rappo, 1997). I had typically facilitated a collaborative approach and had received informal feedback on its value. However, I wanted now to approach this same kind of faculty development more systematically with the intent to learn more about what experiences are valuable in order to improve my own facilitator practice. I was not satisfied with the results of my efforts to facilitate collaborative learning thus far, and I had some ideas about how to improve the development of a community of resources within the structure of a CATs project study group.

Development of a Practical Theory

By establishing faculty members with which I was working as a group of collaborative inquirers, i.e. inquirers into their own practices who become a community of resources, and by attending to factors that characterized collaborative learning, such as using dialogical techniques with intentionality, I intended that we would create an environment that would sustain collaborative learning. During the process, I intended to explore the experiences of participating faculty as well as my own. To serve as a resourse and reference for me as I nurtured a collaborative learning environment with the faculty participants in this study, I articulated my practical theory as the need for me, as the facilitator, to focus on the following elements of collaborative learning to best achieve my objectives: These factors are drawn from the work of various experts studied in the collaborative learning doctoral program (Brookfield, 1995; Gergen, 1991, 1994, 2002; Hargrove, 1995; Isaacs, 1993, 1999; Palmer, 1994, 2004; Peters, 1991, 1997; Schon, 1983; Vella, 1995, Yalom, 1995), as follows:

- Creating a dialogical space: establishing trust and acceptance; asking back, suspending assumptions; making explicit my intentions; facilitating attention to all voices in the group--exploring diverse views and perspectives;

- Developing a community of learners: establishing a framework for social construction related to the experiences with CATs in the classroom, that is in the selection of which CATs to use and in communicating our conclusions and the data we used to reach the

conclusions; engaging collaborative reflection and relying on that for sense making: facilitation of "standing away from one's learning" (McNiff, 1996, p.21); "learning something new together—that an individual would not learn alone" (Greenberg, 2000, p. 144).

- For myself: the modeling of dialogue, critical reflection, and collaborative learning. Bandura (1977) developed the concept of role modeling as vicarious learning when he observed that much of what people learn occurs through observing and imitating others. Modeling is a strategy for teacher education programs, which promote modeling of master teacher skills and practices.

Articulating a practical theory for my approach to the project helped define the research design for this study.

The Research

I decided to collect data regarding the college instructors' experience practicing CATs as formative research in a collaborative learning environment. This study focused on 1. the collaborative learning experience, 2. the creation of an environment for collaborative learning, and 3. facilitating collaborative learning. The purpose for this action research was to improve my own skills and knowledge as a facilitator, to study my own practice of facilitating faculty development and facilitating a collaborative group working toward learning to evaluate their own practices. To improve my own practice, I wanted to learn more about what was happening as I worked with faculty.

I planned to use what I learned from this action research project to inform my practice as a facilitator of collaborative learning. I wanted to explore the ways in which the collaborative experience might contribute to changes in teachers' thinking, practice, and collegial relationships. I intended to use action research cycles of study to explore what faculty participants and I experienced as we work through a project. As I proceeded I sought to understand my own and the other participants' experience with a collaborative learning process. My research questions were:

1. What is the experience of the participants in the project? This question includes their experience of the process and of my facilitation.

2. What is my experience in the project?

I intended that the answers to these questions would provide me and interested others new information about the place for and use of collaborative learning with faculty for professional development in a higher education setting. An additional benefit could be a contribution to literature on using CATs and CR in a professional development activity for faculty.

Chapter Two

Research Design

Presented in this chapter is the qualitative methodology used to examine my own experience and that of the faculty who participated in this project. This study was designed to create a collaborative learning environment for participants to practice action research. The action research was in the form of a Classroom Research project comprising at least three Classroom Assessment Techniques (CATs) planned in advance. CATs are simple assessments devised by teachers to ascertain what students are learning in the classroom—providing immediate feedback about the effectiveness of instruction. Classroom Research (CR) is conducted within a classroom over the course of a semester and is planned in order to answer a question or address a problem usually linked to an instructor's teaching goals.

This study was also designed to allow me to take part as facilitator of a group that would collaborate in the development of each other's projects and as a co-participant in the collaborative development of a CATs seminar and training workbook for other faculty. The products of the project, the training manual and seminar format, are not objects of study in this project nor is the impact of CATs on students included as part of the study.

This chapter is organized into six sections that describe 1. the assumptions from a bracketing interview, 2. the participants, 3. the research

methodology, 4. project design and procedures, 5. data collection, and 6. data

analysis procedures.

Bracketing Interview

In January 2002, my research group conducted a bracketing interview with

me. The bracketing interview was taped with the consent of research group

members. The interview revealed several concerns I had about the project. My

doubts were related to assumptions I had about faculty attitudes and my abilities

to successfully facilitate the project. As stated previously I had had limited

success with facilitating the use of CATs. Perhaps because of this lack of

success, I assumed going into this project that faculty would not want to read

background materials and do other work outside of the sessions and that they

didn't <u>really</u> want to be there. In terms of faculty learning about CATs, I

addressed these assumptions in the design of the project. Steps I took to attend

to the issues I perceived are included in project design and procedures section.

The Participants

The group comprised six faculty members who volunteered to participate

in the project during spring semester 2002. These faculty members had been

involved in the mission of the Center of Emphasis the previous semester as

volunteers and wanted to develop this course for other faculty in the college. Five

of the six had been working on Center of Emphasis innovative activities in the

past, and one was appointed by his department head as a representative. I had

already introduced them to CATs at one time or another as part of the

assessment requirements for their projects, and they had already developed

some enthusiasm for the idea of "the scholarship of teaching" as is possible with the focus CATs and CR provide on teaching and learning. I asked them the best way to make this kind of information available to other faculty. With the committee charge in mind of making available assessment resources for faculty, we researched what was done elsewhere. Faculty expressed the belief that the structure of a course such as is available at Parkland College might be the best way to proceed. We sponsored a workshop on CATs from members of Parkland College faculty fall 2001 for all interested faculty in the college. Afterwards, a firm decision was made by the group to emulate what Parkland College did for their faculty. I combined this goal with my action research intentions, told the group of my dissertation research, and asked for their participation.

Members of the group were from a cross section of disciplines and academic departments within the college. Table 1 provides some demographic information to help describe who were the participants. Four of the six volunteers for this project had a high level of efficacy about their ability to provide professional development activities for others and had stated their willingness to be facilitators of future faculty groups. The plan was that future groups would collaborate on Classroom Assessment Projects, as this group would do, using the manual developed in this project. To address possible confusion for the reader, the "project" of the development of a seminar for other faculty includes the Classroom Assessment "projects" that each of the six participating faculty members developed in the course of the seminar development "project."

Table 1

Participant Demographics			
Discipline	2 Mathematics	2 Computer Science	1 Chemistry	1 English/Reading
Education	2 Doctorates	2 Doctoral Candidates	2 Masters	
Rank	1 Instructor	1 Assistant Professor	3 Associate Professors	1 Professor
Year of Teaching Experience*	1 Five Years	2 Six to Ten Years	2 Eleven to Fifteen Years	1 Sixteen to Twenty Years

*in higher education

Action Research as Methodology

"Methodology: A way of thinking about and studying social reality" (Strauss & Corbin, p.3).
"A research method is an actual way of going about observing, describing, and understanding phenomena" (Bentz & Shapiro, 1998, p.88).

There were two primary reasons action research was the appropriate design for this study: 1. the purpose of the study--to improve my practice while immersed in the study as a co-participant in the group's project, and 2. the nature of the project, which was collaborative and which was about learning to perform action research to improve the practice of teaching.

I used action research to study my practice because it afforded a method to focus on my specific circumstances and to include myself as a participant observer in the collaborative process. I used the iterative cycles of action research--plan, act, observe, and reflect (Kemmis and MacTaggert, 1998, as cited in Dick, 2000) --to allow me to make changes or try new strategies or techniques as I proceeded through the semester. Bentz and Shapiro (1998) describe the role of the researcher within the action research study and the purpose of the action:

> The researcher helps the system plan its actions and design fact finding procedures so it can learn from them, become more skillful, set more realistic objectives, and discover better ways of organizing. Thus, a particular action research project is at least partially designed and conducted by the participants rather than the researcher …Successful action research builds a learning capacity into the system. (p. 129)

My intent as researcher was to include participant design and decision making as much as possible.

The choice of action research is further supported by Michael Patton's description:

> [action research] contrasts with all forms of research that are founded on a separation of the researcher from action, putting the researcher 'outside' what is being studied. Action research immerses the researcher in the action setting and has action as an outcome (as opposed to just knowledge of an outcome). (Patton, online communication, 1999)

As the researcher, I was thoroughly immersed in the action setting as facilitator and participant and, again, the development of CATs and revision of seminar handbook were both actions and outcomes.

Project Design and Procedures

The project I was embarking on with six faculty was particularly suited to an action research study in part because it involved the development of a Classroom Research Project by each of the six faculty over the course of the semester. The project we followed and developed during the semester was to be the actual seminar we would later offer to other faculty. I implemented this research project with a group of six faculty during spring semester 2002. Counting myself as a co-participant brought the group size to seven. The group desired to engage fellow faculty in the use of CATs and had decided that the development of a seminar, modeled on the example of Parkland College in Illinois created by Rouseff-Baker and Holm, might be an effective way to introduce the subject to other faculty in the college. We were also concerned with adapting Parkland College's training workbook, developing materials of our own for inclusion, and essentially documenting what we did as we went, all for use as our own workbook for future faculty seminars. As we worked through these steps and the workbook, outlining activities and information about CATs, I facilitated the development of the training modules within the manual/handbook for future use and also recorded all the adaptations and revisions to the seminar and handbook that were based on our collective experience and generated through collaborative decisions. The printed workbook product was intended to be a training manual with steps, exercises, and activities to guide other faculty groups in the future.

A Classroom Assessment Project (which constitutes "Classroom Research") is a "carefully planned use of a Classroom Assessment Technique that is well integrated into the course syllabus" (Angelo and Cross,1993, p. 33). Cross and Angelo provide a step-by-step process to help faculty to structure and organize the Classroom Assessment Project, which they further define as "a process for successfully planning and carrying out Classroom Assessment Techniques as well as for responding to the feedback these assessments generate" (p. 34). This "Project Cycle" was developed and refined through field testing at several colleges over a three year period and is intended "to serve as a starting point, an outline that can and should be adapted to fit the specific circumstances, disciplines, and particular teaching styles of individual instructors" (p.34). We followed the steps for planning and implementing a Classroom Assessment Project as outlined in Figure 1, adapted from a similar outline presented in *Classroom Assessment Techniques* (1993, Angelo and Cross).

The group met twelve times during the semester to focus on the handbook project, and each participant followed the steps of a Classroom Assessment Project presented in Figure 1. Steps 1 and 2 of the procedure were performed only once by each participant, but everyone identified or developed at least three CATs in the course of the semester for implementation in the target class, thus Steps 3 through 9 were iterated at least three times per faculty member. Referring to Step 9 in Figure 1, at the end of the semester each participant developed a final summary detailing the results of their projects. The elements of

Planning a Classroom Assessment Project

Step 1: Choosing the class in which to carry out the Classroom

Assessment Project

Step 2: Focusing on an assessable question about student learning

Step 3: Designing a Classroom Assessment Project to answer that

"assessable question"

Implementing the Classroom Assessment Project

Step 4: Teaching the target lesson related to the question being assessed

Step 5: Assessing learning by collecting feedback on that assessable

question

Step 6: Analyzing the feedback and turning data into usable information

Responding to the results of the Classroom Assessment

Step 7: Interpreting the results and formulating an appropriate response to

improve learning

Step 8: Communicating the results to students and trying out the response

Step 9: Evaluating the Classroom Assessment Project's effect(s) on

teaching and learning

Adapted from *Classroom Assessment Techniques*
Angelo and Cross, 1993, p. 34

Figure 1, Planning a Classroom Assessment Project

the project reports are listed in Figure 2. One of these reports is included as Appendix C with permission of the participant.

Resources that I provided to the group included Angelo & Cross's *Classroom Assessment Techniques* (1993) which provides a Teaching Goals Inventory to identify target goals as well as detailed descriptions of 50 CATs developed by faculty from varied disciplines and colleges across the nation. This was the resource to support learning more about and using CATs. To address the intention that this be a collaborative learning group, I also provided them information and techniques for fostering dialogue and collaborative discussion in the form of three one-page guidelines from Greenberg's Facilitating Education Change: Notes from Readings (Appendix A), as follows:

- Collaborative Conversation Through Dialogue

- Ground Rules for Collaborative Conversations

- How to Listen

A good definition of dialogue is provided by the organization Mobilizing for Action through Planning and Partnerships (MAPP) as "the skillful exchange or interaction between people that develops shared understanding as the basis for building trust, facilitating genuine agreement, and enabling creative problem solving" (MAPP, 1996). Comparing dialogue to "conventional discussion" or debate, Flick (1998) characterizes dialogue as an "understanding process" during which we do not try to convince others that our perspective is the right one. "Considering an opposing view as deficient and lacking in thoughtfulness and logic is more commonplace than finding value in it" (p.2). In dialogue we can

Final Summary Outline

1. Classroom Information—including course title and number of students

2. Basic Research Summary

    a. What general theme did you explore this semester?
    b. Which CATs did you use to collect data? [including an attachment of each]

3. Research Findings

    a. Write up a summary of data you collected and attach to this report. How did you turn the data you collected into useful information?
    b. What did you learn?

4. Classroom Effects

    a. How did you communicate the results of this work to your students? What was their reaction?
    b. In what specific ways have these investigations affected your teaching?
    c. In what ways has this work affected our students' learning in your focus class?

5. Personal Response

    a. What surprised you most in doing these investigations?
    b. What were the most enjoyable aspects of this work?
    c. How could these investigations have been improved?

6. Future Applications

    a. What would you do differently next time?
    b. What new questions were generated from this work that you could research in the future?

Figure 2, Final Summary Outline

understand another's point of view without necessarily agreeing with it or

"surrender[ing] our own beliefs and values" (p. 7). Dialogue involves exploration,

discovery, and trust whereby "new options and possibilities appear on the

horizon as understanding deepens and insights crystallize" (p. 5). As such, the

use of dialogic conventions of interchange becomes dialogue, a primary skill and

tool for collaborative learning, whereby individuals can understand each other

and what they say to build on that understanding and create something new.

I distributed Greenberg's handouts at the first meeting and stated my own

intent to use the techniques outlined in these handouts as guidelines for creating

an environment that would support collaborative learning. There were some

questions and discussion, including the question, "What is collaborative

learning?" Three other handouts were distributed and reviewed in the early

sessions of the project:

- Skills Necessary for Good Teamwork"—a one-page series of items

  derived from McGourty and DeMeuse (2000, pp. 16-19) that includes a list

  of collaboration skills (Appendix B)

- Dialogue is: Questions that facilitate effective dialogue (handout from

  Greenberg course, c. COGNET, 1977, Appendix B)

- "Balancing Advocacy and Inquiry" (Ross and Roberts, 1994), Chapter 36

  from *The Fifth Discipline Fieldbook* (Senge et al., pp. 253-259), which

  provides conversational protocols for use when in disagreement.

To address the need for reading some background information on CATs, I

changed my approach from asking faculty to read materials if they wanted to and

when they had the time, as I had in the past, to building the readings into the process of producing the seminar handbook. I also structured group meeting time to discuss the readings and figure out together how to approach the group tasks.

Initially, I stated my intent to facilitate using the techniques described in the handouts, and I modeled behaviors I thought contributed to social construction including probing with follow up questions and, in a transparent manner, trying to ensure that everyone participated.

The group met weekly to review six chapters in the seminar handbook and perform the exercises and activities. Three weeks into the term, we planned meeting dates to correspond with faculty administration of CATs as required in the seminar handbook. Each week we would discuss what worked and what should be changed in the handbook itself along with reviewing and collaborating together on identifying teaching objectives and a focus class for each participant. We proceeded with identifying, creating, or adapting Classroom Assessment Techniques to fit teaching objectives and reviewing results of CATs as participants tried them out in their classes.

The room we met in is a small room designated for meetings; it has a rectangular table that will seat eight. There is a window providing natural light and a door which, when closed, shuts out noise from the hall. We met one time per week on Monday afternoons from 2PM-4PM. Some weeks, there would be an additional meeting on Wednesday, 2PM-4PM, to complete activities begun on Monday or as needed to complete other work related to this group's committee

responsibilities assisting academic departments with developing assessment plans.

Although I was the researcher in this, my own action research project, related to the design of the seminar and revisions to the handbook, my primary role was to record group decisions and provide that record later as needed. The entire project had learning built in as faculty reviewed information about the use of CATs.

Data Collection

The purpose of conducting action research is to improve one's own practice, but it is done with and for other people, with the sum of the activity being some sort of personal improvement for social transformation. The researcher practitioner depends on the participants for data and evidence in order to check how her practice might be influencing the participants and the situation that all are a part of. Inquiring about the experience of the participants is an appropriate approach to glean indications of influence the researcher practitioner may be having on practitioners and the situation.

I used four qualitative techniques for gathering data: 1. Classroom Assessment Techniques, 2. Member Check, 3. faculty participant interviews, and 4. field notes, which were carried out as follows:

1. Classroom Assessment Techniques: During the semester, after most meetings, I used an assessment similar to a CAT to learn what the group members were experiencing. As classroom instructors do with students when using CATs, I summarized and provided the group feedback about what they

said to me. For the first two assessments, I asked each group member to write his or her reflections on the questions in Figure 3.

I intended to revise the assessment questions after initial administration if appropriate—reflecting the flexibility that is a primary characteristic of CATs and of action research. I did so only once, based on feedback from the group which indicated to me a needed change. I used the same instrument that was included in the seminar handbook, Figure 4, when we concluded each of the six sections of the handbook. Although the four questions in Figure 4 provided useful information, they did not address collaborative learning explicitly. On 4/1/02, I emailed the CAT from Figure 4 and added a fifth question from CAT #1 (Question 3 from Figure 3): "What could we do that could improve our

---

CAT #1

administered 2/18, 2/25, and 3/4/2002:

Provide your reflections on the following:

1. What I believe I need to know in order to more fully integrate concepts explored today with my own ideas or circumstances.

2. What we are doing in the group (or could do) that helps (or could help) me develop and implement CATs in my classroom.

3. What we could do that could improve our collaborative learning as we work on this project?

Figure 3, CAT #1

```
┌─────────────────────────────────────────────────────────┐
│                        CAT # 2                          │
│                                                         │
│   administered 3/11, 3/20, 4/1, 4/15, and 5/1/2002     │
│                                                         │
│   1. What did you like the best about this section?    │
│                                                         │
│   2. How could it have been improved?                  │
│                                                         │
│   3. What did you learn that you could apply in your work? │
│                                                         │
│   4. Right now, what questions about Classroom Assessment would you │
│   most like to see addressed next session?             │
└─────────────────────────────────────────────────────────┘
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Figure 4, CAT #2

collaborative learning as we work on this project?" For one of the meetings

toward the end of the term, on April 8, 2002, a day when we were not ending a

section of the handbook, and on May 6, 2002, the last meeting of the semester, I

used CAT #3 (Figure 5) in order to gather more data on the collaborative learning

experience.

2. Member Check: My use of CATs in this setting constituted a "member

check" whereby my summarization of their CATs and thoughts on those results

were offered for comment and reaction by the group. I also asked the group

some of the questions raised by individuals in a CAT from the previous meeting,

and these questions became topics for social construction to arrive at answers.

3. Field notes: The participant responses to the CATs were the primary

source for my field notes. Certain statements in the CATs provided guidance for

the next meeting and reflection on how to handle certain issues. I made notes

when reviewing the CATs and reflecting on the meeting and what was said

during Member Checks. I have referred to some of these notes in analyzing

> CAT #3
>
> *administered 4-8-02 and 5-6-02*
>
> 1. Did you observe or experience collaborative learning in today's session? If so, with respect to what topic?
>
> 2. What activities or topics were appropriate for collaborative learning today?
>
> 3. What could we do that could improve our collaborative learning as we work on this project?

Figure 5, CAT #3

my own experience in later chapters. The results of the CATs I used with the faculty group were to contribute to a formative feedback just as CATs are intended to do for instructors in a classroom setting.

4. Faculty participant interviews: Interviews of the faculty participants were conducted at the end of the semester project. Each was asked the following open-ended questions:

1. *Describe for me a time when you felt like collaborative learning was occurring in our group and how was that collaborative learning occurring?*

2. *After our experience, how would you describe collaborative learning to a colleague?*

3. *How has your practice changed as a result of the experience?*

4. How did the experience differ from other faculty projects you've worked

   on?

5. What makes collaborative learning happen?

6. Can you help me understand what steps I should take as a facilitator

   the next time I work on a project with faculty to get things going

   collaboratively very early and to foster a positive attitude toward action

   research?

7. How should I be or position myself towards the group—as a facilitator or

   as co-participant?

8. Was there anything that hindered collaborative learning or the

   enthusiasm for action research? (e.g. my facilitation, the environment,

   anything else)

9. Is there anything that we haven't talked about in this interview that

   you'd like for me to know or think about our experience of working

   through the project?

Unlike the typical phenomenological interview, I did use a predetermined set of

questions in the mode of a "standardized open-ended interview" (Patton, 2000,

p.280). With the minimization of variation in questions posed to interviewees, the

approach "reduc[es] the possibility of bias that comes from having different

interviews for different people" (p.281). Some of these questions were followed

up with probing questions when necessary to prompt for clarification of or

expansion on their experiences of what worked well. I was interested in what

could have better supported their own learning about assessment for

improvement and what I as a facilitator could do better. I used this kind of

questioning, because, while I wanted to learn about the participant experience,

which could be elicited with an open ended question asking the participant to

report his/her experience (Polkinghorne, p.46), I wanted information that would

support my purpose for the research—to improve my own facilitation. The

design of the questions was phenomenological in that they were "what" questions

that provoke descriptions of experience rather than "why" questions, which

stimulate analysis and theory (Thomas and Pollio, p. 24).

I requested permission of the participants to tape record each interview,

and each was about one hour in duration. The interviews occurred in my office

with the door closed and with no interruptions or distractions. Each of the six

taped interviews was transcribed for analysis. The dates for the interviews that

took place in 2002 were June 6, June 19, June 21, June 28, July 5, and there

was one written response to interview questions dated November 2. This last

interview was in the form of an email response to the questions due to changed

personal circumstances of the participant after the conclusion of the project

semester.

Data Analysis

The approach for data analysis was hermeneutical, in that hermeneutical

research is "based on things said, interviews…personal accounts" (Bentz &

Shapiro, 1998, p. 110) and is the approach that "highlights aspects of human

activity that are not dealt with adequately by more familiar [phenomenological]

models and that seem to be especially pertinent for those working in the field of

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education" (Phillips, 1998, p. 1016). Although the questions I asked in the interviews were greater in number than is frequently the case for phenomenological studies, the analysis was closer to hermeneutics than any other form of phenomenology because of the focus on interpretation of the participant perceptions of their experience. The analysis of interpretation seeks "to 'bring out' what was there to begin with" rather than to infer, which "brings in something that was not there to begin with" (Thomas and Pollio, p. 21).

As Strauss and Corbin (1988) maintain, "Analysis is the interplay between researchers and data" (p. 13). For my own data analysis, I relied on meetings with my research group, a group of University of Tennessee graduate students and faculty who came together to thematize and support each other's research efforts. The members at various times were Katherine Greenberg, Jane Henry, Nancy Headlee, Dottie Roberts, Lorna Williams, and Dessa Besswick. Categories and themes emerged from the iterative reviews and group analysis of my data.

The analysis of interview transcript data by the research group is the primary data for this study. The CATs I administered to the group and my reflections on those CATs (field notes) were used formatively in the short cycles of action--reflection–action as the project progressed. After the research group analysis of the transcripts, I used the CATs and field notes data supporting the transcript analysis. As I reexamined them, I found comments and reflections relevant to the themes that had emerged from the transcript date useful in further illuminating the data analysis process.

Prior to first meeting with the research group, I organized all of the quotes from the interview transcripts into nine categories. At the first meeting, the research group worked through two of the categories and discussed the relationship of the nine categories. With further reviews, I collapsed the nine categories into four. After several additional meetings with the research group and with Greenberg, these four categories became three and, within each, two or more themes were collaboratively identified within each. This process of back-and-forth interpretation of the data from the interview transcripts to group reflection exemplifies the "reflecting back and forth to create the most powerful understanding" (p. 111) of the hermeneutic model; the analysis provided by a research group not directly involved in the study helps bring some distance and objectivity as the group "continuously order[s], classify[s], and interpret[s]" (p. 111) the data to ultimately "have an enriched understanding of the context … the setting that gives it meaning and out of which it arises" (p. 109).

For this kind of research, a hermeneutical approach to phenomenology, the research group looked for the shared experience of participants from transcripts of the participant interviews. When some aspect of a participant's experience was identified and occurred as a pattern for all or most of the participants, this pattern was designated a theme and double-checked to see that there were no disagreements from participants. The research group would then select from the interview data a phrase by one of the participants who expressed the theme. Table 2 presents the number of participants who made a statement that fit each theme; the number who implied agreement with each theme,

Table 2

Analysis of Participant Agreement with Identified Themes in Chapter Three			
Themes	Participants		
	Number Who Agreed	Number Who Implied Agreement	Number Who Disagreed
CHAPTER THREE			
Interest in making changes	3	3	0
What people bring to the table	4	2	0
Figuring it out together	4	2	0
A shot in the arm	4	2	0
Taking Time Comprising:	6	0	0
Dedicated time	2		
Time constraints	2		
Time of day	3		
Use of time	3		
Changes in knowing	6	0	0
Changes in being	5	0	1

supporting it without actually referring to it but through inference; and, in one case, the person who expressed some disagreement with one theme.

Dana provided us with a metaphor that represents the complexities of the experience of participants. The themes for Chapter Three are organizedaccording to the three elements of the metaphor—threads, weaving, and tapestry. In Chapter Four, the presentation of data differs somewhat from Chapter Three. Chapter Four is about the facilitator and facilitation, and one theme identified by the research group as representing my facilitation was ***"Guide from the side."*** However, additional statements by participants addressed facilitator approaches, techniques, and behaviors that they either experienced with me or expressed as desirable on the part of a facilitator of collaborative learning. In keeping with my research purpose to improve my own facilitation, these comments are categorized into five factors of effective facilitation of collaborative learning. Table 3 provides a breakdown of participant agreement with the theme and factors of facilitation. The fifth factor, "Happenstance vs. Skills," was mentioned by two participants only and is included because it introduces an interesting point of controversy regarding the effect a facilitator can have in forming or molding a group into collaboration. As action research involves the continual reflection of the researcher, the narrative for the findings and analysis sections is presented in the first person, and the literature review occurs primarily as the findings are reviewed. Regarding the organization of the findings, the experience of participants is organized in two parts: Chapter Three presents participants' experience with the group and the

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Table 3

Analysis of Participant Agreement with Identified Themes in Chapter Four			
Themes	Participants		
	Number Who Agreed	Number Who Implied Agreement	Number Who Disagreed
CHAPTER FOUR			
Guide from the side	6	0	0
Facilitator behaviors and approaches:			
Positioning	1	5	0
Flexibility and goals	6	0	0
Intentionality	5	1	0
Mutuality and relationships	4	2	0
Skills vs. Happenstance	2		

processes of CL, and Chapter Four, on facilitation, is their experience with the

facilitator. My own experience is referenced in Chapters Three, Four, and Five.

Chapter Three

Findings: Participant Experience

This chapter presents themes using the words of participants and is based on a shared view among the six participants. As described in Chapter Two, a research group reviewed transcripts of interviews of each of the six faculty members looking for patterns among their statements. Themes were developed based on patterns of interview quotes, which were then checked against the transcripts to make sure there was no disagreement. For most themes, a majority of interviewees (more than three) made explicit statements that fit with the theme while the remainder expressed agreement implicitly. This qualitative data analysis performed by the research group yielded three categories of themes, which are represented by a metaphor of weaving a tapestry from many discrete threads. In the words of Dana:

> ***I would describe CL as a non-threatening, group learning environment where individual input helps create a body of knowledge or degree of understanding that otherwise might not be created--like <u>weaving a tapestry from many different threads</u>. I would say that CL allows learners to learn by working through an issue/problem TOGETHER.*** [Dana]

Anna Sfard speaks of metaphors for learning: "Metaphors are the most primitive, most elusive, and yet amazingly informative objects of analysis" (Sfard, 1998, p. 4). She concludes from Lakoff & Johnson (1980) and others that "Metaphors are recognized as a primary source of all our concepts" (p.6). Like other learning methodologies, collaborative learning (CL) makes rich use of metaphor. The three categories of themes aligned with Dana's metaphor as

1. The Threads (the CL participants and what they bring to the experience), 2. The Weaving of the Threads (the CL experience and process), and 3. The Tapestry (the CL outcome). Under each of the three categories, I identified two or more themes, which are presented in the words of the participants.

The Threads category is about the participants in the collaborative endeavor. The two themes that emerged were about characteristics of the participants themselves and why they were participating: **"Interest in making changes"** and **"What people bring to the table."**

The second category, Weaving, is about collaborative learning—what it is, what it was like to participate, and the collaborative learning environment, or what it takes to make collaborative learning happen. As participants described their experiences they offered definitions of CL and feelings about the processes involved. The three themes which convey these elements are **"Figuring it out together," "A shot in the arm,"** and **"Taking time."**

From the third category of participant descriptions, The Tapestry, two themes emerged: **changes in knowing** developed through collaborative learning, and **changes in being**, or personal or professional transformation resulting from the collaborative learning experience. The Tapestry connotes the products and the by-products of the collaboration, in the form of a seminar text, documentation of the Classroom Research performed by each of the faculty, and the changes and transformations in participant knowledge and understanding.

The following pages expound on the three categories. I explore each category and its themes using participant quotes and relevant literature.

Category One: The Participants

As described in Chapter Two, the six participants were faculty members
teaching in varied disciplines at a community college. Fitting with Reason and
Heron's (2001) description of the make-up of successful cooperative inquiry, they
were a group of individuals with "similar interests and concerns" (para.1) who
were all interested in "learn[ing] how to act to change things…and find[ing] out
how to do things better." They also represented the necessary "variety of
experience" (Heron and Reason, 2001, p. 185) in that although they had students
in common, they ranged from being new-to-veteran teachers, and their varied
disciplines represented assorted educational experiences and backgrounds.
Both the desire to improve practice and an appreciation for the good mix of group
member expertise and experience emerged in the participant interviews.

Category One Theme One: Interest in Making Changes

> ***I had…an interest in making changes in what I saw going on… I felt
> like there was a need to learn more. I wasn't satisfied with what had
> been happening in my classroom. And to hear exactly what people
> had done and how they came out of it and what changes it had
> brought about when…sell me instantly.*** [Robin]

Here Robin has expressed her reasons and motivations for engaging in a

professional development activity such as this. In our case it was a long-term

commitment with one to two meetings per week as well as outside work that was

sometimes necessary between meetings. In the course of the interviews,

motivations emerged related to a desire to improve teaching and learning in the

classroom. This desire was the core purpose or interest that was mutual among

the six. An important attribute of the individual participants is what brings them to a group. Goulet addressed the intentionality of participation in a collaborative community as manifested "in the belief that communication is possible as our starting point. It is the precondition for our engagement with each other as fellow human beings" (Goulet, 1998, p. 16). Reason and Heron (2001) describe groups working together to collaboratively solve problems as "cooperative inquiry," or "research with rather than on people," and define cooperative inquiry as:

> A way of working with other people who have similar concerns and interests…in order to (1) Understand your world, make sense of your life and develop new and creative ways of looking at things; (2) Learn how to act to change things you may want to change and find out how to do things better. (para. 1)

These assertions were verified explicitly or supported implicitly by participants as they discussed collaborative learning in the interviews. As mentioned above, the similar interest among the participants is teaching and learning, which runs throughout interview comments.

Reason and Heron's first rationale for cooperative inquiry—"Understand your world, make sense of your life and develop new and creative ways of looking at things"—was represented by participant comments regarding interest in making changes as well as by expressions of their expectations from collaborative learning, **"*to learn from others*"** and **"*to hear others' real thoughts on things.*"** Dana says,

> *I think that learning & teaching are both very complex (and interrelated) issues (complex in terms of both theory and practice) and that it takes a CL group to help sort it all out….I felt the other members were a sounding board.* [Dana]

Similarly, Fullan (1999) asserts:

> When teachers … sit down together and study student work, when they relate this student performance to how they are teaching, and when they get better ideas from each other and from best practice outside to improve their teaching practices, they are engaged in a knowledge creation process that is absolutely essential. (p. 38)

Lee provides a comment that echoes one of Makay & Brown's (1972) characteristics essential to collaborative learning--"Human involvement from a felt need to communicate" (Arnett, 1986, p. 96)—when she says: "***I get walled off in my little world and I hear gripes and groans from students and I hear other faculty gripe and groan sometimes, but I don't ever get to hear their real thoughts on things.***"

In agreement with Reason and Heron's second assertion above concerning "finding out how to do things better," participants wanted to make changes for improvement. Robin, as previously quoted, wanted to make changes because she wasn't satisfied with what was happening in her classroom. Terry directly alluded to a desire to improve as well: "***And to sit down and to talk about the approach you're taking and different things that you can do to help in that approach.***"

Group members mentioned more than once the voluntary nature of this project. Dana addresses the intentionality of participation: ***"Group membership should be purely voluntary."*** In my own experience in working with faculty members, the most satisfactory of similar activities have been with faculty who have a high interest in learning more about teaching and who want to act to improve student learning. Parker Palmer adds that a condition for collaborative

learning, or "circle of trust," "is that everyone's participation be a voluntary response to an open invitation…Employers for example cannot require employees to join a circle of trust" (Palmer, 2004, p. 78). However, participation must remain voluntary after participants are members of the circle. Adds Palmer (2004), "People often join a group voluntarily and then experience pressures to conform. The pressures may be so subtle that our egos barely register them" (p. 78).

When people remarked that they didn't like to fill out my own CAT assessment form that I provided at the end of each of our sessions, I felt uncomfortable about continuing to use them. I did try different ways of administering—asking for a response by email after the meeting or handing them out prior to the meeting and asking that they fill out in the course of the meeting. In these instances, I didn't receive everyone's feedback. Palmer (2004) stresses the need for "invitations" rather than requirements for offering "freedom of choice" (p. 79). Perhaps I was in tune with his injunction to facilitators for maintaining a circle of trust. However, I received some helpful information when participants provided feedback. I do plan to continue regular feedback assessment in future similar activities and need to address how to go about that.

In summary, the reasons for participating included ***"a need to learn more;"*** a dissatisfaction with the status quo and thus a desire to improve, to change their teaching to improve student learning; and a wish to interact with other faculty and learn from others. In addition to an interest in meeting with their colleagues, participants also spoke to the value of particular qualities,

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experiences, and opinions that form and influence contributions to social

construction.

Category One Theme Two: What People Bring to the Table

"You come to the table with your own points but at the same time you can always glean from what other people bring to the table*." [Robin]

The Threads category as discussed by the group when describing

themselves includes comments that tell who they are and why they have come

"to the table," why they agreed to participate. An important attribute of the

individual participants is what brings them to the group, and an important

attribute of the group is what individual participants bring. As Terry notes, **"*My***

colleagues are a product of all those voices that have impacted them,

interacted with them all this time." Jarvis offers an expansion on this thought

when he discusses practitioners in learning situations: "People carry all their

learning from their previous experiences into every situation, and these are

employed in coping with their current situation and in creating new individual

experiences for themselves from which they learn" (1999, p.40). The participants

were diverse in background and experience, coming as they did from industry,

government, other academic institutions, and different geographical regions, and

representing four different subject disciplines. A response from one of the CATs I

administered on 5/1/02 remarked, when addressing what was best about the

sessions, ***"the true strength of this work we are doing is the knowledge we***

gain from the sharing of experience.” Diversity in the experience of a group

engenders an expansion of opportunities to learn mutual admiration and respect.

Group members also addressed the value of diversity in the composition

of the group. At this college, as at many other institutions of higher education,

faculty tend to meet on a professional level within their academic departments as

they respond to such requirements as strategic planning, program review, and

preparation for regional and program accreditation. Departmental faculty offices

are juxtaposed to help foster effective communication within the discipline unit.

Faculty members often teach the same students and the same courses,

providing common grist for any conversations about academic matters. Here Pat

echoed statements faculty have made to me every time I have worked with an

interdisciplinary group, while at the same time revealing her own openness to

possibilities:

> ***It’s good to hear from other subject areas. One problem we have is we’re just so busy we don’t really interact a whole lot even with areas like computer science and science. And of course with the committee members we did get to hear and share a lot about teaching in different areas which also helps in terms of*** [our wanting] ***to know a little--just to having some kind of teaching across curriculum, having some idea of what other people are doing and what they’re emphasizing and just hearing how much they’re emphasizing critical thinking in areas that traditionally wouldn’t do that, gives some ideas to me what possibilities are.*** [Pat]

Responses to my CAT dated 4/15/02 also provided some expression of

appreciation for the practical aspects of interdisciplinary exposure: ***“Sharing***

information about the CATs we tried out…is very informative to realize that

our students demonstrate similar needs in various disciplines” and ***“I think***

that Lynn's results demonstrate the need for students to work toward

developing a 'working process' concept. This is what transfers into other

disciplines." Literature that contributes to critical aspects of collaborative

learning frequently points to the importance of honoring individuals' contributions

to the processes of dialogue and CL. As MaKay & Brown (1972) contend,

"Appreciation of individual differences and uniqueness" is essential (Arnett, 1986,

p. 96). Palmer (2004) notes that participants in successful collaborative activity

must "receive each other with openness and respect" (p. 84). This idea was

echoed by the participants in this study:

> *You come to the table with your own points but at the same time you can always glean from what other people bring to the table…. [with group members] "each bringing their own experiences and their own knowledge to the table and sharing that and coming away learning something from that.* [Robin]

> *…it was kind of nice to have a group of intelligent, articulate people struggling along with me to figure out the best way to do this.* [Lynn]

Goulet (1998) describes ways of knowing as *"the set of ideas and practices,*

however implicit, through which we human beings apprehend the world and

ourselves in it" (p. 16). Each participant brought his or her own ways of knowing

to the activity; participants brought their own ways of apprehending the

experience of the project and using CATs in the classrooms based on each

instructor's unique background, experiences, and practices. One of the most

obvious differences among participants is the different disciplines they

represent—English and Reading, Mathematics, Chemistry, and Computer

Science. Some other characteristics of group members alluded to in interviews

offer a glimpse into these different ways of knowing. Terry, relatively new to the

college and to teaching, was interested in hearing from and interacting with

"*seasoned teachers you admire, respect, and trust….And especially being*

new to this environment, to this culture, to sit down with seasoned

teachers and talk about things that concerned them, not only about the

college culture." As Lave & Wegner note, "Acceptance by and interaction with

acknowledged adept practitioners make learning legitimate and of value from the

point of view of the apprentice" (1991, p. 110). Pat described the dedication of

the individuals as teachers: "*devoted people sharing what they've done is*

very intellectually satisfying." Mutual respect among community members

seems to figure significantly in a foundation for CL to thrive.

In a noteworthy turnabout for group diversity, although Terry was the

newest to the college, she was already well acquainted with the principles of

dialogue, social construction, and collaborative learning as a member of the

same doctoral program. For the others, this project provided an explicit

introduction to the ideas of dialogue for social construction of knowledge and

participation in a collaborative community practicing action research.

Summing up, participants were open to new ways of doing things and

indeed were motivated to participate because they wanted to change and

improve their practices; they respected each other as intelligent and articulate

and appreciated the differing experiences--in academic background, in teaching,

and in the world -- that each brought to the group. What they had in common was

the desire and motivation to better understand their own work, their own practice

of teaching; and they believed, or came to believe, that as a group in

collaboration they could untangle the complexities of teaching and learning.

Category Two: The CL Experience

I would describe CL as a non-threatening, group learning environment where individual input helps create a body of knowledge or degree of understanding that otherwise might not be created. Like <u>weaving a tapestry from many different threads</u>. I would say that CL allows learners to learn by working through an issue/problem TOGETHER.

To continue the metaphor offered by Dana earlier and repeated above, the

process of collaborative learning is a weaving together of all the threads brought

to the experience by the individual participants. Category Two, The Weaving,

comprises both the process of CL and the perceived experience of participation

in the process. As such, three themes emerge from this category. The first two

are 1. **"Figuring it out together,"** wherein participants describe what CL is, and

2. **"A shot in the arm,"** which is what it was like to participate in a collaborative

learning activity; and 3. **"Taking time,"** which speaks to several aspects of time

brought up by faculty when considering their experience.

Category Two Theme One: Figuring it out Together

> **"…*with this group, although we were there to do some things, it's more of a feeling of our being able to figure out together,, what it is we need to do.* "** [Terry]

Although participants were not asked specifically to define CL, as they

answered the interview questions they provided several excellent descriptions of

CL aspects. They each demonstrated internalization of collaborative learning

through the assorted insightful and articulate definitions of CL they provided as

they talked.

> *Collaborative learning is the best way for a person to affirm what they know and learn from someone else what they don't know*. [Lynn]

> *Collaborative learning was occurring at those times when we were sharing together; CL means lots of people are coming together with their own ideas and then learning from what other people are saying.* [Robin]

> *In the context of faculty collaborative learning,* [CL would be] *just people working together and sharing experiences and discussing what they'd done and discussing their reactions to things that they'd read and bringing their own experiences to help others understand the context of some of the readings in different subject areas and in some cases in the same subject areas.* [Pat]

> *I think of collaborative learning too as <u>making new meaning</u>, not so much constructing new knowledge. I'm not sure if that's appropriate in all cases, but in this case I think sharing the meaning and getting down to what individuals mean and then all of a sudden it becomes a group understanding what the group means.* [Terry]

Terry offered a powerful definition of the dialogic process at the center of CL:

> *I think it was collaborative learning because everybody was interested in how we were learning it. It was sort of like an interest in the process as well as what we were talking about. So it wasn't just informational just like oh yeah this is this way because but we were really trying to dig down into each other's perspective and what it meant in terms of all those perspectives.* [Terry]

Bohm (1991) reinforces Terry's idea of dialogue when he says,

> Because the nature of Dialogue is exploratory, its meaning and its methods continue to unfold. No firm rules can be laid down for conducting a Dialogue because its essence is learning…as part of an unfolding process of creative participation between peers. (para. 2)

Terry also was clear about what CL is not when she said, **"*They*** [other college

committees] ***have been more superficial…just on the surface there to***

accomplish a task. It's more of a feeling of our being able to figure out

together what it is we need to do." As theorists and practitioners assert, the

dialogue essential to CL is a tool in co-construction of new knowledge.

I was quite pleased with the obvious understanding of and appreciation for

the facets of collaborative learning these faculty members demonstrated. I was

actually surprised at the apparent depth of understanding, only because there

was not a great deal of explicit "instruction" on CL by me or iterations on how to

define CL. I believe the questions in the CATs as a matter of course raised the

awareness of CL in the context of what we were doing, and the handouts I

provided with the accompanying brief discussions, as well as some modeling of

dialogic practices iterated in Greenberg's handouts (Appendix B) likely provided

the basis for understanding CL as communicated in the interviews. In response

to a suggestion in a CAT administered on 4/1/02, ***"Review what makes a good***

CL learning environment…Does everyone have the same understanding of

CL?" I provided a handout at the 4/8/02 session from the *Fifth Discipline*

Fieldbook (Senge, et al., 1994) detailing dialogue examples. This CAT elicited

some references to the value of that handout and with the discussion of the

questions in the CAT itself that was to be completed that day. One response to

the question of whether they observed or experienced CL today was ***"I think so,***

especially after looking at the suggested dialogue and thinking in

retrospect." One of the CAT responses from the last meeting day, dated 5/6/02,

offered a good description of the CL techniques used,

> *I think we always experienced CL in these meetings. As I shared my final summary outline, the group asked great questions about the meaning of my results, I asked back re why they asked, and we all learned from the experience. I <u>enjoyed</u> today.*

It seems clear that the handouts, the CATs about collaborative learning, and the discussion that was provoked by these tools were the basis for developing an understanding of collaborative learning. Along with the understanding of CL that interviewees conveyed came descriptions of what engagement in this process felt like.

Category Two, Theme Two: A Shot in the Arm

Faculty offered rich descriptions of what they experienced, what it was like as they participated in the CL process, which descriptions provide some powerful portrayals of the motivation gained in the group for action in the classroom. Terry directly alluded to the motivation gained from her participation when she said,

> *It was just infectious. And from these meetings I felt like I'd had a shot in the arm and it was like okay to go forth and do some of these cool things these other people are doing. And I just didn't get that from other faculty groups…. That approach was just such a real fun thing.* [Terry]

Lee's description of the experience as **"*really, really rewarding*"** captures the positive reflections by the faculty on what it was like. Lee further reflected that

> *This was a really positive experience and some committees that I've been on were not, weren't fun at all. And this one wasn't ever like work. I never went 'aw, I've got to go to committee.' And yet it wasn't fun and games; we did an awful lot of serious work.* [Lee]

A "***shot in the arm"*** is a good metaphor for the rejuvenation described by Cross

and Steadman (1996) as typical for faculty who participate together in using

CATs and performing Classroom Research: "Reward systems in this model [for

faculty development] are usually intrinsic: teacher satisfaction in seeing students

learn, stimulation of intellectual curiosity about the learning process, and

increased professional knowledge and self-esteem" (p. 9). However, "fun" has

been cited as a part of that shot in the arm for this particular project. Fun can be

a substantial motivation for participating in a professional development project if

participants can see value gained, personal or professional as well. The

emphasis on what faculty learned is discussed further in the third category of

findings, The Outcome. I did not anticipate "fun" being mentioned as part of the

experience, but neither am I greatly surprised. I believe the fun came from

participants liking each other and working in a casual atmosphere. And as a

facilitator, I try to inject humor where appropriate as I interact with the group and

when describing my own experiences to the group. I believe this helps set a

more casual and relaxed tone and encourages some "fun."

Several of the faculty repeated that much of the value of the experience

derived from working "together" and being with the group:

> ***"This group was so encouraging & supportive..."*** [Lynn]

> ***"Part of it is that people enjoy coming together."*** [Robin]

> ***"It was wonderful."*** [Lee]

> ***"I think one of the greatest things about this group is that we feel***

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free to share honestly and openly." [Robin]

Lee offered how the group dynamics contributed to the experience:

> *We got to know each other. We got to understand each other's philosophy of education, and then to recognize each other's strong points. And it got until it was very synergistic. We fed off each other and sort of sparked interest in each other and really grew.* [Lee]

These comments suggest the sorts of relationships formed within the group. The theme of relationships will be explored further in a later discussion of the essential elements of CL.

Category Two, Theme Three: Taking Time

> *And another thing was just having the time to sit down and talk to colleagues, and I don't get to do that, you know, I get walled off in my little world and I hear gripes and groans from students and I hear other faculty gripe and groan sometimes, but I don't ever get to hear their real thoughts on things.* [Lee]

Lee's comment above represents the explicit or implied appreciation by all the faculty participants for having time set aside for discussing teaching and learning. The concept of time was introduced in several ways by participants as they discussed the nature of collaborative learning and factors that affect the collaborative learning process. Although this study doesn't have all participants expressing about or even agreeing in one instance on all aspects, personal experience and other research (Merrill, 2003; Roberts, 2005) support that the factor of time is important as I consider facilitation of collaborative learning groups. As a categorical analysis of these varied ways of viewing the time spent in collaborative learning, I have organized the comments by separate aspects of

time addressed in the interviews: Dedicated time, Time constraints, Time of day, and Use of time.

Dedicated time. All interviewees referred to the value of this project in terms of the time specifically set aside, Lee in the quote above, "just having the time" and Terry, below, express the group's sentiments:

> ***Whereas this group, although we were there to do some things, it's more of a feeling of our being able to figure out together what it is we need to do. It's not as directed and not as focused and I think that's a positive thing. Because it gives you time to interact with people that you normally wouldn't, just in the course of teaching. You so rarely sit down with colleagues and talk about things that are important to you as a teacher, which is teaching, imagine that!*** [Terry]

Additionally, Terry contrasts this experience with "other faculty groups" which are not structured or intended to operate collaboratively:

> ***Other faculty groups are more pointed or more focused because there's normally a task that has to be accomplished and you want to do it as quickly and in the least amount of time you can. And so there's not a whole lot of time for talking and trying to understand what people are thinking or meaning by what they're saying.*** [Terry]

Over several years of working with faculty in groups learning about Classroom Assessment Techniques, I have noted that the issue of "just having the time" has been expressed by many of the participating faculty. Faculty from past groups I've worked with have expressed this same appreciation for having an established time in which they could discuss teaching and learning, because otherwise this sort of activity would not occur. The role of faculty at this typical community college includes teaching 15 hours per semester and academic advising. Additional responsibilities and activities include serving on committees, serving as student group advisors, writing grants, and working with advisory

committees. This is a typical load for community college instructors, and weekly

sessions with other faculty to discuss what's going on in the classroom and how

that can be improved naturally fall to the bottom of the priority list if the idea

occurs at all. As Palmer (2004) points out

> No matter how much we may feel the need for a circle of trust, few of us
> can imagine taking time for community 'on top of everything else.' And
> even if we can we find it hard to imagine that other people would be willing
> to come along with us" (p. 73).

Bohm (1991) goes further to note that "The more regularly the group can

meet, the deeper and more meaningful will be the territory explained" (para. 8).

With the unique demands and time constraints for faculty at the typical

community college, a certain dedication of time is indispensable for a

collaborative community to prosper. Not all faculty members expressed an

opinion or implied support for the other three aspects of time—Time constraints,

Time of day, and Use of time.

Time constraints. Some members of the group considered that time was a

factor in how well the group was actually able to function collaboratively; that is, a

lack of time in the group sessions was an important issue:

> ***The only thing that hindered the whole thing in my mind was the time
> and there's nothing we could do about that you know. Meeting times,
> get everybody together or having enough time to get everything
> done we needed to do, and there's nothing we can do about tha****t.*
> [Lynn]

> ***I think always it was a lack of time. I know we met at least once a
> week, maybe twice. And for some reason it always seemed like we
> were just gelling and getting to the good stuff right at the time to
> leave. I'm not sure what contributed to that. I wouldn't say that that
> was something you did, but maybe it's just a part of the hubbub…of
> you know coming out of a class and ten minutes later sitting down***

with a group trying to have some sense. But you know by the time we had all calmed down and tasked through some things [the time was up]. [Terry]

These views of participants suggest to me the need to devote project meetings to matters of the project only. I was aware that we had rather full agendas on some days, but I did not realize that there was actually frustration or a wistfulness that we could devote more time to our collaborative project within the allotted time.

Time of day. Lynn, Robin, and Lee all mentioned time-of-day as important but did not agree on which time of day:

> *But I can't think of anything other than the time constraints and maybe being tired that late in the afternoon. I just can't think of anything else that might have hindered us.* [Lynn]

> *The morning worked for me. The time, and that's something beyond our control, but getting together in the morning, we're often so much fresher. [in the] afternoon, could you tell a definite difference in the enthusiasm? Sometimes my brain just doesn't work in the afternoon.***"** [Robin]

So Lynn and Robin both mentioned afternoon as not working as well, but Lee said: **"***Afternoons are best for me…In the morning I've got to get out there in the classroom, I've got to get all that behind me before I can do anything else.***"** Here, for Lee, it's a matter of focus rather than the fatigue to which Terry and Robin allude.

On the matter of fatigue, Bohm (1991) says:

In setting up Dialogues it is useful at the start to agree the length of the session and for someone to take responsibility for calling time at the end. We have found that about two hours is optimum. Longer sessions risk a fatigue factor, which tends to diminish the quality of participation. (para. 9)

The time to meet each semester is set according to what free times are common for all and within those times, to group preference. With six people, I found only one or two options for two hour blocks of time; one person's schedule can eliminate several possibilities that otherwise would be considered. I have observed that if I have a choice between a time at the beginning of the week and toward the end, earlier in the week seems more productive because people seem fresher and less stressed than by the end of the week.

    Use of time. Robin and Lee each comment in two different ways on the need for adequate time for CL to develop:

> ***…but at the same time to have the type of atmosphere, a casual more open atmosphere and to have pregnant pauses, to just feel like you can take a minute . And I feel like we did that. You know, a lot of times we'd just sit back and just roll it around and no one saying well let's go on now.*** [Robin]

> ***We seemed to develop a really good synergy in the group. I think that was built over time...*** [Collaborative learning is] ***learning that is born of time and dedication and learning to tolerate each other's differences, understand them and grow within those differences. I don't think it's something that we can just sit down and say, this is collaborative learning and we're all going to get along and we're all going to do this. It just takes a lot of time and patience.*** [Lee]

Robin speaks about how time is used within sessions while Lee remarks on the need for collaborative learning to **"*build over time.*"** As far as the **"pregnant pauses"** referred to by Robin, I explicitly pointed out the value of allowing time for people to reflect before speaking when facilitating social construction and also told the group that I found that difficult to do at times, that my own inclination is to rush in and fill the silence with words. Lee told the group that she had learned to allow pregnant pauses in the classroom and gave an example of the value of this

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practice. Regarding Lee's remark above, I believe she was quite correct to point out the need for patience to let the process work, to trust the process, in order for the collaborative spirit to develop. Bruffee (1999) describes the dynamic of collaborative learning as where "we understand knowledge to be a social construct and learning a social process" (p. 135). Thus as relationships are being established and people are learning to act collaboratively, it may seem that not much is happening, but to wait it out and let the process work is necessary. Bohm (1991) addresses both aspects of use of time alluded to by Robin and Lee: "A Dialogue needs some time to get going. It is an unusual way of participating with others and some sort of introduction is required in which the meaning of the whole activity can be communicated" (para. 3).

Another aspect of "taking time" is an issue introduced by Pat about the efficient use of time:

> ***I think that faculty generally will work together fairly well. It's just that if an issue is too complicated, maybe has more than two sides to it, more than two possibilities, it's hard to get on track sometimes. Sometimes it becomes very inefficient because time gets wasted, cause you go off on different tangents. But usually I think it works pretty well.*** [Pat]

Here Pat makes implications about the drawbacks of working collaboratively—a "*too complicated*" topic can lead to wasted time if the topic is addressed with a constructivist approach. Buber, as analyzed by Arnett (1986), indirectly speaks to Pat's concern:

> Buber did not consider dialogue to be the communicative norm of modern life. On the contrary, Buber saw monologue (self-centered communication) and technical dialogue (information-centered communication) as dominant in the majority of contemporary conversation. Both monologue and

technical dialogue are natural parts of the world in which we live. Buber recognized that we live in a twofold world of relation. The I-It (monologue and technical dialogue) is the world of separation, and the I-Thou of dialogue invites the community of relation. (p.62)

Pat may be speaking from our American if not all of Western culture, which values Buber's "technical dialogue" as a necessary strategy and practice to ensure good "time management." The points made by Robin and Lee echo Pat's remark by bringing into relief the different way that time is used in collaboration than traditionally.

Necessary components of collaborative learning include having the time and, for some, having the time at the right time of the workday. Other essential ingredients identified in the course of the interviews -- a common purpose and willingness, relationships, and safety – will be discussed in Chapter Four when looking at facilitation of collaboration.

From the interviews emerged participant perceptions of what collaborative learning is all about and what is required for people to successfully collaborate. The outcomes of the endeavor that I find most important are the changes individuals described as a result of this collaborative learning project which are described in the last category as changes in knowing, or learning, and changes in being, or personal transformation.

Category Three: Changes

I would describe CL as a non-threatening, group learning environment where individual input helps create a body of knowledge or degree of understanding that otherwise might not be created. Like <u>weaving a tapestry from many different threads</u>.

As Dana's comment again makes clear, we reach the final part of the metaphor and of this project—the tapestry. The tapestry represents the results of the weaving and very well represents that the collaborative learning experience has much to do with the outcomes of the experience. The tapestry correlates to more than one outcome, one of which was a tangible product -- the seminar notebook that the group developed for future use with other faculty as they learned to use Classroom Assessment Techniques. The development of the notebook served as the overarching structure for the experience and was the stated goal as well. This effort was successful, and the manual has been used since with several faculty groups. The production of the manual was not a part of this study but rather the question of what was the experience for faculty in a professional development activity such as this one.

Dana's wonderfully apt tapestry metaphor is seconded by Lynn's remark, **"*And we all grew in that environmen*t,"** and by Lee's comment that the experience was **"*sort of like a blossoming.*"** These statements illustrate the professional and personal development that can be viewed as by-products of this project as we worked toward the project goal of a seminar for other faculty.

In reviewing findings, what most stands out for me are the learning and the changes faculty described in the interviews. Packer and Goicoechea (2000), in considering sociocultural and constructivist theories of learning, distinguish between epistemological and sociocultural learning, which distinction served well in analyzing what participants had to say about their own outcomes. The authors propose "that learning involves becoming a member of a community constructing

knowledge at various levels of expertise as a participant…[and] entails transformation of both the person and of the social world" (p. 227). For them, "constructing knowledge at various levels of expertise" is termed "change in knowing" while "transformation of [self] and of the social world" is a "change in being." These two categories of learning or change exemplify the experience and outcomes that emerged from faculty interviews.

Category Three, Theme One: Changes in Knowing

Packer and Goicoecha describe two kinds of learning which result in either "changes in knowing" or "changes in being" (2000, p. 228). Relative to this project, changes in knowing happened as faculty worked their way through the process of learning about CATs, using them in the classroom, and discussing their results and follow-up with the group as they followed and revised a workbook to teach other faculty to do the same things. Learning of the changes in knowing sort can be illustrated in terms used by Shotter (1993) when he describes three ways of knowing: knowing that, knowing how, and knowing within:

An example of Shotter's **knowing that** is provided by Dana: "***There was a lot of exchange of ideas which enabled me to learn much more about the subject than if I had just read the material and not discussed it with the group."*** Here she describes learning content, learning about something.

Knowing how is about knowing how to do something and is represented by Lynn: "***Every time we reported something we did, everybody else in the***

group had something to share that increased my knowledge of what I was

doing & gave me a better idea of what to do next time." Here Lynn is talking

about learning how to use CATs through the process of discussing with the group

what CATs to use and reporting back on how it went.

Robin and Pat describe the processes leading to changes in other words:

[Collaborative learning] *was going on at any time when one person was presenting, had done a little background, had done their own thing and then presented it to the rest of the group and we all could bounce ideas. And I found that very helpful.* [Robin]

We learned from each other all the time. Just about everything we did was a shared experience. Even when one person was presenting there were always comments and usually very helpful ones to that person and back and forth and so everything pretty much became a learning experience. [Pat]

We would just naturally work together on things. I guess more of our collaborative learning was when we discussed items that we'd just read and sometimes there were some things that some had read, some hadn't gotten to completely, so we even shared a lot when we were reading our different passages. [Pat]

And Lee explains knowing how in terms of herself: *"I think we all collaborated*

not just on the task that we had before us but in our own education." [Lee]

Shotter's third way of knowing, **knowing within**, is built on Wittgenstein's

philosophy as being about learning the culture of the community and how to act

to learn within that culture. By sharing our ways of knowing with the group to

foster group learning about knowing, we create ways to know our "way about"

(Wittgenstein, 1953, no. 123) collaborative learning. We learn what to do and say

next, how to "go on" (Wittgenstein, 1953, no. 154) with each other within our

group. Knowing within is represented by Lynn's comment:

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It was really good because we learned a lot about each other, a lot about things that were going on in the college, and at the same time that brought us together and we were able to come back and look at the project we were working on and work through that. [Lynn]

Lynn's statement exemplifies the group learning how to "go on", to move forward and know what comes next. She is saying that we learned how to be in that environment of collaborative learning, dialogical community, socially constructing. Terry's statement elaborates on knowing within:

We together decided, we asked some questions together, and made some new meaning together… So I think we as a group came to some shared meaning of what collaborative learning was and that it had indeed occurred that day. So before we could really speak to whether it was organized the way that we thought it should be organized, we all had to understand what it meant to her, what Bloom's taxonomy meant to her and her teaching. So I think that was another day we had a lot of shared meaning of what this is and how she got there. [Terry]

The group came together, created a culture, and learned together how to operate. We developed an understanding of how we proceed within our particular culture. The group knew or was learning how to move forward.

Fullan in a 1990 interview discussing change through collaborative activity asserts that "Information becomes knowledge through a social process, and knowledge becomes wisdom through sustained interaction" (Sparks, 2003). The sustained interaction this project provided faculty led to some changes beyond new knowledge, changes in outlook and approach, which can be called "changes in being."

Category Three, Theme Two: Changes in Being

Dana's description of the changes that occurred for her illustrates learning as a change in being:

> ***I have really changed as a result of my participation has enabled me to take a fresh new look at my own teaching. So many faculty take a teacher-centered approach to education, but I now see my students and I are a collaborative team. I now prefer to think of myself as a student-centered teacher. I have a whole new outlook on teaching and learning….I also try harder to convey to each student that I respect his/her individual learning issues or needs.***

 and:

> ***CATs and CR have changed my attitude toward teaching forever.***

[Dana]

Packer and Goicoechea (2002), in differentiating between changes in knowing and being, explain that some changes in knowing "often go unnoticed …due in part to their relatively unarticulated character" (p. 258).

> Constructivist and sociocultural accounts of learning each rest on ontological assumptions, but these often go unnoticed. This is due in part to their relatively unarticulated character, and in part to a lingering anxiety, traceable to the logistical positivists, that discussion of ontology is merely 'metaphysical,' untestable, and therefore unscientific or even meaningless. (p. 258)

In their analysis, the authors seek to reintroduce this kind of learning as "a valid, meaningful, and necessary topic in research on learning and development" and they distinguish it from a "change in knowing" by calling it "change in being" (p. 258). Lave and Wenger (1991) approach from a slightly different perspective as they argue that

> Most accounts of learning have ignored its quintessentially social character. To make a crucial step away from the solely epistemological account of the person, they propose that learning is a process of participation in communities of practice. (p. 53)

and further, that

> Learning thus implies becoming a different person with respect to the possibilities enabled by these systems of relations. To ignore this aspect of learning is to overlook the fact that learning involves the construction of identities. (p. 53)

For me, the most exciting results of my research lie in the "becoming a different person" or a "change in being" that are transformations to self and practice expressed by the participants. Each person interviewed expressed some type of personal change in attitude and/or approach to teaching as well as with colleagues. Lee defines here changes and sees herself changing:

> ***I think I have really changed. I think I'm probably much <u>more tolerant</u> of people's viewpoints that are different from mine. I think I'm much more open to hearing what other people do. I think I'm a lot <u>more eager</u> to hear what other people do and eager to try different things and to experiment and to adapt. I think it's kind of opened me up some. And it's made me less apprehensive of committees and groups.*** [Lee]

Pat tells me that both her attitude and approach have changed when she says,

> ***It's helped in terms of just the attitude towards teaching, not in terms of positive or negative but just keeping the emphasis in mind not just that we always work for the students and that's the priority but also the whole idea of giving students power over their learning, and a lot of reinforcement for that in the group. And it added a lot of strength to the things that we tried and the willingness to try some things that might not necessarily work. Not everything did work that I tried. A couple of things I tried I thought were good ideas kind of backfired. But they didn't hurt nearly as much as the things that did work helped in the same class.*** [Pat]

Lynn also describes a change in her attitude with both colleagues and students:

> ***It*** [participation in COE group] ***made me <u>more willing</u> to go out and ask other people's opinions and question things….I am much <u>more open to listening</u> to my students, wanting to find out my students' opinions of things.*** [Lynn]

Terry describes a change in "awareness" and goes on to describe how this plays

out in specifics of practice and techniques in the classroom:

> *So the biggest thing is just an awareness of how much you can learn from the students about what's going on not only in class, but in their thinking, and how they're learning with just a really simple little activity at the end of class. Just asking what they're thinking or what was the clear point or what do we need to go over more. Just how they're learning. So the power of knowing your students that well; again it goes back to those relationships.* [Terry]

Lee describes an improvement in relating with students:

> *I think I'm better able to see that I have to be very, to use this word, mindful of what goes on in the classroom and before I ever attempt any collaborative work with my students get a real good handle in my mind on their personalities and temperaments.* [Lee]

Lynn speaks about a change in her former assumptions:

> *In the past maybe I just assumed they learned everything I taught them. It's made me much much more open to listening to them and trying to figure out what they need in order to make it better.* [Lynn]

Robin is not sure she attributes this change to the experience but it is an

ontological change in learning (change in being) that has occurred nonetheless:

> *I'm the chair of those committees so to pick up on ways of interacting with people to make sure that everyone has a time, and I'm not sure specifically I can say it's because of our meetings that I have been more attuned to making sure that everybody gets called on, that everyone feels like they have an opportunity to share and not to let anybody run the show and do too much talking is always a challenge.* [Robin]

Although Robin expressed similar perception as the other group members

about changes in knowing that occurred, she expressed some definite

reservations about change both to self as a facilitator and whether collaborative

learning is possible in the classroom. She identifies one technique that seems

worthy of further use in her own experiences, addressing her own intentionality:

> *…but at the same time to have the type of atmosphere, a casual more open atmosphere and to have pregnant pauses, to just feel like you can take a minute . And I feel like we did that. You know, a lot of times we'd just sit back and just roll it around and no one saying well let's go on now. And my style would be to not allow that to happen just because I've got my eye on, just because of the way I am and thinking people don't want those lapses.* [Robin]

So even though this isn't Robin, she has listened to be influenced. At the same

time, she is firm about retaining her own identity through some deliberate picking

and choosing as she reflects: **"*…so I would hope to pick up on certain

aspects that I think I can incorporate without compromising who I am. I

mean you don't want to say, well I want to be Linda Randolph."***

Robin also offers her doubts of the efficacy of collaborative learning in the

classroom--that it's different to facilitate outside the classroom than with her

students:

> *For me at my own level it's easy to talk about going into a group setting and each bringing their own experiences and their own knowledge to the table and sharing that and coming away learning something from that. To have your own students do that is a different ballgame, I guess.* [Robin]

Robin either does not feel she has learned how to facilitate CL in the classroom

or else is stating it really isn't possible. In another statement she tells me

essentially that things are working alright as is without a need for change: ***"I did

have a regular [not online] classroom last semester. But it was a good

group so I can't specifically say that I'm going to have this certain style just***

because of this experience I had." At the same time, she demonstrates for me

a true understanding of CL when she discerns some differences:

> ***I'm just not focused that way*** [CL in the classroom]***. I mean, I'm the, what's Dana's saying, sage on the stage, and so I mean that's the way we've been trained—to be the one with the answers and I have never really used collaborative learning. If I've even tried it, it's called more group work than collaborative learning.*** [Robin]

In discussing the practitioner's knowledge, Jarvis (1999) advocates pragmatic

processes—"discovering what works for each of us" (p. 43) and that although

what works for one individual may be useful for others to develop their own

practices, he also cautions, "We have to be careful, however, not to assume that

because something works for one or even a few persons, it is necessarily going

to work for every practitioner of the same occupation in every institution" (p. 43)

and "We accept it only if it works for us" (p. 44).

This chapter has presented participant reflections on their experience as

organized into three categories within which are contained eight themes.

Category One offered the diversity of group members and motivations for

participation. Category Two comprised four themes addressing faculty

perceptions of collaborative learning, what it felt like to participate in the activity,

time issues, and what takes for CL to happen. Category Three was about the

learning that occurred in terms of changes in knowing and changes in being.

Chapter Four's themes deal with facilitation and facilitator and are thus presented

separately.

Chapter Four

Findings: Facilitation

In Chapter Three, I focused on the participant experience of a collaborative learning faculty group. Here, I look at facilitation as viewed by project participants presented in two ways. One theme emerged in the words of the participants, as in Chapter Three, and that was facilitator as *"guide from the side."* The remainder of the chapter is about what is required to achieve successful facilitation of collaborative learning. As I had intended at the outset of this study, I can derive information and strategies on how to be a more effective facilitator of a collaborative group from analyzing the participants' views on facilitation. Faculty members told me in the interviews what they experienced with me and each other and what they believe a facilitator should do in using a collaborative approach. Beyond the description of facilitator as *"guide from the side,"* these comments are organized into five factors that the facilitator of collaborative learning should attend to: a) positioning, b) flexibility and clear goals, c) intentionality, d) mutuality and relationships, and e) skills vs. happenstance.

Terry described the experience as *"a whole new way of thinking about a meeting."* For some of the group members, collaborative inquiry, the collaborative approach to action research in which we were engaged, was a new way for a committee to operate in a college setting. This new approach was the responsibility of the facilitator.

Guide From the Side

When commenting on the facilitator's role in a collaborative group, some emphasized the facilitator-as-guide as more than others; however none described the ideal facilitator as being opposite the facilitator-as-guide--for example, one who is detached and remote from the group and/or one who makes all decisions for the group.

Lee's remark that **"You guided from the sidelines"** largely captures the inteviewees' experience of my facilitation, with variations in opinion on the appropriate extent of facilitation responsibility. Dana responds **"you are the coach"** who should **"share responsibility for the outcome of the group…you should position yourself as a facilitator/leader person…we need you to monitor and steer."** Lee characterizes my position as both coach and co-participant:

> **<u>You guided from the sidelines</u> but you were also there inherent in the process. We knew that you were responsible but that all of our names were on whatever we produced.**

Elaborating on the guide from the sidelines, she says

> **You kind of have to have that overseer who stands and guides, who doesn't pull you through it or doesn't mandate certain things but allows the opportunity for us to grow within the project and create the project.**

Lee provides a pointer in how to achieve this balance between standing outside and involvement in the process: the facilitator must be **"open to hearing the viewpoints of other people"** without a **"set agenda of how everything** [is]

supposed to go" but rather present *"a general outline* [and] *say this is what we have to do."* She describes her perception of me in this light by saying the facilitator should probably

> *be a co-participant like you did…never like I'm here to make sure you do this and then critique when you're finished. I don't think that would work…would be like a lot of committees I've already been in.*

Robin implies that subtlety is needed, avoiding the appearance of being the one in charge, when she says that

> *sharing responsibility for what the group is supposed to do makes them feel like you're part of the group, it makes the collaboration work better. But at the same time everybody always knew that you were ultimately responsible and the one going to* **[**the VP] *and that you know all this. But it wasn't that leader/group thing.*

She also addressed a specific administrative function of this invisible sort of facilitation that she valued:

> *I was thinking about the way we set it up – assigning chapters and going through and knowing and keeping people reminded with e-mail; then reminding us of what we had said and what we need to do. I mean, that to me was great behind the scenes, keeping us going. Sometimes you expect people to do that but the reality is…it always helps to get the email reminders.*

In this statement, as she points to my "behind the scenes" role, she also alludes to *"the way <u>we</u> set it up"* which illustrates the sharing of responsibility among facilitator and group.

Pat acknowledges a need for someone in a lead position, perhaps only initially: *" Well you still need somebody to explain what they're doing and why in order to make it meaningful."* While Lynn sees my role distinctly as, **"***Not as a leader but as part of the group.***"** Although she apparently did not

see me doing much facilitating, she saw me as a co-participant for a good reason: *"I think that* [being part of the group] *fosters that environment of openness when you don't feel like you have this leader, this administrator."*

The reality is that, as Robin says, *"there has to be a facilitator;"* however, the group sees the facilitator's role as most appropriate from the sidelines and behind the scenes. The question then becomes how does the facilitator appropriately foster collaboration without domineering or being intrusive to the dialogic processes that are the foundation of social construction?

Positoning

Davis and Harre's positioning theory (Davis and Harre, 1990) becomes relevant for a facilitator who wants to influence group processes toward collaboration and social construction of knowledge while following an agenda toward agreed upon ends. Positioning is about moving out of a role that is "static and fixed over time," (Harre, personal communication, March 8, 2001) such as that of the impartial and detached facilitator, and acting into the group's situation and culture as a co-participant and co-constructor of knowledge. To be both, I must move out of my position as facilitator and into a co-constructor of knowledge; to be flexible as a facilitator, I must move into the group's desire to explore ideas and construct; to honor their (and my own) wish to achieve certain goals, I must move back into the position of facilitator to get the group "back on track."

Terry addresses postioning as she advises about the CL facilitator role:

Position yourself as a facilitator but then move in and out of that role; move inside as a facilitator when it becomes necessary. When the group looks like we need help here. But then when the group is functioning to kind of step back and participate as a colleague…
[Terry]

The facilitator should act as facilitator or co-participant depending on what's going on with the group. Referring to some of my own actions, she continues:

Some of the things that you do, you know, asking back and making sure of what is comfortable, and that everybody has a chance to be heard. Time for people to talk, draw out people who aren't talking.
[Terry]

Positioning oneself from one "fixed role" to another, from facilitator to participant, can appear as being the non-intrusive guide-from-the-side, I conclude. I moved from one role to another when I thought it appropriate to do so based on being mindful of maintaining a collaborative endeavor as well as keeping on track toward achieving the project goals. Moving in and out of the role of facilitator requires flexibility as the situation changes or as dictated by needs or goals of the group.

Flexibility and Clear Goals

The significance of flexibility to participants is illustrated by the following remarks. Dana says that **"you kept the group on task but you gave us enough flexibility to take unplanned detours from time to time.**" Lynn remarks that **"You gave us the chance to go off on our little tangents and then you always brought us back to what we needed to be doing, we needed to focus on.**" Robin remarks on my

having an agenda but being flexible and willing to move with the agenda, your leadership style getting things accomplished in not a very forceful way but still people enjoy coming together and a lot of that's because of your leadership style. [Robin]
And Lee says

and I think you have to have that wise person there who doesn't intrude too much into the process but kind of gets us back in…when we got off subject and off task, you pulled us back in and said, you know, we're a little off task here. [Lee]

Pat's allusion to flexibility also addresses another frequently mentioned component of CL for which a facilitator is responsible—communicating to the group a clear understanding of why they are there--when he remarks on the necessity of **"the right combination of formality and flexibility."** I was sometimes concerned that I was focused too much with staying "on task," given the occasional CAT response such as the suggestion for **"more free talk about classes/topics of interest that come up"** in the CAT dated 3/4/02. But there were also CATs remarks such as **"I thought that the agenda that was provided at the beginning of the session was very helpful in keeping us on track."** My field notes for that day indicate the tension between the two needs.

Taking the broader view, there was also expressed an appreciation for clarity in the group's objectives or purpose. Says Pat on the "formality" ingredient of facilitation:

You want to tell people the kind of group you want, clarify to them at least what you see as the goals, if there are specific things that have to be done, what are the purposes of the group, and if there are specific things that have to be accomplished, be sure and explain that. And just general goals and what they're there for and what you hope to accomplish and maybe early discuss what they hope to accomplish too, which is pretty interesting for all sides, to see what

they see that they're there for… In the context of the faculty especially, they'll want to know what the value to them will be. [Pat]

Lynn very precisely echoes Pat when stating the necessity for *"having some clear goals of what we're going for and let's figure out how we can get there."* And again, we see the reference to the "we" that is the group's shared responsibility for "figuring out" project procedures.

Lee describes the concept of group understanding of purpose in terms of impetus and a facilitator's knowledge:

> *I guess you have to have a facilitator who has a certain amount of background to explain the situation we're in…where does this fit into the big scheme…to provide that impetus for why what we were doing was important and what level of expertise should we rise to. What should this project look like?* [Lee]

Terry exhibits the same sort of understanding as she describes the facilitator as "*Someone who kind of holds the context of the whole situation.*"

Given the interview results, I believe that overall I succeed in walking the line between facilitator and co-constructor pretty well, without excessive veering in the direction of too much flexibility or too rigid an adherence to goals and objectives. And it seems clear that there will be no group appreciation for goals or a common purpose unless goals are clear and mutually agreed upon.

Clarity of goals is one shade of intentionality, an approach with certain objectives, a common purpose, a philosophy and the sharing of that. Interviewee responses emphasize the importance of intentionality to this collaborative learning experience.

Intentionality

To help ensure a common purpose and acting together to achieve a common purpose, I have come to believe the facilitator must make explicit the intentions--the purpose and the expectations for respectful listening and honoring of others. Those addressing dialogue and social construction in the workplace among professionals or in the classroom present experiences that provide a range of potential topics or goals depending on the purpose for the group.

Palmer (2004) tells us that "A circle of trust may lack size, scope, and continuity as compared to a traditional community. But it makes up for what it lacks by being intentional about its life" (p. 74). Goulet (1998) describes intentionality from the perspective of different ways of knowing as "the belief that communication is possible as our starting point. It is the precondition for our engagement with each other as fellow human beings" with the objective being "to educate oneself and others about the character of culture, the set of ideas and practices, however implicit, through which we human beings apprehend the world and ourselves in it" (p. 16). Faculty comments also underline the intentionality of the group's participants as they approached each other within the group.

> ***I think it was collaborative learning because everybody was interested in how we were learning it. It was sort of like an interest in the process as well as what we were talking about. So I think that's what made it collaborative learning for me just that people were asking questions and trying to understand why they asked those questions. And just went in a little bit deeper than in normal conversation.*** [Terry]

> ***Openness and a willingness to listen and to try to learn from other people even if they're saying something you don't necessarily agree***

***with and if you can foster that kind of environment I think
collaborative learning can thrive.*** [Lynn]

Addressing common objectives, Dana thought the "focus topic" was essential to

making this group collaborative: ***" I think that the focus topic (dynamics of***

teaching & learning) intrinsically made the environment a CL environment

because of the complexity of the issue(s)." Pat addresses common purpose

and objectives on a practical level as she points to a well-defined task as the

optimum structure for CL**:** ***"I guess we did it best when we were specifically***

on task that required working together … or even more so when we were

preparing our presentation." Even though Bohm (1996) disagrees about the

need for a predetermined and appropriate topic, he does acknowledge that the

"limited" dialogue that occurs when there is a group purpose still has

"considerable value" (p. 42).

Pat provides some specific guidance for the facilitator in establishing buy-

in to the common objectives:

> ***In the context of the faculty especially, they'll want to know what the
> value to them will be and if you're going to spend the time and get a
> group with the numbers and the size the same as this group, I guess
> there is the issue of they have to have some idea of what's going on
> but not*** [a topic] ***that everybody knows*** [so well that] ***there's no need
> to talk about it.*** [Pat]

Dana remarks on the presence of intentionality: "***CL happens when the***

members of the group acknowledge that we are all there to learn and

discuss" and includes mutuality as well: "***and that we respect each other's***

opinions, thoughts, interpretations, and suggestions."

Robin underlines intentionality as critical when saying *"But you definitely, the facilitator has to be sold on the idea of collaborative learning."* I believe the actions resulting from facilitator intentionality for collaborative learning could not be sustained if the philosophy of collaborative endeavor were not a part of the facilitator's beliefs—there is too much required on the part of the facilitator to succeed with half-hearted attempts.

> For effective learning then, the teacher/facilitator must establish an environment where individuals feel secure physically, emotionally, and mentally….using language that creates positive images and holding beliefs that convey support and honor for each person's inherent ability. (Torres, 2001. p. 24)

Attending to the physical, emotion, and mental environments is only possible with an intention that is mindful of the individuals and their well-being, which is furthered by mutuality within relationships.

Mutuality and Relationships

As mentioned earlier, mutuality is about creating that environment where people can be open and trusting, and it is achieved through mutual communication with empathy and open-mindedness. Mackeracher (1996) cites Johsselson: "Mutuality occurs when we experience companionship, work collaboratively with others whether as a facilitator or learner, and stand with another in harmony, thereby creating a bond of friendship between us" (p. 38). Participant comments agree:

> *We got to know each other. We got to understand each other's philosophy of education and then to recognize each other's strong points. And it got until it was very synergistic. We fed off each other and sort of sparked interest in each other and really grew.* [Lee]

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You have to listen to be influenced. You don't listen to gain credence for your points or gain momentum for your opinion; you're listening to be open to what they're saying to the point that you could be influenced by what they say. And I think that's pretty critical that you do that, not only in active listening where you can reflect back to people what they've said, but also where you are thinking that might be something I could do. Or that might be something that would make sense to me in my practice. So I guess all of those go into the collaborative learning experience. [Terry]

Greenberg and Williams (2002) define mutuality as "the relation that occurs when two people attend to each other as whole persons, confirming one another's humanity and becoming authentic persons through the relation" (p. 10). Standing with one another in harmony depends on relationships, which, along with safety are two other essentials for the CL environment. Safety and trust emerged as central ingredients to a successful collaborative learning experience, and that safe environment was described within a context of relationships and of an open, relaxed atmosphere. Relationships and the environment are mutually dependent. Begin with a focus on relationship, and as the environment becomes more open and relaxed, relationships can continue to flourish, making for a better environment. Bruffee (1999) holds that relationships are essential to collaborative learning: "human relationships [are] the key to welfare, achievement, and mastery" (p. 83). Mackeracher (1996) says of relationships: "Adults learn best in environments fostering the development of trust, attachment, validation, and mutuality. That is, most adults respond better to environments supporting relational learning than those supporting only autonomous learning" (p.149). For the facilitator, Mackeracher offers strategies:

- Some ways to facilitate attachment are … asking individuals to share their experience and acknowledging it as a resource for learning. (p. 145)

- As facilitators we need to validate the individuals through accepting and using their experience and through recognizing and accepting their self-concept and self-esteem. Eye-to-eye validation involves being seen and approved by others rather than being held or touched. In discovering that others respond to us, we affirm that we ourselves are really here and truly valued. Validation infuses us with a sense of our selfhood, or being understood. (p. 147)

- If we want learners to learn collaborative behaviors, we need to use collaborative behaviors ourselves. (p. 147)

Again, participant comments reinforce those of the theorists:

It was really good because we learned a lot about each other, a lot about things that were going on in the college, and at the same time that brought us together and we were able to come back and look at the project we were working on and work through that together. [Lynn]

I guess I would start talking first in terms of relationships; that seems to stand out for me in collaborative learning. And later, *I think the better the relationships the more the trust and respect that's there. That goes a long way toward inspiring you to go out and try something new – if it's working for people that you admire, respect, trust then yeah I'm going to try it, too.* [Terry]

Getting to know each other on a professional and personal level brings that familiarity and that comfort level. [Robin]

I did in fact follow the dictates of Macheracher above. Faculty using and sharing CATs includes a de facto sharing of knowledge and experience, acts that lay the

foundation for relationships, dialogue, and social construction. Throughout this experience, I consciously practiced and modeled affirmation and respect as I came to know and like each participant. Perhaps Terry best sums up when she says, "***Relationships make it safe; if relationships are formed, CL can happen.***"

Relationships are founded in respect and safety, and the facilitator must think about creating that necessary safe environment. According to Lynn, I ***"fostered this environment that was so comfortable and open."*** Isaacs emphasizes the requirement of a "container" (1993,1999) for dialogue which fosters the atmosphere of trust and openness needed to feel safe and form relationships. There were actions I took to try to ensure the creation of the container. In the first meeting, I asked that we agree anything said to be confidential. I was respectful of each person and made a point of modeling that everyone can speak. I believe Greenberg's handouts on collaborative dialogue (Appendix B) underscore respect in interaction through the "questions that facilitate effective dialogue." Consciously using the kinds of questions that require listening and lead to dialogue raise awareness of behaviors that will create trust and build into relationships.

Comments from two CATs verified for me that the environment was supportive of CL: In response to the question about what they liked best about the session:

> **The atmosphere in our group is VERY conducive to open and honest discussion. I like that very much! I like the fact that folks are**

enthusiastic about what we are doing and that group members are supportive of others. [4/1/02]

And on 5/6/02, in response to what could we do to better foster CL: *"I can't think of anything. Everyone feels comfortable expressing their opinions, whether they agree or disagree."*

Interview comments support a conclusion that the environment was a safe and comfortable one:

> *Collaborative learning environment – that environment to me in which you feel safe to say what you think…based on respect for each other, and an openness to, an open mindedness to other ways of thinking, and being inquisitive. Why you think the way you do or why do I think the way I do.* [Terry]
>
> *I would describe CL as a non-threatening, group learning where individual input helps create a body of knowledge or degree of understanding that otherwise might not be created.* [Dana]
>
> *…this group was so encouraging and supportive and you never felt like an idiot, you know. You always felt like you were just, they made you feel like you were just striving to improve yourself and do a better job.* [Lynn]

To summarize, the environment must feel safe, and people must feel at ease. Merrill (2003) found in her study of collaborative learning in her own classroom that creating a comfortable environment was key to relationship building among students. A safe environment begins with relationships, which begins with the facilitator, the topic, the common purpose, and honor and respect.

Skills vs. Happenstance

The four factors addressed above were in the control of the facilitator. One participant raised a fifth factor of facilitation that is worthy of discussion: whether

collaborative learning can occur if the group contains personalities with attitudes antithetical to collaborative learning. Lee introduced this issue for consideration when she spoke of individual personalities:

> *I don't know if it was just lucky happenstance that we happened to get a group of people who were able to get along together. I think if you had some personalities it wouldn't work.* [Lee]

With this statement she provokes the question of whether the "right personalities" must be present "where all are compatible" and "no one dominates or has personal agendas" or whether CL can occur without "lucky happenstance" and whether skills—of the facilitator and participants--can be acquired to successfully ameliorate the disruption of non-collaborative behavior. Such reflections were actually addressing whether a group with an incompatible personality or two can become a group that practices dialogue and develops into a collaborative community. So when negative conditions occur with the accident of "luck of the draw," can this group be saved? Can the group members learn skills to enable them to practice dialogue and engage collaboratively? Can the facilitator use techniques to prompt dialogue and collaboration? Can skills of the facilitator and group members overcome this "luck of the draw" that might make collaborative learning otherwise unreachable? Lee raised the question in the above quote and when she later said,

> *I think it's the same thing in the classroom. You know, every class is different and then sometimes it's the luck of the draw….Most groups have somebody who just kind of takes over or people who do nothing; you've got to have that synergy.* [Lee]

Lee is in fact asking—can any group come together and experience dialogue and

collaborative inquiry? She elaborates when she says,

> *It was a pairing of personalities, and I don't know if this was just happenstance or serendipity or what was going on but we all talked at all times. There wasn't anybody who was passive or quiet and didn't offer something to the group. And I think it just made a big difference. And we were all apolitical I think and that's a real improvement. I don't think anybody had an axe to grind or a political agenda or a chip on their shoulder. It wasn't an us against them mentality, so it was a lot different from most groups.* [Lee]

Dana seemed to echo Lee's belief as she described necessary group

characteristics. According to her experience with this group:

> *The makeup of the group is vital to supporting a CL environment. …Members should be inherently interested in the focus topic for the group. In addition, I think that individuals should be intrinsically open-minded, receptive folks who do not try to monopolize the discussion or dictate directions, etc. Also, I think that group members should respect the CL PROCESS and CL environment. Group members were extremely compatible and worked really well together.* [Dana]

As Dana suggests, while the happenstance of uncontrollable personalities or

personality conflicts is problematic, successful CL is enormously assisted by

participants' willingness to cooperate with others and to learn to use dialogic

skills; through intentionality and mutuality, that is a common approach through

certain objectives and philosophy; and a sharing of that through creating an

open, flexible, and trusting environment.

Initially, the facilitator plays an important part in making a space for all to

speak, and gradually group members must come to share in this mutuality.

Yalom (1995) points to two essential roles of the group facilitator which help

shape group norms—"technical expert" and "model-setting participant." "Norms

are created relatively early in the life of the group and, once established, are

difficult to change" (p. 112). I consider the technical expertise I had in this context

was employed to teach or instill dialogic and collaborative behaviors. My efforts

to shape norms early in the life of the group comprised the distribution and

review of handouts on appropriate protocols for dialogue and collaboration, as

well as modeling of the dialogic behaviors of respect, acceptance, and asking

back. Through handouts and modeling I conveyed the skills needed to proceed in

a successful collaboration.

Palmer (2004) says there are skills participants learn as part of a

collaborative group:

> We learn an alternative way to respond, centered on the rare art of asking
> honest, open questions—questions that invite a speaker to reach for
> deeper and truer speech. Such questioning may sound easy. But many
> people, including me, have trouble framing questions that are not advice in
> disguise…Many of us need help in learning how to ask questions that
> make the shy soul want to speak, not shut up. (p. 132)

Lave & Wegner (1991) offer, "Learning to become a legitimate participant

in a community involves learning how to talk (and be silent) in the manner of full

participants" (p. 105). Bohm (1991) observes that although

> some participants tend to talk a great deal while others find difficulty in
> speaking up in groups…often the quieter participants will begin to speak
> up more as they become familiar with the Dialogue experience while the
> more dominant individuals will find themselves tending to speak less and
> listen more" (para. 33).

My own experience is that once people understand the intent of the group

and the "ground rules" for principles of dialogue and collaborative learning, and

once a fellowship of comfort and respect are developed, listening and respect for others precludes domination by one individual. There are of course techniques well known to teachers and facilitators for discouraging dominance and encouraging all to contribute. I have seen a need to use these sparingly, more as modeling than in any other context. Hargrove (1995) describes a key role of the facilitator of collaborative learning as paying close attention to what people say and asking questions that "surface and test assumptions underlying their statements and opinions" (p.253). I had good opportunities to ask this sort of questions when instructors were designing their classroom research projects, defining what they wanted to know about their course and students. Questioning why someone wants to assess in a particular way is helpful for clarification and can sometimes result in very different approaches an instructor takes when developing research questions and designing assessments. I was explicit when I did this, saying that that was what I was doing and why, to encourage others to do the same, which led to a posture of inquiry as the faculty worked together.

My experience has been that it is important to explain initially what the group is about—it's purpose and what I expect as an outcome as well as what CL is and what the environment should be. I have not experienced problems when I've done that, and in fact I noticed a marked improvement in enthusiasm the first time I began a committee project with an explicit statement of my intent. Nonetheless, I have had in the past two faculty members who just were not interested in what we were doing both before and after my new technique. These individuals would not be with me the next term, both times through telling me

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they'd prefer to discontinue membership in the group. As cited earlier, Dana said

that voluntary participation is a must. Perhaps those who are uncertain at first will

be persuaded by the experience, but perhaps also it is not for everyone. As

Bohm (1996) says,

> If people don't agree that this is the way to go about it [dialogue], then
> there is no reason to be in it. Frequently you see that as the dialogue goes
> on and the group continues, some people leave and others come in.
> There are those who feel, 'Well, this is not for me.' (p. 31)

Although these questions are raised, some of the interviewees also cite

specifics necessary for CL that are not actually luck of the draw but rather

attributed to skill, attitude, and/or purposeful facilitation or teaching. Pat talks in

terms of what a teacher can do to overcome the differences in knowledge and

content mastery in the classroom when trying to form collaborative work groups:

> ***The ideal situation was maybe about one quarter of them that have a
> fairly good command, maybe about half have some understanding,
> maybe a quarter have no clue. So you have people who know helping
> those who don't or helping those who know a little, but then helping
> the ones that don't know at all or even students who know a lot but
> don't, aren't as social can get through to the ones that know a little
> and then the ones who are the more sociable and like to help others,
> would learn enough to help those who are weak in that sense.*** [Pat]

Lee addresses skill inequities in the same way, through adjustments to the

processes employed by the facilitator/teacher:

> ***And you also, in accordance with these personalities, have to look at
> ability and skill and pair those and balance those very carefully
> because you don't want three really highly skilled students and two
> that are just barely hanging in there because three are going to do it
> all. The two are just going to sit there. So you have to be really
> careful in what you do. You don't want all real strong aggressive
> people or they'll just be screaming at each other.***

Referring to teaching techniques, Lee talks about how to group the personalities:

You know, you get personalities that are very dominant where they'll take over and kind of squish anybody else. And then you've got the very passive people. And then you have the passive/aggressive people who are going to wield that little club and they're just going to be a downer. And then, of course, you've got the really negative students that you don't really want to pair with anybody, but you have to. So you have to be very careful of these personalities. You've got some kids who would just sit there and let anybody do anything.

Lee's following comments reveal her discovering that her own skills dominated her management of the class:

I think I'm better able to see that I have to be very, to use this word, mindful of what goes on in the classroom and before I ever attempt any collaborative work with my students get a real good handle in my mind on their personalities and temperaments and who would best feed off of somebody else and who would be a block to somebody. And then I carefully select the groups to work collaboratively. I just finished a web page project where they first went off and did their individual projects, but then I brought them together in a group of five to collaborate and synthesize information and create a web page out of their individual files and it worked beautifully....I told them who they could work with and paired them up cause I knew which ones had what strengths. So I think it's really helped. This was a very successful collaborative effort. [Lee]

The best answer I have to the question of whether it's **"*luck of the draw*"** with personalities for CL to occur with faculty is "usually not." But just as with Pat and Lee when speaking of encountering difficulties in the classroom, there are things the teacher or facilitator can do. Analysis of participant interviews has revealed a number of approaches and techniques that I used to foster collaborative learning. There were certain skills that I practiced and provided information about that participants learned, and, as participants have described, they "did" collaborative learning. I think that usually, these skills and techniques

will prevail if, as has been identified earlier, participants are present voluntarily and possess an interest in being in the group for that group's purpose.

Providing information on how to be a "***guide from the side***," these six participants identified five factors regarding the facilitation of collaborative learning—positioning, flexibility and clear goals, intentionality, mutuality and relationships, and skills. I discuss the implications of these findings, as well as the findings of Chapter Three, in the final chapter.

Chapter Five

Reflections and Implications

In this chapter, I summarize the findings detailed in Chapters Three and Four and reflect on implications for my practice. My purpose for this action research activity was to learn about my own facilitation through the experience of participants in a project I facilitated. My research questions serving as the structure for data collection were

1. What is the experience of the participants in the project?

2. What is my own experience in the project?

The primary source of information for the first question was what six participants told me in their own reflections at the conclusion of the project. I also gained some insights through my field notes and periodic feedback I solicited from participants during the semester in which we worked together. For the second question, I review findings from Chapters Three and Four and include thoughts on the field notes and the bracketing interview conducted at the inception of this project. Through analysis of all the data, I have sought to understand my own facilitation and emerge with a clearer idea of my own strengths and weaknesses as a facilitator and how I could improve.

This project was about professional development. As the faculty and I prepared a seminar handbook for future faculty seminars that participants and I would facilitate, the activity itself served as professional development for participants. As we worked through six sections of a handbook purchased from

another college, we adapted it to our own circumstances. As we revised each

section of the handbook, two of us conducted the group sessions on each of the

six sections in the manner we planned to in the future with other faculty. In the

course of the semester, as a part of the seminar activities, the six faculty

selected, implemented in their classrooms, and analyzed within the group at least

three Classroom Assessment Techniques (CATs). At the conclusion of the

project, as part of the review of the sixth and final section of the seminar

handbook, the instructors presented a final report on their experience with the

CATs related to their professional practices.

Reflections on Findings

Reviewing the findings presented in Chapters Three and Four, I can view

implications for my practice two ways: what I will continue to do and what I

should do differently with future faculty groups. In Chapter Three, we saw the

results of participant interviews presented in three categories: the participants

themselves, their experience of collaborative learning (CL), and the outcomes of

the experience. A metaphor for the experience that encompassed these three

categories was offered by one of the faculty when she said **"*It was like weaving

a tapestry,*"** wherein the participants were the threads of the tapestry, the

process of CL was the weaving, and the outcome of the experience was the

tapestry.

The appreciation expressed by participants for the diversity of the group means for me that when I have the opportunity to select members of a faculty group, I will be mindful of the value of selecting participants with a range of backgrounds and characteristics, including not only academic disciplines but years of experience teaching as well. Veteran teachers certainly have lessons from experience that can be of value to teachers newer to the field, however newer teachers can bring a fresh view and an enthusiasm that can energize, making a valuable contribution to the renewal that a good professional development experience can offer.

The interviews showed that all the participants had in common a desire to change or improve their practices and, presumably, any initial doubts were overcome by this motivation and an openness to operating in a new way. However, if someone does not buy into the group's goals and processes after a few meetings, that member should be free to leave. I also accept that, as Bohm (1996) maintained, this kind of experience, social construction built on dialogue and relationships, is not for everyone. From the comments of the participants showing their appreciation for the relationships, the learning, and the atmosphere, if some did have doubts at the outset, they were won over.

The bracketing interview revealed that I was not particularly confident about my ability to achieve my practical theory elements—to create a dialogical space and to create a community of learners, and I based that on my own misperceptions about faculty motivation. I think I had these assumptions from my

earlier lack of success with engaging faculty in the use of CATs. I thought they would not want to do any outside work or be interested in the readings. What I learned, both from the overall results and from their comments about why faculty did participate in this group, is that they were interested in making a change to their practice, to improve in the classroom, to improve student learning. What they said confirms Reason and Heron's (2001) assertion that faculty are motivated by the opportunity to participate in a community. Implications for the facilitator are to create conditions that motivate participants to stay.

Three themes emerged in the category of The CL Experience—*"figuring it out together," "a shot in the arm," and "taking time"*. These themes offered in turn descriptions and definitions of collaborative learning, descriptions of what it felt like being involved in a collaborative learning activity, and the several aspects of time that the participants alluded to as important factors affecting the success of CL. The three themes correspond to the weaving part of the metaphor for CL "*like weaving a tapestry*." The themes can be loosely described as the processes of CL that produce the outcome or the weaving together of the threads, brought to the experience by the individual participants and the perceived experience of participants in the process.

I was especially pleased and surprised at the apparent depth of understanding of CL expressed by participants, because we did not devote a lot of time going over "what is collaborative learning." Collaborative learning aspects were discussed somewhat indirectly, such as the day we talked for a few minutes about social construction of knowledge and on other days when I provided

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handouts about dialogue and collaborative behaviors. As mentioned in the findings of Chapter Three, I believe the question in the CATs about collaborative learning, "What could we do that could improve our collaborative learning as we work on this project?" as a matter of course raised the awareness of CL occurring within the context of what we were doing. I provided Chapter 36 by Ross and Roberts from *The Fifth Discipline Fieldbook* (1994, pp. 259-259) as a handout, which contained examples of dialogic exchanges as inquiry versus advocacy, in response to a comment on the CAT dated 4/1/02 asking for a review of what makes a good CL learning environment. Responses on the CAT dated 4/8/02 verified that this handout and the "What is CL" topic discussion promoted good understanding of CL. I also explicitly modeled dialogic techniques a couple of times by pointing out that I was using "asking back" techniques from the Greenberg handout on questions that promote dialogue (Appendix B) as I asked follow-up questions of participants. At that time, I was asking back to probe more deeply their thinking about their focus research question related to teaching goals. That this modeling was observed and was reinforcing was verified by one of the CAT responses from the 4/1/02 session:

"You did a good job of asking questions to get to the heart of the concern about the issue."

Along with the understanding of CL that interviewees conveyed came descriptions of what engagement in this project felt like, captured by the image offered by one interviewee as **"*a shot in the arm.*"** Faculty may have come on their own, voluntarily, but they found the experience energizing, which reinforced

their motivation. I expected this response. Cross and Steadmann's (1996, p. 9) research has noted rejuvenation as typical for faculty who participate together in the use of CATs. In developing future professional development activities, I will try to include these kinds of opportunities for faculty to talk with each other about teaching and how to improve, regardless of overall structure of the activity or development project.

Additionally, "fun" was also named as an experience on the part of participants, which I did not especially anticipate, but because I had fun myself, I'm not greatly surprised. As a facilitator, I try to make things fun with the use of humor and an informal and relaxed atmosphere. However, I believe the fun can also be attributed to the affinity that grew among the group members as they came to know and respect each other

Within the theme *"Taking Time,"* four aspects of time were mentioned by participants as important in one way or another to the CL process: dedicated time, time constraints, time of day, and use of time.

All participants expressed appreciation for having a dedicated block of time each week to discuss their practices—teaching and learning. For faculty with hectic schedules, designating a time each week for this kind of activity seems to be a must. Otherwise, the "must do's" are done first and the optional activities fall to the bottom of the list.

Time constraints had to do with an actual lack of time some perceived we had-- the *"getting to the good stuff and it's time to leave"* issue. Having implications for me was a feeling on the part of some participants that the time

we did have wasn't used as well as it could have been. There was a wistfulness expressed that it seemed as though we ran out of time just when things "**really got going**." I think that I could do something to alleviate those feelings in the future in that I think that problem stemmed from trying to conduct other committee business in the same meetings that we did our real social construction related to teaching and learning. At a number of meetings I "larded the schedule with multiple topics" as Palmer (2004) cautions against (p.87). We frequently met two times per week that semester, and there would have been time to devote part of one meeting each week solely to the other responsibilities of this group as a committee and allowing the remaining three hours or so per week for solely discussing CATs and teaching and learning. To "slow down, do more with less" (p.86) I now believe to be an essential for creating an environment in which dialogue can occur. Dialogue needs time for silence, for reflection, for some unhurried space in which to interrelate. A constant watch on the time to cover a loaded agenda is at odds with the deliberate pace required for listening and thoughtful response.

Related to "time constraints" is the "use of time" aspect which is about the time that is required for a group to build skills and an environment where dialogue and construction of knowledge can occur. For an appropriate use of time for collaboration, group size is an integral factor. If a facilitator is concerned that everyone contribute, which for collaboration is of great importance, then the more participants, the more time is required to allow each member to make a significant contribution. Bohm (1996) recommends 20-40 people for a dialogical

group saying that smaller groups lack the requisite diversity (p. 13). This may be an appropriate number for the kind of collaborative community that Bohm advocates, with the purpose being to "increas[e] harmony, fellowship, and creativity" in society (n.d., para. 9). For collaborative inquiry, in which this group was engaged, Heron and Reason (2001, p. 185) hold that group size should be up to twelve. Mackeracher (1996) asserts that "A relational learning environment utilizes small groups to foster the development of trust, attachment, validation, and mutuality, allowing learners to share experience and knowledge comfortably; and to connect with other learners and the facilitator" (p. 149). I have found that nine or ten is the upper limit for a real collaborative effort in the time allowed for a group of teachers to meet, and I prefer a group of six to eight.

Corresponding to time limits in my study, I found research regarding time as a barrier to using CL in the classroom. The time required for lesson preparation, the time it takes to teach students to practice collaborative learning behaviors, and/or the time required to allow collaboration as the form of learning are all mentioned by faculty as reasons for avoiding CL (Randolph, 2003, p. 24). Lesson preparation and time to teach CL were not mentioned as relevant to this experience, but time required for collaboration is certainly a factor for those concerned with "efficiency" in committee work. As the facilitator of this group, I was very much aware of how much time was spent "off topic" or co-construction as related to overall time available to achieve our short and long-term goals.

The importance to participants of the time of day that is best to meet was a final aspect that emerged from the interviews. As facilitator and chair of faculty

groups over the years, I have observed that people seem fresher and more energetic earlier in the week than on a Thursday afternoon or Friday. These particular findings emphasize for me the importance of <u>when</u> the group meets, although it seems apparent that it's unlikely that any one time is best for everyone.

The third category, The Tapestry, from the weaving-a-tapestry metaphor, was about the outcomes of the project, which for purposes of my research were the changes that participants described as having occurred during and as a result of the experience. Two kinds of changes became themes for this category—changes in knowing and changes in being.

Participants' change in knowing was the learning that they experienced and described. They learned the content of what we studied through reading and dialogue, they learned how to apply in the classroom what they learned about, and they learned how to learn and produce collaboratively. Learning that occurred as changes in being encompassed those longer term changes that occurred in their attitudes and in the approach in the classroom—to their practices. Each person interviewed expressed some type of transformation in attitude and/or approach to teaching and some included changes with the way they interact with colleagues.

Although I did not ask interviewees about using collaboration in the classroom, several used examples from their own classrooms when defining CL for me. Interestingly, one of the participants, and only one, expressed some distinct reservations, not really viewing collaborative learning in the classroom as

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practical. She in fact echoes some of the reservations found among teachers about using collaborative learning, either appropriateness or feasibility, cited in *The Use of Collaborative Learning in the Higher Education Setting: Purpose, Benefits, and Barriers* (Randolph, 2003). Here, teachers had concerns about the need to cover all the material and the time it takes for students to meet in groups (p.29). Additionally, "There are many faculty who feel that 'nothing beats the traditional teacher controlled classroom'" (Gamson, p.52), and as Bruffee (1999) maintains, "The truth is that the person who does most of the discussing in most of our discussion classes is the teacher…[which] tends to happen because behind our enthusiasm for discussion lies a fundamental distrust of [CL]" (p.29). Robin was being honest in her doubts about the pedagogical utility of CL. She did, however, offer a statement about facilitation of collaboration when chairing committees as having "***pick***[ed] ***up on ways of interacting with people to make sure everyone has a time***," but she was "***not sure specifically***" she could "***say it's because of our meetings that I have been more attuned to make sure everyone gets called on, that everyone feels like they have an opportunity to share***." In discussing the practitioner's knowledge, Jarvis (1999) advocates pragmatic processes—"discovering what works for each of us" (p. 43) and that although what works for one individual may be useful for others to develop their own practices, he also cautions, "We have to be careful, however, not to assume that because something works for one or even a few persons, it is necessarily going to work for every practitioner of the same occupation in every institution" (p. 43) and "We accept it only if it works for us" (p. 44). An essential

behavior on the part of the facilitator in maintaining voluntary membership in a circle of trust is acceptance that there may be different levels of enthusiasm or buy-in and honoring that. If I, as a facilitator, value diversity of group membership for the positive contributions that brings to social construction of knowledge, then I need to respect that same diversity if it manifests in reservations about the merit of CL in the classroom or elsewhere.

The positive learning outcomes expressed by the participants were the most gratifying and were least anticipated as well. The learning acquisition, changes in knowing, I had certainly expected. The change of being was a surprise outcome for me in analyzing the experiences as captured in interviews. I attribute this change to the immersion in a collaborative learning environment. That everybody made CL their own was evident in the six unique ways they defined CL. All were speaking from within the metaphor for CL; CL was the ground from which each perceived their experiences. Regarding the outcomes, the way that they viewed their experience through CL as they spoke solidly illustrates the changes in being that they described—the transformations that had occurred. Learning and working collaboratively with all that that included—relationships, the safety of the environment, and my own deliberate approach as a facilitator--resulted in learning beyond the acquisition of practical knowledge that I expected to come with reading and practicing CATs. To be sure, my intent was for faculty to learn about formative assessment and feel comfortable using it. I am now more motivated because of the extent of learning, beyond gaining

knowledge to changes in teaching philosophy toward a more student-centered approach in the classroom.

Chapter Four: Facilitation

Chapter Four findings provided the participants' experience related to my facilitation of the project. Faculty told me in the interviews what they experienced with me and each other and what they believe a facilitator should do in using a collaborative approach. The primary difference of opinion on the appropriate facilitator role was the extent to which the facilitator should serve as leader or guide. Overall, I derived from the comments that my facilitation might have been less visible to some than others. One person spoke of the subtlety needed for the facilitator of collaborative learning, avoiding the appearance of being the one in charge. I think this subtlety can take two forms: I positioned myself in the role of co-collaborator as much as possible, and I encouraged group decision-making and facilitating. We as a group decided that we would facilitate the six handbook section in pairs, two group members to a section. I paired with Lee for one of the sections and for the other five, group members were in charge. I think this was a good approach, and it was in fact cited as a positive in the participant interviews.

Participants said that I was a ***"guide from the side."*** This was my intent, to guide but not to be intrusive or divert the group from where it wanted to go. I did not want to hamper the construction of knowledge, as with Shotter's concept of intentionality, but "to 'give' or 'lend' structure to" (Shotter, p. 25, 1993). It was good to know that I was successful. Terry pointed out one important technique

for guiding from the sidelines—modeling--that I used explicitly, when she comments on my **"asking questions and helping people ask questions back."** She regards as important **"somebody to model that and to help others practice it. That moves you toward a collaborative learning environment."** On one occasion, I stated that I was modeling when I was asking questions to help individuals uncover their own assumptions as they were working through what assessments would be appropriate. I will be certain to continue the practice of explicit modeling along with modeling that I don't label as such.

Given the importance to busy people of having enough time and using time efficiently, there are implications for the facilitator to strike a balance between the group's collaborative growth and meeting the group's desired outcomes—in this instance working through the CATs seminar textbook within the period of one semester. This task I believe I found to be the one that took the most of my attention, given as it was a factor I had to watch and "balance" during every session as well staying mindful of completing the project by the end of the term**.** The issues of flexibility and providing clear goals, interrelated with use of time, stand out for me as the areas in which I most need to try some changes. Excerpts from my field notes for 4/1/02 and 4/8/02 illustrate my own uncertainty and struggle:

> On bringing up questions raised in CATs on a particular session in the next session; e.g. Pat's question from 3/20 "Should we try different CATs in different courses or sections?"
> ***It was a good opportunity to ask for clarification because I didn't understand what Pat was asking in response to Q#****4: Right now, what question about Classroom Assessment would you most like to see addressed next session?*

With most questions like this, I open the question up to the group. After the discussion, I'm not always sure the question has been answered but I feel the tension of the agenda waiting – that we need to get through.

Sometimes I go ahead and move on even when I'm not sure. I did today; one of the comments from the 4/1/02 session, in reply to the CATs question "How could it have been improved", was **"Probably keep a tighter watch on time."** But another was **"More time to talk!"**

Pat's question was not the only one—just an example: I had five questions to answer, two of which were short answer but three like Pat's. In a classroom, the guideline is to group questions and answer those that are similar and then to try to answer individual questions by asking the responder to see you individually (since he/she is anonymous). This is different; there aren't enough questions to "group" for one thing; for another, I don't know the answers to three of the questions—they are questions for social construction. Again, though, the caution to **"Probably keep a tighter watch on time" vs. "More time to talk."**

I can definitely understand teacher concerns about how to balance CATs and CATs feedback w/ covering the course content.

On 4/8/05, the week after this entry, I commented that "Time issue is still an issue—re the suggestion for improvement in today's CAT: 'slower pace.'" I see this topic as one that will remain important for me in working with busy professionals, and the struggle with balancing will be ongoing for me as a facilitator. I am glad I obtained the feedback that I did from the group along the way, even if the perceptions did conflict at times, so that I could remain in the struggle to keep "free time" and tasks balanced. In the future, I plan to make the issue of balance and time use explicit through adding a question to my CAT feedback form about use of time and using responses to facilitate a discussion with the group. I suspect that raising group awareness of the issue and fostering some collaborative discussion could move us toward more "little F" (co-facilitator)

assumption of responsibility as well as some good ideas on how to best use our time to get done everything we want to do.

It was my intent to avoid the **"leader/group thing,"** so that all of us were responsible and therefore offering ideas with confidence and making decisions collaboratively. The power of the group would be diminished to the extent that one person is playing an executive role. I am therefore pleased that one member stated that my role was definitely **"Not as a leader but as part of the group."** I took pains for it to be that way, even though I did hold the accountability for group results.

As taught in my collaborative learning program, ideally the facilitator's role evolves from that of "big F" in the first days of a group to "little F" when the group has reached the point where all take responsibility. I did not feel that we ever came to a point that each of us was equally responsible for what happened with the group. I was always aware of my responsibilities. The reality is, as one faculty said, **"there has to be a facilitator;"** however, the group saw the facilitator's role as most appropriate from the sidelines and **"behind the scenes."** The question then becomes: "How does a facilitator communicate to the group appropriate collaborative behaviors without being intrusive to the dialogic processes that are the foundation of social construction?" The answers to this question are central to my purpose for this research—to articulate what I do well and what I need to do better as a facilitator of faculty in collaborative inquiry groups.

Five factors emerged from the participant interviews that must work in concert for facilitation of a successful group project from which faculty learn,

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grow, and change: 1. positioning, 2. flexibility and clear goals, 3. intentionality, 4. mutuality and relationships, and 5) teaching, or educating, participants about dialogic skills and the nature of collaborative learning.

I sometimes modeled behaviors that are requisites for dialogue—asking back, probing, asking those who hadn't spoken to contribute. A few times in the early sessions I was very explicit about the behavior I was modeling when positioning myself as facilitator or collaborative group participant (little F) —telling the group that, for example, asking probing questions to help someone uncover assumptions about the problem they were considering would be important for them as facilitators of future CATS faculty groups. I was usually very conscious of my facilitator role regardless of whether I was speaking; even when not overtly facilitating, acting in the facilitator role, I was usually acutely aware of the level and quality of participation, time left in the session, and trying to balance what we had planned to do that day against allowing an open and undirected forum for construction to occur. In this way was positioning related to the facilitation factor of flexibility and clear goals. I was gratified at the recognition of my efforts in this regard and that they were considered successful, because it does require my ongoing exertion of energy to be watchful and to intervene to help the process without detracting from it. The observations can be summed up by the following comment: ***"You gave us the chance to go off on our little tangents and then you always brought us back to what we needed to be doing, we needed to focus on."*** And why was it so important that I always "brought them back"?

Because of their concern for having goals—that their time investment was ultimately paid off in achievement of some purpose.

Participants conveyed the importance for an overall clarity of purpose and goals, once goals are established or agreed to, making steady progress toward. As group members said, it is necessary to have "**the right combination of formality and flexibility**" and **"someone who holds the context of the whole situation."** Flexibility on my part was part of my intentionality factor that emerged in the findings. One interviewee remarked, **"But you, definitely, the facilitator has to be sold on the idea of collaborative learning."** The interviewees felt a common purpose was essential as the basis for being there, in this endeavor, and is the beginning of everything that follows. Intentionality as a bedrock factor for CL is stressed by Palmer (2004) when he says that whatever else a "circle of trust" may lack is made up for "being intentional about its life" (p. 74). A suggestion from a participant for a facilitator to establish buy-in to a commonality was: **"faculty…will want to know what the value to them will be."** Intentionality is necessary for all participants: **"CL happens when the members of the group acknowledge that we are all there to learn and discuss"** as well as mutuality**--"and that we respect each other's opinions, thoughts, interpretations, and suggestions."**

Mutuality and relationships, the fourth facilitation factor identified from the interviews is spoken to by Mackeracher 1996)*:* "Most adults respond better to environments supporting relational learning than those supporting only autonomous learning" (p. 149). I set out with the intent to create Isaac's

"container" (1993, 1999) for the dialogue that fosters the atmosphere of trust and openness needed to feel safe and form relationships. Some of the things I did were establishing an agreement for confidentiality, modeling respect and inviting all to speak, distributing and using Greenberg's handout of questions that facilitate dialogue (Appendix B), overtly practicing respect and acceptance, and listening. I did deliberately use humor when I could to encourage others to do so and to help create a more relaxing and fun environment. Concerning mutuality and relationships, although I'd read of relationship theory in collaboration (MacNamee and Gergen, 1999; Gergen, 1994, 2002) I wasn't aware of the importance to faculty of relationships until hearing the emphasis participants placed on relationships in their experience with collaborative learning. In future work, I will be more aware of relationships and more mindful of doing what I can to foster good relationships as early as possible in the CL process.

Allusions to the comfort, ease, and safety of the environment experienced by participants underscore the essential need for the facilitator to tend to this part of the "container". Others have found safety to be an essential factor for the collaborative learning experience (Roberts, 2005; Williams, 2005). From my own study, I conclude that the formation of relationships within the group create the safety of the environment, a process which takes time for development and that allow participants to listen and dialogue with respect, valuing each individual's contributions. The facilitator has primary responsibility for laying the groundwork.

Referring back to the fifth factor, the question of how much can the facilitator or teacher positively affect the ***"luck of the draw,"*** I'm glad the

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question was raised. As a result of this study, having articulated my own practices that contributed to the successful outcomes for the group, I am satisfied with the methods I used—handouts, modeling, and CATs--to provide the information participants needed. I know now that I have strategies to employ in a group such as this one so that participants can learn dialogic skills and appreciate their value for a CL environment.

I believe that some individuals as members could hamper the character of the group, dialogic processes, and the formation of a safe and comfortable "container." However, this study has demonstrated for me how powerful is the practice of collaborative learning for professional development. The facilitator is responsible for the creation of the safe environment that "holds" the group. The facilitator brings with her skills that are useful for dialogue and social construction of knowledge, and these skills can be imparted to willing participants. As long as participation remains voluntary, then participants are open to learning these skills themselves, from which will grow group trust and respectful interaction.

A final factor to discuss is the physical surroundings in which we worked on the project. Because it was not mentioned negatively, I assume that the physical environment was satisfactory if not extraordinary. There were seven people at a rectangular table where everyone could easily see everyone else. The chairs were comfortable, the room was fairly Spartan but did have a window providing some natural light, and the door was closed to outside intrusion by students, faculty, and staff. Literature does stress the need for certain physical requirements if collaboration is to occur (Palmer, 2004; Olivo, Cecco, and Kieser,

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2001; Randolph, 2003) which include seating arrangement, physical comfort,

noise control, and aesthetics. Palmer (2004) is quite specific on the requisite

physical environment:

> We often meet in places so ugly that they repel the soul—and anyone who
> spends much time in hotel conference centers knows what I mean—ceilings
> too high or too low, harsh lighting, uncomfortable chairs, too few or no
> windows, hard surfaces that echo sound, heating or cooling systems that
> make so much 'white noise' people can scarcely be heard, and décor that
> does not merit the name. We seem to have forgotten that the environment in
> which we meet has an impact on the quality of what happens within and
> between us. Fortunately there is a simple formula:
>
> - room neither cramped nor cavernous & comfortable chairs that can be
>   moved into circle
> - eye-level windows to provide visual relief and let the outside world in
> - warm and inviting décor—w/ simple grace notes such as fresh flowers
> - carpet on floor to soften acoustics and permit soft voices to be heard by all
> - lighting incandescent and warm not fluorescent and cold (p. 84)

Given the typical educational setting, certainly it is unlikely to have all the

niceties that Palmer prescribes, such as fresh flowers and non-fluorescent

lighting, but people should be in comfortable seating if expected to stay for an

extended period of time and to relax and open up. If we can't have it all, I would

say that, in addition, the setting should be quiet with a comfortable temperature;

enough light to see each other, take notes and refer to text as desired; and chairs

arranged well enough that each can see everyone else. These are the primary

physical requirements for successful dialogue and collaboration.

As I think about the implications for my practice I am revisiting the

practical theory I began with, reviewing it against my findings. My beginning

practical theory was an assumption that in order to nurture the collaborative

learning environment I wanted, working with this faculty group, I would need to

create a dialogical space in which would I would foster development of a community of learners. My practical theory was based on elements of collaborative learning as follows:

- Create a dialogical space through the establishment of trust and acceptance--by making explicit my intentions; by modeling the techniques that foster dialogue -- by facilitating attention to all voices in the group, asking back and suspending my assumptions; and by creating a structure to collaboratively reflect on their experiences as they used CATs in the classroom. This dialogue would initially occur during the identification or development of CATs appropriate to each person's selected focus.

- Develop a community of learners through communicating our conclusions and the data we used to reach the conclusions using dialogic principles, exploring diverse views and perspectives, and engaging in reflection for sense making; by facilitation of "standing away from one's learning" (McNiff, 1996, p.21) and learning something new together that an individual would not learn alone (Greenberg, 2000, p.144)..

The results of this study indicate to me that the approach I took with the faculty group was sound overall. Although I can't say the methods I used would work with every group I work with, there does seem to be a certain universal experience. There are other studies of the use of CL with professionals that show similar results with similar approaches (Roberts, 2003; Williams, 2005), that is,

dialogic processes with a collaborative group to explore professional practice. The model of a facilitator completely removed from the group in her neutrality in order to keep the process going is not what this group of faculty participants described. They acknowledged and expressed appreciation for certain facilitator behaviors and environmental qualities that I intended – flexibility, safety, trust, fun.

The methods I have followed in data collection and analysis have helped me reach my ultimate goal for this study—to articulate what I do to be successful in facilitation, to identify where I can give more conscious attention and emphasis, and to identify where I can improve. In the future, in working with similar groups, I will give more emphasis to forming relations in the group as early as possible; to making sure goals are clear but to remain flexible in providing time for the group to go "off topic;" to providing informational handouts about dialogic protocols; and to continue using modeling of dialogic behaviors, particularly in an explicit way. One area in which I will try to improve is in how I use the time I have with a group – to keep the agendas simple enough to allow an appropriate amount of time for the group to learn through collaborating and co-constructing new knowledge.

Regarding how I would obtain feedback for improvement in the future when facilitating collaborative groups working on projects, I want to continue using CATs. I experienced some discomfort in using them due to the reactions when I would ask for them at the end of a session, which took the form of sighs and statements such as the unambiguous "I hate doing these." However, the

information I got from the process did help me along the way as a facilitator to better meet the group's needs and were also useful for reflection at project's end. I do want to continue a regular feedback assessment in future similar activities, and I need to address how to go about that. Possible ways to make the CAT less onerous to participants might be to ask less frequently; I was adhering to the approved schedule in my doctoral research for administering CATs, but I would not have to ask for feedback as often. Other possibilities which I may try would be to provide the CAT at the beginning of the next session, or to ask participants to respond to questions only if they have something they would like to say, stressing that I am interested in how to maintain what is working and change anything that is not working.

Implications for Other Community College Administrators

Facilitating Faculty Groups

Were I asked for advice on how to provide professional development for faculty in group activities, I would suggest the following:

- Diversity of membership: For a group of faculty, a variety of disciplines and experience is valued by participants.

- Facilitator intentionality: Be explicit about your own goals for the project or activity, as well as for the collaborative character of the group, and develop clear group project goals. Goals should be of interest to faculty to generate support and motivation. Provide information about processes for collaboration and model dialogic techniques.

- Mutuality and relationships: Foster the development of a safe environment in which people feel valued and respected. Make it fun when possible.

- Attention to time: Flexibility in adhering to a timeline—between achieving goals and providing time for faculty interaction, between seemingly "off topic" time and allowing for social construction of knowledge. Also, to the extent possible, scheduling meetings at optimal times for participants. Trying to have at least two-hour blocks of time in which to meet.

- Physical environment: Basic comfort in surroundings, away from distractions, comfortable seating so that members can all face each other.

What the Results of This Research Add to CL Literature

In conducting a review of literature relevant to this study, I found no studies on the facilitation of collaborative learning in professional development activities for teaching faculty members action research on their own practices. This study provides specific information on possible outcomes for facilitating collaborative learning communities among groups of faculty as well as some information on how such communities can be structured. The study also contributes some specifics on how a facilitator can create the environment that is the foundation for collaborative learning.

In the larger context of literature on professional development for educators, this research offers validation to some of the characteristics that have been cited by various organizations and individuals as necessary to effective professional development. Vontz and Leming's (2005) extensive review of professional development literature identified form and duration as strongly

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related to the effectiveness of the structure and context of a professional development activity: form, duration, and collective participation. Form requires that "the activity—workshop, institute, or collaboration with other teachers— allow[s] for sufficient content focus…[and]…active learning by participants" (p. 68); duration requires enough time for meaningful content focus and active participation. The design of this activity is based in active learning and the duration was mentioned by all participants as a necessary component for successful collaborative learning. Of twelve lists of characterisitics of effective professional development published by various agencies and associations (e.g., Educational Research Service, American Federation of Teachers, U.S. Department of Education, and National Staff Development Council) and analyzed by Guskey (2003), nine included the provision of sufficient time and "the promotion of collegiality and collaborative exchange" (p.10) for real learning to occur. But here, Guskey also found studies indicating that "while effective professional development clearly requires time, it also seems clear that such time must be well organized, carefully structured, and purposefully directed" (p. 10). My study reinforces the necessity of providing faculty the resource of time but of a design that is mindful of clarity of purpose and meaningful use of time. In addition to duration, structure, and a collaborative approach, Sullivan (1999) found that the program must be voluntary, peer-led, and ensure long-term effects. Voluntary participation was shown in this study to be one of the factors in its success while the collaborative learning focus necessitated a move from one leader in charge of all to the "guide from the side" as participants assumed

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responsibility for group processes. While participant accounts of shifts and transformations in thinking about students and instruction, documenting "long-term effects" suggests a need for further study.

Recommendations for Further Study and Concluding Thoughts

In the future, I would be interested in following up with participants to learn more about changes to their practice in the classroom. I would like to know if the effects on approach to instruction described by the participants were lasting and to what extent. What does a shift to a student-centered approach mean to different instructors? What does it look like and how does it differ from one teacher to another? Also recommended would be research on the effect on student learning that occurs as teachers change their instructional practices, which would support what Guskey (2003) cites as "authentic evidence" of professional development's effectiveness—"demonstrable improvements in student learning outcome" (p.14). There are a number of indicators which could be focused on from performance measures to attitudinal changes.

These six faculty members taught me about the power of learning collaboratively and the appreciation people have for being a part of a community of resources that collaboratively supports learning and change. Because of my experience with this faculty group, I have renewed confidence in my ability to facilitate a collaborative learning activity that will make a difference to participants and their practices.

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Appendices

Appendix A: Handouts

Collaborative Conversation through Dialogue

Dialogue = a form of conversation which promotes a free flow of thinking that leads to shared meaning; *where diverse views and perspectives are encouraged.* It helps us to realize our noblest aspirations with others; generating shared understanding that allows people to build relationships and to think and interact in a coherent way. It involves:

1. communicating our conclusions, the data we used to reach the conclusions, and our reasoning.

2. focusing on what we can learn in the conversations rather than on winning or avoiding losing

3. saying what is really on one's mind in a thoughtful and nonthreatening manner

4. balancing advocacy with inquiry through making our views available for revision by ourselves and others

5. exploring diverse views and perspectives

6. observing rather than defending one's own thinking and behavior

7. learning something new together—that an individual would not learn alone.

adapted from Robert Hargrove's
Masterful Coaching (1995), Jossey-Bass

Ground Rules for Collaborative Conversations

1. Share all relevant information.

2. Agree on what important words mean.

3. Suspend your own opinions and assumptions while listening.

4. Test all opinions, assumptions, and inferences by asking for examples.

5. Make statements explaining your reasoning, then invite questions.

6. Focus on interests, not positions.

7. Make decisions by consensus.

8. Feel free to disagree openly with any member of the group. Try to separate people from the problem.

9. Jointly design ways to test disagreements and solutions.

10. Dialogue about undiscussable issues.

11. Avoid making cheap shots or otherwise distracting the group.

12. Keep the conversation focused on one topic until everyone who wishes can join the conversation.

13. Reflect upon what is happening:
    It's not over until you have learned something.

How to Listen

1. Stop talking to others and yourself.

2. Imagine yourself inside the speaker's perspective--in her position, doing her work, facing her problems, using her language, having her values.

3. Look, act, and be interested. Do not engage in other activities.

4. Observe nonverbal behavior to help you understand beyond what is actually being said.

5. Do not interrupt even when it is hard not to do so.

6. Listen for implicit meanings as well as explicit ones. Look for things left unsaid or unexplained.   Ask questions to ensure that you understood what the person meant. "Can you say more about....?" "What did you mean when you said....?" "Why do you think .... is important?" "And you believe that because (pause)?

7. Reply to another's comments ONLY in a positive way. Offer criticism of ideas later when it is not directly connected to one person's ideas.

8. Stop talking to others and yourself. (First and last rule.)

adapted from Rick Ross' chapter
on *Skillful Discussion* in Peter Senge's, et al.
(1994) *The Fifth Discipline Fieldbook,* Currency/Doubleday

Appendix B: Handouts

Dialogue is

a style of interaction that leads to a blending of knowledge among learners based on a clear understanding of everyone's underlying assumptions.

Questions that facilitate effective dialogue:

- Would you say more about _____? (Use a word said by the person.)

- What does _____ mean to you? (Use a word said by the person.)

- And you think that because _____? (Pause and let the person finish the sentence)

- Why do you think _____? (Use a word or phrase said by the person.)

- I am a bit confused about how _____ fits with what we are studying because I see that _____. (Provide an explanation of your own thinking.) What do you think?

- Why did you ask that question? (Ask this of someone who asked the person a prior question.)

- I am curious about what others are thinking. Would some of you share your thoughts?

- I see a relationship between what the two of you are saying. (Explain.) Would you both tell me what you think?

c. COGNET 1977

Skills Necessary for Good Teamwork

Communication Skills: "Active Listener" and "Influencer" Roles
    Listens to others and show interest in what the other person is saying.
    Gives constructive feedback
    Rephrases and clarifies what others say
    Expresses ideas clearly and uses facts as appropriate

Decision-Making Skills: "Analyzer," "Innovator," and Fact Seeker" Roles
    Able to look at problems from different perspectives
    Foresees problems an develops solutions to these problems
    Solves problems using logical approaches and factual information
    Questions the way tasks are being accomplished
    Asks team members for their ideas
    Is flexible and adapts to changes
    Encourages other team members to use facts in drawing conclusions

Collaboration Skills: "Conflict Manager" and "Team Builder" Roles
    Solicits alternative ideas and points of view
    Tries to reach solutions that all team members can agree upon
    Doesn't mind being criticized
    Shares credit with other team members for a job "well done"
    Cooperates with other team members and encourages all team members
    to participate
    Actively supports contributions from other team members

"Self-Management" Skills: "Goal Director," "Process Manager," and "Consensus Builder" Roles
    Helps team to stay focused on the tasks at hand
    Sets timetables for getting results
    Uses time wisely
    Asks for input from other team members

Source: *The Team Developer – An Assessment and Skill Building Program*, Jack McGourty and Kenneth P. DeMeuse, Wiley Custom Services, 2000 (pp. 16-19)

Appendix C: Sample Classroom Research Report

Final Summary of Classroom Investigations

~~Mary Monroe-Ellis~~
5/1/02
Focus Class: MATH 1390 P01
# of students: 11

Description of Focus Class:

    4 women, 7 men
    Most late teens/early 20's
    All engineering or computer science majors
    One student construction foreman--on call 24/7
    4 students with young children--not enough quiet time to do work
    1 vet in school on benefits (approx. 23 yrs old)
    5 are more traditional students recently out of high school

Basic Research Summary :

    General Theme: Are students study skills and habits adequate for
        a Calculus I course?

    CATS used: Exam Evaluation
                Reality Check CAT
                Process Analysis CAT

Research Findings:

    Some students are reviewing their notes each night
    Most are doing the homework consistently (or at least they say they
        are)
    Most say they need to study more
    Students who could work the problems correctly could clearly
        explain what they were doing
    Students who had trouble with the math also had trouble explaining

Classroom Effects:

    I compiled the data and reported it to my students after each CAT.
    Most were not surprised by the general consensus that they need
        to study more.
    I changed my teaching after the 1st CAT by calling on each student
        each day to insure they are engaged in the class.
    I changed my teaching after the 2nd CAT by doing process analysis
        at least once each day on the board as I work a problem.

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I am not really sure it has affected my students' learning.

Personal Response:

I was surprised by the amount of info I could get from my students with so little effort and by how honest they were about what they were or were not doing.

The Process Analysis CAT would have been better if I had only had them analyze a couple of problems instead of the entire assignment.

Future Applications:

I would do the same process in the future except that I would start on the very first week of class with it. I would also include the Productive Study Time Log. I would hope all this together would encourage the proper study skills and habits.

Productive Study-Time Log

Directions: (1) Enter any block of thirty minutes or more you spent studying statistics today on the form below. If you started at 2 P.M. and ended at 2:40, use the lines next to 2:00 only. (2) Make a note of where you were studying as well. (3) Make sure to rate the productivity of each half-hour segment in the appropriate column, using the following scale:

1 = Nonproductive   Learning nothing or extremely little
2 = Low productivity   Learning something but not much
3 = Average productivity Learning a fair amount
4 = High productivity   Learning a great deal

Productivity Ratings	Time	Place	Productivity Ratings	Time	Place
	8:00 A.M.			4:00 P.M.	
	8:30			4:30	
	9:00			5:00	
	9:30			5:30	
	10:00			6:00	
	10:30			6:30	
	11:00			7:00	
	11:30			7:30	
	12:00 P.M.			8:00	
	12:30			8:30	
	1:00			9:00	
	1:30			9:30	
	2:00			10:00	
	2:30			10:30	
	3:00			11:00	
	3:30			11:30	

Subtotal A: Hours of statistics study rated at Level 1 = _____
Subtotal B: Hours of statistics study rated at Level 2 = _____
Subtotal C: Hours of statistics study rated at Level 3 = _____
Subtotal D: Hours of statistics study rated at Level 4 = _____
          Total hours spent studying statistics today = _____

Reality Check CAT
Before Classes

To get ready for today's classes I: (Please check all that apply.)
_____ reviewed notes from the last classes.
_____ reviewed reading material.
_____ thought up and wrote out a few questions.
_____ did the assigned homework.
_____ slept at least seven hours last night.
_____ ate a healthy breakfast.

_____ _____

I arrived for today's classes: (Please circle your response.)

Early   On time   10 minutes late   20 minutes late   1 hour or more late

If I arrived late, I was respectful of teachers and other students by quietly taking my seat and waiting to ask what I missed. (Skip this one of you were on time.)

Definitely   Yes, except for _____

Reality Check CAT
After Classes

During classes today I took notes when appropriate.

Not often   Often   Always

During classes today I participated by asking questions and making comments.

Not often   Often   Always

During classes today I treated others with respect and courtesy.

Not often   Often   Always

During classes today I listened carefully while others spoke.

Not often   Often   Always

I would learn more if I would _____
_____

Adapted by Gina Walls and Jennifer Satterlee.

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MATH 1390
Review Assignment for Test 4
02 Spring

Work the following problems neatly on paper. These problems will be
collected and graded. They are due tomorrow.

While you are working the problems keep a record (on another sheet of
paper) of how you do your work. This "Process Analysis" should include
what steps you took, how long the steps took, what was easy, what was
difficult, and any "breakthroughs" or insights you had while working the
problem.

Find the derivative.

1. $f(x) = x^2(x-1)^5$

2. $y = \dfrac{2x}{\sqrt{2x+1}}$

3. Find dy/dx: $x^2 + 3xy + y^3 = 10$

4. A spherical balloon is inflated with gas at the rate of 800 cubic
    centimeters per minute. How fast is the radius of the balloon
    increasing when the diameter is 60 cm?

5. A conical tank is 10 feet across the top and 12 feet deep. If water is
    flowing into the tank at a rate of 10 cubic feet per minute, find the rate
    of change of the depth of the water when the water is 8 feet deep.

6. A ladder 25 feet long is leaning against the wall of a house. The base
    of the ladder is pulled away from the wall at a rate of 2 feet per second.
    How fast is the top of the ladder moving down the wall when the base
    of the ladder is 7 feet from the wall?

7. Two ships sail from the same island port, one going north at 24 knots
    (24 nautical miles per hour) and the other going east at 30 knots. The
    northbound ship left at 9:00 am and the eastbound ship left at 11:00
    am. How fast is the distance between them increasing at 2:00 pm?

Teacher-Initiated Classroom Investigations

Please complete this form and **attach to the front of all CAT Reports**. As this is a permanent document which will be referenced by other faculty, it needs to be: complete, legible or typed, and needs to be dark enough to be copied. This form will help us organize and classify CAT Reports for faculty to access as part of the college-wide Academic Assessment Process.

Name ███████████████

Date and year of administration: 4/5/02   Number of students 8

Department Math

Course or Discipline MATH 1390

CAT Number, Title, and page in text: Process Analysis

#39   pg 307

Primary Purpose of CAT: Student Learning Outcomes or (Student Learning Process) (circle one)

After Session Four: TGI Number (one of the 52) 2   General Education Objective _____

Special Focus of classroom investigation: Technology, Culture, Underprepared Students, Active

Learning, or other: _____

Resultant Instructional Changes Do process analysis on board as I work thru complex problems

Instructor Comments lots of time to "analyze" data + close the loop

To be attached to the front of CAT Reports and filed in the TICI Notebook-TICI # _____.

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CAT Report Form
for the
Introduction to Classroom Assessment and Research Course

In order to systematically process and reflect on the feedback you gather from students, please complete this form. Be sure to bring copies to the next session to share with your colleagues.

1. What **question** were you investigating? Be sure that an answer to this question can be obtained.

    How do students work through
    related rates word problem?

2. What CAT did you use to collect the data? (**Please attach a copy of your "blank" CAT.**)

    Process Analysis (#39, pg 307)

3. How did you introduce the CAT to your students? During what part of the class was the CAT administered?

    Discussed directions w/ them –
    Gave out at end of class to do
    at home.

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4. Analysis and interpretation of student feedback: What did you learn by giving your CAT?

The students who did well on assignment could explain what they did well.

5. Completion of the Feedback Loop: Please give a written summary of your responses to your students based on the CAT results or attach a copy of your summary.

Talked about correlation b/t success on problems + ability to describe process.

6. What effect has the data from the administration of the CAT had on your teaching?

Will do more process analysis as I work through problems on board.

7. Discuss any observations or feelings you had before, during, or after administering the CAT.

Students were not thrilled w/ assignment + analysis of their own work was not very detailed.

MATH 1390
Review Assignment for Test 4
02 Spring

Work the following problems neatly on paper. These problems will be collected and graded. They are due tomorrow.

While you are working the problems keep a record (on another sheet of paper) of how you do your work. This "Process Analysis" should include what steps you took, how long the steps took, what was easy, what was difficult, and any "breakthroughs" or insights you had while working the problem.

Find the derivative.

1. $f(x) = x^2(x-1)^5$

2. $y = \dfrac{2x}{\sqrt{2x+1}}$

3. Find dy/dx: $x^2 + 3xy + y^3 = 10$

4. A spherical balloon is inflated with gas at the rate of 800 cubic centimeters per minute. How fast is the radius of the balloon increasing when the diameter is 60 cm?

5. A conical tank is 10 feet across the top and 12 feet deep. If water is flowing into the tank at a rate of 10 cubic feet per minute, find the rate of change of the depth of the water when the water is 8 feet deep.

6. A ladder 25 feet long is leaning against the wall of a house. The base of the ladder is pulled away from the wall at a rate of 2 feet per second. How fast is the top of the ladder moving down the wall when the base of the ladder is 7 feet from the wall?

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Vita

Linda Randolph earned a B.S. in Psychology with a minor in Sociology from the University of Tennessee in 1972. She went on to earn an M.S.L.S. and began her professional life as a librarian at the University of Tennessee Research Library in 1981. She took a position as a reference librarian for Pellissippi State Technical Community College in 1983, and since 1989 has worked in several areas of educational administration at the college, but she most enjoys facilitating projects that involve working with groups of faculty. For the past several years, she has served as Director of Educational Improvement and has had the opportunity to work on program reviews with academic departments and direct a grant that provides support for faculty innovations in the classroom. Linda plans to continue working collaboratively with faculty and provide opportunities to engage in action research projects for faculty development.